



**35**<sup>TH</sup> Annual Conference of the  
European Health  
Psychology Society  
AUGUST 23 – AUGUST 27, 2021

**Book of Abstracts**

**Monday, 23 Aug 2021**

## Monday, 23 Aug 2021

11:05 - 12:35

### Parallel Sessions: Oral Presentations

- Determinants in preventive health behaviours
- Self-regulation, beliefs and chronic conditions
- Coping with pain and psychosomatic issues
- Assessing and promoting physical and wellbeing in mid and late life
- Implementation and health services research
- e- and mHealth for physical activity, dietary behaviours and weight management
- COVID-19

14:15 - 15:15

### Parallel Sessions: Symposia

- Women`s health issues across the lifespan: Identifying risks and opportunities for change
- Advances and innovations in the use of implicit measures to assess and modify health-related processes
- Open Science and Health Psychology: Case studies of applying principles to practice
- Digital decision aids: Considerations for design and evaluation
- Coping with the COVID-19 pandemic: individual and collective regulation of emotional distress
- Habit formation and disruption as mechanisms for sustainable health behaviour change

15:25 - 16:25

### Parallel Sessions: Give me 5 Minutes

- Theories of behaviour change
- Health behaviour change interventions
- Coping and adjustment to Chronic Disease
- Health, families, and children
- Digital health behaviour interventions
- Health and wellbeing in the workplace
- Doctor-patient and public health communication

**Tuesday, 24 Aug 2021**

## **Tuesday, 24 Aug 2021**

**11:05 - 12:35**

### **Parallel Sessions: Oral Presentations**

- Individual differences in health behaviour
- Interventions in Chronic Disease
- Caregivers' outcomes and well-being
- COVID-19 related perceptions and behaviour
- Risk communication and health behaviour
- COVID-19

**14:15 - 15:15**

### **Parallel Sessions: Roundtables and Lab Series**

- Roundtables
- Lab Series

**15:25 - 16:55**

### **Parallel Sessions: Oral Presentations**

- Health behaviours in time
- Individual differences in coping with health issues
- Contextual factors affecting child and adolescent health behaviours
- Quality of life in context
- eHealth and COVID-19
- Persuasive and informative health communication

**Wednesday, 25 Aug 2021**

## Wednesday, 25 Aug 2021

11:05 - 12:35

### Parallel Sessions: Posters

- IHealth behaviour and theory
- Self-regulation and health and interventions in Chronic Illness
- Coping with chronic illness
- Youth and family mental health
- Quality of life in community and clinical populations
- Social support, caregiving, and health
- Understanding and protecting employee health and wellbeing

12:45 - 13:45

### Parallel Sessions: State of the Art Lectures and Lab Series

- State of the Art
- Lab Series

14:15 - 15:15

### Parallel Sessions: Symposia

- Planetary Health: The need for integrating insights from health psychology and environmental communication
- Measurement and other methodological challenges for health psychology research in low resource and cross-country settings
- Co-designing health behaviour change interventions face-to-face and remotely: involving target groups to maximise effectiveness
- Making the most of what we know about behaviour change: Challenges and opportunities
- Health behavior models and the COVID-19 pandemic
- The potential of digital technologies for understanding and changing eating behavior
- Understanding health behaviour change and its psychosocial correlates in everyday life

15:25 - 16:55

### Parallel Sessions: Posters

- Health-care communication from patients' and physicians' perspectives
- Instrument development and psychometric quality
- Health behaviour change interventions
- Individual differences impacting health
- Youth and family health
- eHealth and mHealth
- Stress, physiology and health
- ROOM COVID-19 Session

**Thursday, 26 Aug 2021**



## Thursday, 26 Aug 2021

11:35 - 12:35

### Parallel Sessions: Give me 5 Minutes

- Exercise, nutrition, and risky health behaviours explained through the prism of health behaviour change models
- Health behaviour change interventions
- Coping and adjustment to Chronic Disease
- Understanding interventions in chronic disease
- Mobile health and digital innovations
- COVID-19 session

14:15 - 15:15

### Parallel Sessions: Roundtables and Lab Series

- Roundtables
- Lab Series

15:25 - 16:55

### Parallel Sessions: Oral Presentations

- Health Behaviour change interventions
- Coping and psychological adjustment to Chronic Disease
- Social support, caregiving and health
- Engagement with and effectiveness of digital interventions
- Stress and risk factors
- Culture and health
- Determinants and interventions to change alcohol-related behaviours

**Friday, 27 Aug 2021**

**Friday, 27 Aug 2021**

**11:05 - 12:35**

**Parallel Sessions: Oral Presentations**

- Health behaviour change interventions: Nudging and contextual factors
- Chronic disease self-management and adherence
- Dealing with health and illness-related challenges within families
- Understanding and promoting behaviour change
- Health at work: Occupational health psychology
- Methodology

**14:15 - 15:15**

**Parallel Sessions: Symposia**

- New insights into the roles of self-regulation and cognitive control in health-related outcomes
- Health behaviours and climate change adaptation and mitigation
- Dyadic studies of health and well-being: How others lift us up and bring us down
- Using habit theory to predict and change behaviour
- Qualitative perspectives on experiences of the COVID-19 pandemic in different cultural contexts

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# Determinants in preventive health behaviours

11:05 - 12:35

Benjamin Gardner

11:05 - 11:17

# Psychosocial determinants of seasonal influenza vaccine uptake among healthcare workers in long-term care facilities

M. Byrne<sup>1</sup>, E. Kenny<sup>1</sup>, C. Noone<sup>1</sup>, A. McNamara<sup>2</sup>

<sup>1</sup>National University of Ireland Galway, Ireland

<sup>2</sup>Department of Public Health, Health Services Executive West, Ireland

## Background.

The vaccination of healthcare workers (HCWs) against influenza is recommended by numerous public health authorities. Despite these recommendations, the rate of vaccine uptake is poor, particularly among those working in long-term care. The current study aimed to use the Theoretical Domains Framework to identify the barriers associated with influenza vaccine uptake among HCWs in long-term care facilities.

## Methods.

The study involved a cross-sectional survey of HCWs (n = 372) at 21 long-term care facilities in the west of Ireland, who completed a questionnaire which assessed the socio-demographic and psychosocial determinants associated with HCW influenza vaccine uptake. Logistic regression was performed to determine which factors (past vaccination and the 11 domains of the theoretical domains framework) were predictive of HCW vaccine uptake.

## Findings.

Findings indicated that a predictive model based upon the theoretical domains framework could account for between 61% and 82% of HCWs self-reported receipt of the influenza vaccine. Significant predictors of receiving the vaccine were past vaccination (OR = 16.28, 95% CI = 5.56 - 47.69), Goals (OR = .32, 95% CI = .16 - .61), Intentions (OR = .42, 95% CI = .21 - .83), Social influences (OR = 2.85, 95% CI = 1.25 - 6.49) and Reinforcement (OR = 2.12, 95% CI = .99 - 4.53).

## Discussion.

This research identified the key psychological determinants associated with HCW vaccine uptake. Interventions which target the theoretical domains: Goals, Intentions, Social influences and Reinforcement may enhance vaccine uptake among HCW in long-term care facilities.



11:17 - 11:29

## Motivation and opportunity as predictors of care seeking among Canadian Military healthcare providers

J. Born<sup>1</sup>, C. Frank<sup>1</sup>, Z. Wang<sup>1</sup>

<sup>1</sup>Department of National Defence, Canada

**Background:** Healthcare providers (HCPs) cannot provide quality care if their health is compromised, yet many HCPs face barriers when accessing care. This study aims to quantify the prevalence of barriers encountered by Canadian Armed Forces (CAF) HCPs and to model the impact of those barriers on accessing care.

**Methods:** Barrier items were developed using Michie and colleagues theoretical domain framework and categorised into the three factors of the COM-B system and the behaviour change wheel (i.e., capability, opportunity, motivation). Participants were sent the survey online, and were randomly assigned to complete either mental health (MH; n=503) or physical health (PH; n=530) scenarios as a proxy for accessing care behaviours. Logistic regression and dominance analyses were performed to identify predictors of accessing MH and PH care.

**Findings:** Access to care was not optimal; fewer HCPs in the MH scenarios intended to access and accessed care appropriately, compared to the PH scenarios. The most common barrier for both the MH and PH contexts was the belief that the problem would get better on its own. The physical opportunity factor was a significant predictor of accessing care in the PH models ( $p < 0.05$ ), while reflective motivation factors predicted accessing care in the MH models ( $p < 0.05$ ). Dominance analysis identified intention as an important predictor of behaviour in both MH and PH contexts.

**Discussion:** Our findings suggest that access to care can be improved for CAF HCPs. The use of theory-based methods to explore access to care identified motivation and physical opportunity as targets for interventions.

11:29 - 11:41

# A population survey investigating psychological barriers and motivators of cervical cancer screening uptake

G. Judah<sup>1</sup>, F. Dilib<sup>1</sup>, S. Huf<sup>1</sup>, D. Cunningham<sup>2</sup>, J. Ruwende<sup>3</sup>, A. Darzi<sup>1</sup>

<sup>1</sup>Imperial College London, United Kingdom

<sup>2</sup>Imperial College Healthcare NHS Trust, United Kingdom

<sup>3</sup>Public Health England, United Kingdom

## Background

Cervical screening (CS) saves approximately 4500 lives a year in England. However, screening coverage has been falling nationally, particularly in London. The aim of this study was to determine the psychological barriers and motivators to CS attendance (based on the Theoretical Domains Framework), thereby suggesting interventions which could increase screening uptake.

## Methods

An online population survey based on the Theoretical Domains Framework, to measure determinants of CS attendance. Participants (N=500) were screening-aged women (24-65 years) in London, recruited via a market research company.

The primary outcome was self-reported past attendance at CS, dichotomised into regular versus non-regular attenders. Analysis was conducted using backwards stepwise logistic regression, to determine psychological predictors of attendance.

## Findings

500 women completed the survey, 461 of whom had previously been invited to CS. Of these, 159 women (34.5%) were classified as non-regular attenders and 302 (65.5%) as regular attenders.

Variables positively associated with regular past attendance were CS priority (Goals) (B=1.089,  $p<.001$ ), memory (B=0.941,  $p<.001$ ), environmental context and resources (B=0.501,  $p<.001$ ), and intention (B=0.501,  $p=.005$ ). Income was the only demographic variable to explain any added variance in the model.

## Discussion

This large scale survey suggests that interventions to promote CS uptake may be effective if they address identified predictors of attendance, such as memory, increasing priority afforded to CS, and support with resources needed to attend an appointment (e.g. transport

links, childcare, time off work). Trials of interventions will be needed to determine whether the cross-sectional results can be productively applied to change behaviour.

## The clustering of motivational constructs for diet and physical activity and their associations with behavior

J.M. Coumans<sup>1</sup>, C.A. Bolman<sup>1</sup>, A. Oenema<sup>2</sup>, L. Lechner<sup>1</sup>

<sup>1</sup>Department of Health Psychology, Faculty of Psychology, Open University of the Netherlands, Heerlen, Netherlands

<sup>2</sup>Department of Health Promotion, Caphri, Faculty of Health Medicine and Life Sciences, Maastricht University, Netherlands

**Background:** The aim of this observational study is threefold. First, we investigate how motivational constructs based on self-determination theory relate to each other within and between the domain of diet and physical activity (PA). Second, we explore how these motivational constructs of PA and dietary behavior cluster. Third, we examine how these clustered motivational constructs relate to actual dietary and PA behavior.

**Methods:** This was a secondary exploratory analysis from a randomized controlled trial examining the effects of a web-based diet and physical activity promotion intervention based on self-determination theory and motivational interviewing. In total, 1142 participants completed the baseline questionnaire in which motivational constructs for diet and PA were assessed using the Treatment Self-Regulation Questionnaire and the Behavioral Regulation in Exercise Questionnaire. A food frequency questionnaire was used to measure dietary behaviors and the Dutch Short Questionnaire to ASsess Health was used to measure PA.

**Results:** Correlation analyses showed that most motivational constructs within both domains were significantly related to each other. Large correlation coefficients were found for equivalent motivational constructs between the two lifestyle domains, except intrinsic motivation, where only a moderate correlation was found. Our main finding indicates that more self-determined forms of motivation seem to be more domain-specific. Whereas non-self-determined forms of motivation seem to be more diffuse, more general, and domain-independent. Last, intrinsic motivation is most strongly related to behavior in this study.

**Conclusion:** Insight of this exploratory study is useful for the development of interventions targeting multiple behaviors and the construction of questionnaires.

11:53 - 12:05

# Facilitators and barriers to substance-free pregnancies in high-income countries: a meta-synthesis of qualitative research

T. Escanuela Sanchez<sup>1,2</sup>, K. Matvienko-Sikar<sup>3</sup>, L. Linehan<sup>4</sup>, K. O'Donoghue<sup>4</sup>, M. Byrne<sup>5</sup>, S. Meaney<sup>6</sup>

<sup>1</sup>Infant Centre, University College Cork, Ireland

<sup>2</sup>Pregnancy Loss Research Group, Department of Obstetrics and Gynaecology, University College Cork, Ireland

<sup>3</sup>School of Public Health, University College Cork, Ireland

<sup>4</sup>Pregnancy Loss Research Group, Department of Obstetrics and Gynaecology, University College Cork, Ireland

<sup>5</sup>Health Behaviour Change Research Group, NUI Galway, Ireland

<sup>6</sup>National Perinatal Epidemiology Centre, University College Cork, Ireland

## INTRODUCTION

Previous studies have associated substance use (i.e alcohol, illicit drugs and smoking) to negative pregnancy outcomes, including higher risk of stillbirth. This study aims to identify facilitators and barriers reported by women to remain substance free during pregnancy.

## METHODS

A systematic search was conducted in six different databases from inception to March 2019 and updated in November 2020. Qualitative studies involving pregnant or post-partum women up to 12 months, from high-income countries, examining women's experiences of substance use during pregnancy were eligible. Meta-ethnography was used to facilitate this meta-synthesis.

## RESULTS

Twenty-two studies were included in this meta-synthesis. Internal barriers included the perceived emotional and social benefits of using substances such as stress coping, as well as commonly reported feelings of shame and guilt. Finding insensitive or authoritarian healthcare professionals, poor discussion and lack of information about risks, receiving conflicting messages and the lack of social support were identified as external barriers. Furthermore, the social stigma and fear of prosecution associated with substance abuse led some women to conceal their use due to fear of repercussions or legal consequences. Facilitators included awareness of the health risks of substance use, having intrinsic incentives to remain substance free and finding support in family, friends and healthcare professionals.

## CONCLUSION

Women's experience of substance use during pregnancy is multifaceted. Hence, developing interventions that tackle the different types of barriers is crucial to improve health outcomes for these women and their infants.

12:05 - 12:17

## Systematic review: Indirect and moderating effects of social inequality on health behaviours via TDF variables

L.K. Hilz<sup>1</sup>, M. Conner<sup>2</sup>, B. Schüz<sup>3</sup>

<sup>1</sup>University of Bremen, Institute for Public Health and Nursing Research, Bremen, Germany

<sup>2</sup>University of Leeds, United Kingdom

<sup>3</sup>Universität Bremen, Germany

**Background:** Social inequalities in health outcomes are partly due to socially structured differences in health behaviours. However, little is known about psychosocial mechanisms underlying these differences. Health behaviour determinants, e.g., those outlined in the Theoretical Domains Framework (TDF) can help to understand such differences. Indirect (inequality – determinants – health behaviour) and moderated (determinants-behaviour relation moderated by inequality) pathways are theoretically meaningful. This systematic review summarises the existing literature on both pathways.

**Methods:** Systematic literature review in seven databases. Studies were included if they were observational and quantitative and provided tests of indirect or moderating effects of social inequality in the relationship between TDF-determinants and health behaviour. Determinants of health behaviour were operationalized according to the TDF, and social inequality was conceptualized along the PROGRESS-Plus framework. Harvest plots were used to summarise findings.

**Findings:** Out of 13484 identified records, 88 records were included for full text analysis. Included studies mainly examined health risk and promotion/prevention behaviours. Most frequent PROGRESS-Plus indicators were gender, ethnicity, and education. Most frequent TDF determinants included beliefs about capabilities, beliefs about consequences and emotions. Evidence for both mediating effects of TDF variables and moderating effects of social inequality indicators were found.

**Discussion:** This review summarises evidence that TDF variables work differently for different social groups and highlights that these differences must be considered when designing and implementing public health interventions. Quality and consistency of testing and reporting moderation and mediation analyses needs improvement, as in particular many indirect effects were specified poorly and/or reported incorrectly.

12:17 - 12:29

## Exploring the influence of socio-economic status on sugar-sweetened beverage consumption in everyday life

C.M. Jones<sup>1</sup>, M. Wenzel<sup>2</sup>

<sup>1</sup>University of Bremen, Germany

<sup>2</sup>Johannes Gutenberg University Mainz, Germany

**Background:** The consumption of sugar-sweetened beverages (SSBs) contributes significantly to overweight and obesity. However, high levels of SSB consumption have been particularly associated with lower levels of socio-economic status (SES), further increasing health inequalities. Usually treated as a control or nuisance variable, SES has recently been hypothesized to influence health behaviors by interacting with other determinants (e.g. intentions). We thus investigated whether SES is directly associated with SSB consumption in everyday life or via moderating the influence of intentions.

**Methods:** We used Ecological Momentary Assessment and a mixed time- and event-contingent design. 125 young adults (mean age = 24.52) logged every SSB they consumed and reported intentions and perceived behavioral control to not consume SSBs during the next hours as well as momentary urge and subjective availability of SSBs at random time points during the day for two weeks. SES (educational attainment, income) and habit strength were assessed at baseline.

**Findings:** A multi-level linear regression model (assessments nested within days, nested within participants) shows that momentary intentions, urge and subjective availability were positively associated with SSB consumption during the next hours. SES was negatively associated with SSB consumption but did not interact with participants intentions significantly.

**Discussion:** While SES was negatively associated with SSB consumption over and above the influence of the momentary environment, we find no evidence of a moderating effect on participants' intentions. Further theoretical integration of SES remains mandatory to better understand its influence on health behaviors and health inequalities.

# Self-regulation, beliefs and chronic conditions

11:05 - 12:35

Anne van Dongen



11:05 - 11:17

## Exploring beliefs about end-of-life among substitute decision makers using the Common-Sense Self-Regulation Model

J. Crawshaw<sup>1</sup>, J. Presseau<sup>1</sup>, K. Jordison<sup>2</sup>, Z. van Allen<sup>1</sup>, P. Titova<sup>3</sup>, L. Pinheiro Carvalho<sup>3</sup>, M. Chassé<sup>3</sup>

<sup>1</sup>Ottawa Hospital Research Institute, Canada

<sup>2</sup>Canadian Donation and Transplant Research Program, Canada

<sup>3</sup>CHUM Research Centre, Canada

**Background:** At the time of death, families, friends, or others take responsibility as substitute decision-makers (SDMs). Despite their central role, little is known about the beliefs that influence end-of-life decision-making among SDMs. The Common-Sense Self-Regulation Model (CSSRM) may help explain how individuals formulate beliefs in response to a health threat affecting a loved one (e.g., life-ending illness/event) and how this influences decision-making.

**Methods:** We report initial findings from an ongoing multicenter, qualitative study involving semi-structured telephone interviews with SDMs conducted 6-8 weeks after the patient's death. Interviews were guided using five key CSSRM constructs: identity, cause, consequences, timeline, and cure/control. Data are being analyzed using theoretical framework-informed directed content analysis and inductive thematic analysis.

**Findings:** From Oct 2019 - Oct 2020, 23 SDMs had been recruited. Participants readily used medical terminology to describe the patient's illness/event and generally had a good understanding about the circumstances leading to death. Additional knowledge was often sought posthumously. Common causal attributions included predisposition to certain illnesses/events, lifestyle factors, and stress/worry. Participants were quick to identify the severity of the patient's condition although a lingering hope for recovery was frequently reported. Maintaining the patient's dignity (e.g., avoidance of a vegetative state) was a key motivator in making the decision to end life.

**Discussion:** The CSSRM is proving useful to help understand how individuals formulate beliefs in response to a health threat affecting a loved one. These findings can contribute to optimizing tools and training for healthcare providers to support SDMs in making decisions about end-of-life.

## Illness and treatment beliefs as predictors of rehabilitation outcome in patients with affective disorders

R. von der Warth<sup>1</sup>, A. Nau<sup>2</sup>, M. Rudolph<sup>3</sup>, J. Bengel<sup>4</sup>, M. Glattacker<sup>1</sup>

<sup>1</sup>Medical Center – University of Freiburg, Germany

<sup>2</sup>Medical Center - University of Freiburg, Germany

<sup>3</sup>Mittelrhein Klinik, German Statutory Pension Insurance, Germany

<sup>4</sup>University of Freiburg, Germany

### Background:

Illness beliefs are relevant predictors for rehabilitation outcomes, also in patients with affective disorders. Less is known about the relevance of rehab-related treatment beliefs. This study assessed the predictive value of illness and rehab-related treatment beliefs in patients with affective disorders.

### Methods:

The study followed a longitudinal design with two measurement points (begin and end of rehabilitation). Using regression models, we analysed if illness and rehab-related treatment beliefs predicted rehabilitation outcome (operationalised through the Hamburg Modules for the Assessment of Psychosocial Health [Health-49]) in patients with affective disorders (ICD-10: F3-Diagnosis). Illness beliefs were assessed using the Illness Perception Questionnaire-Revised (IPQ-R), while treatment beliefs were assessed using a newly developed questionnaire (Nau et al., 2021). We controlled for age, gender and initial symptom burden.

### Findings:

N=145 patients were enrolled, mean age was 50.9 years (SD=9.9) and 52.8% were female. Regression models explained between 28% and 67% of variance of the outcomes, with the initial symptom burden having the strongest predictive value in all models. Sociodemographic variables showed no prediction. Regarding illness beliefs, perceived treatment control was associated with depression, and emotional representation was linked to interactional difficulties. Perceived consequences were related to lower self-efficacy and participation. Regarding treatment beliefs, outcome expectations were associated with less phobic anxiety, better psychological well-being and self-efficacy. Concerns were associated with somatoform symptoms, interactional difficulties, less self-efficacy and social impairment.

### Discussion:

Illness and treatment beliefs are predictors of rehabilitation outcome. Therefore, patient's beliefs might be good starting points for interventions in the context of rehabilitation.

## Illness perceptions of patients receiving haemodialysis: a systematic review of qualitative studies

B. Keskindag<sup>1,2</sup>, K. Farrington<sup>1</sup>, A. Hucker<sup>1</sup>, S. Sharma<sup>1</sup>

<sup>1</sup>University of Hertfordshire, United Kingdom

<sup>2</sup>Bahçeşehir Cyprus University, Turkey

**Background:** Illness perceptions play an important role in the lifestyle and behavioural choices of patients receiving haemodialysis (HD). In this research, we aimed to systematically review and synthesise qualitative evidence on illness perceptions in this patient group.

**Method:** Systematic search of the databases Web of Science, CINAHL, PsychARTICLES, The Cochrane Library, PubMed and Scopus were carried out between September and December 2020. We screened 1315 papers, with four eligible for inclusion in the review. Study quality was assessed using the CASP tool. Available data were analysed inductively to begin and then applied deductively to the illness perception framework in NVivo software.

**Findings:** Ten themes were identified within the first stage of the analysis. They related to the meaning, experience and impact of being a kidney patient. These themes were mapped onto the overarching five domains of the illness perceptions framework (i.e., timeline, causality, control/cure, identity, and consequences). The findings highlighted that patients had difficulty in labelling and making sense of kidney disease. They were faced with uncertainty and frequently reported physical and psychological consequences of life on HD. Struggles to regain normality and changes in functionality influenced perception of self. Sources of support were culturally influenced and contributed to cognitive reframing to cope.

**Discussion:** There is limited qualitative research into illness perceptions of patients receiving HD. Available evidence highlights thought patterns that influence patient lifestyle and behavioural choices, especially surfacing cultural influences on coping. Interventions informed by these findings may form the basis of culturally meaningful support.

11:41 - 11:53

## Social distancing as a Chance for Sleep Timing: A Daily Diary Study on Bedtime Procrastination

L. Albers<sup>1</sup>, C. Salewski<sup>1</sup>

<sup>1</sup>FernUniversität Hagen, Germany

**Background:** Bedtime procrastination describes delaying bedtimes without external reasons. Socially enforced daily rhythms, individual chronotype and low self-control are explanations for bedtime procrastination. Reduced social contacts resulting from the lockdown present an opportunity to adjust sleep timing. Our goal was to investigate chronotype (morningness and eveningness), self-control, intended bedtimes and daily structure as predictors of bedtime procrastination during the first German lockdown.

**Methods:** We collected data in April 2020. The daily diary study consisted of a base survey and 14 consecutive daily surveys. The base survey and minimum one daily survey were completed by 372 participants (242f, age:  $m=34.68$ ). The base survey assessed self-control, chronotype, dispositional bedtime procrastination, daily structure, intended bedtimes and sleep patterns before the lockdown. Daily surveys assessed daily structure, bedtime procrastination, sleep patterns and intended bedtimes. We coded bedtime procrastination as continuous to analyze the extent of bedtime procrastination and as binary to analyze the occurrence of bedtime procrastination. We analyzed the multilevel linear models using R.

**Findings:** Morningness predicted the extent of bedtime procrastination negatively ( $b=-0.01$ ). The amount of bedtime procrastination decreased over time ( $b=-0.03$ ; both  $ps<.01$ ). Daily structure, bedtime intentions and self-control did not predict the amount of bedtime procrastination. Self-control ( $b=-0.34$ ) and morningness ( $b=-0.03$ ) predicted the occurrence of bedtime procrastination negatively. Over time the occurrence of bedtime procrastination decreased ( $b=-0.11$ ; all  $ps<.01$ ). Daily structure and intended bedtimes did not predict the occurrence of bedtime procrastination.

**Discussion:** Low self-control and eveningness are risk factors for bedtime procrastination, even when social rhythms have minimal impact.

## Exploring the relationship between self-reported adherence, clinical data and psychosocial factors among kidney transplant recipients

A. Hucker<sup>1</sup>, K. Farrington<sup>1,2</sup>, S. Sharma<sup>1</sup>

<sup>1</sup>University of Hertfordshire, United Kingdom

<sup>2</sup>Renal Unit, Lister Hospital, Stevenage, United Kingdom

**Background:** Adherence behaviour is essential for maintaining kidney function, including for transplant recipients to prevent decline or rejection of grafts. Less is known about how psychosocial factors impact treatment engagement. The study aimed to determine whether self-reported adherence is associated with clinical markers of adherence, and whether illness perceptions or medication beliefs are associated with adherence to immunosuppressants.

**Methods:** A cross-sectional design was employed. 128 patients completed the questionnaires, recruited from one renal unit. Self-report measures included the MARS-5, Brief IPQ and BMQ. Linear regression models determined whether illness perceptions or medication beliefs predicted adherence. Open-ended questions were also utilised to investigate how patients conceptualise their post-transplant treatment.

**Findings:** Findings showed no correlations between clinical data and MARS-5 adherence score. Certain illness perceptions were highlighted as independently predicting adherence behaviour.

Perceptions of personal (beta=.13, p<.001) and treatment control (beta=.17, p=.002) and coherence (beta=.16, p=.011) were found to increase self-reported adherence. Conversely, perceptions of consequences (beta=-.11, p=.001) and emotional representation (beta=-.09, p=.006) were found to predict lower adherence. Patients reported higher scores on the necessity than concerns sub-scale of the BMQ, indicating they perceive the “benefits” of immunosuppressants outweigh the “costs”, however, the BMQ sub-scales did not predict MARS-5 adherence. Qualitative comments provided a mixed view towards experience of transplantation.

**Discussion:** The study highlights the continued role of illness perceptions and medication beliefs in further understanding health experiences and behaviour in this patient population. Findings point to areas for potential intervention by considering whether illness perceptions should be assessed to signal patients who may struggle to engage with treatment regimens.

12:05 - 12:17

## Lesson Learned: What influences dietary intake in daily life? Multilevel two-part modelling for semi-continuous outcomes

A. Ruf<sup>1</sup>, E. Koch<sup>2</sup>, U. Ebner-Priemer<sup>2,3</sup>, A. Neubauer<sup>4</sup>, A. Reif<sup>1</sup>, S. Matura<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Psychosomatic Medicine and Psychotherapy, University Hospital, Goethe University, Frankfurt, Germany

<sup>2</sup>Mental mHealth Lab, Institute of Sports and Sports Science, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

<sup>3</sup>Department of Psychiatry and Psychotherapy, Central Institute of Mental Health, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany

<sup>4</sup>DIPF | Leibniz Institute for Research and Information in Education, and Center for Research on Individual Development and Adaptive Education of Children at Risk (IDeA), Frankfurt am Main, Germany

**Background:** As diet is one of the key contributors to physical as well as mental health, there is a need to understand which factors influence dietary intake in daily life. So far, there is a lack of research investigating these factors in relation to complex dietary intake (i.e. quantifying the intake of energy and macro-/micro-nutrients and not capturing broad food categories only).

**Methods:** For this reason, we developed the APPetite-Mobile-App to capture complex dietary intake in real time as well as psychological factors (e.g. affect; 8 times per day) over a period of 3 days in daily life (expected N=300).

**What went wrong:** However, the outcome measures (e.g. calorie intake) proved to be zero-inflated and positively skewed (i.e. semi-continuous). Therefore, the planned analysis (linear multilevel models) could not be carried out, as the assumption of normally distributed residuals is likely violated.

**Possible solutions:** Multilevel two-part models can be used to account for semi-continuous outcomes. These models combine a logistic regression for zero values and a (generalized) linear regression for positive values. This allows to differentiate between: a) factors predicting whether an individual eats and b) factors predicting how much an individual eats. Both outcomes (whether / how much) could be influenced by different predictors.

**Conclusions:** As the number of studies using ecological momentary assessment in behaviour nutrition is expected to rapidly grow within the next years, we want to share and discuss our lesson learned to encourage other researchers to use multilevel two-part modelling for the analysis of semi-continuous data.

## Exploring the perspectives of young adult participants with Type 1 diabetes: The D1Now pilot RCT

E. McCarthy<sup>1,2</sup>, M. Byrne<sup>3,4</sup>, E. Morrissey<sup>1,4</sup>, S.F. Dineen<sup>1,5</sup>, D. Casey<sup>6</sup>

<sup>1</sup>School of Medicine, National University of Ireland, Galway, Ireland

<sup>2</sup>Health Behaviour Change Research Group, School of Psychology, National University of Ireland, Galway, Ireland, Ireland

<sup>3</sup>School of Psychology, National University of Ireland, Galway, Ireland

<sup>4</sup>Health Behaviour Change Research Group, School of Psychology, National University of Ireland, Galway, Ireland

<sup>5</sup>Centre for Diabetes, Endocrinology and Metabolism, Galway University Hospitals, Ireland

<sup>6</sup>School of Nursing and Midwifery, National University of Ireland, Galway, Ireland

**Background:** Young adults, (18-25 years), with Type 1 diabetes mellitus can have sub-optimal glycaemic control increasing their risk of future complications. A pilot randomised controlled was undertaken to assess the feasibility of a novel approach to clinic organisation and delivery. The D1Now intervention was developed using a young adult-centred approach and consisted of three components: an interactive messaging system, an agenda setting tool for clinic consultations, and a support worker. This study explored the experiences of young adults who participated in the study.

**Methods:** A qualitative, descriptive study using semi-structured interviews (N=19) was undertaken. Data were collected at month 6 (n=7) and month 12 (n=9) (intervention) and at month 9 (n=3) (control). Participants also completed an open question on their participant experience at the beginning and end of study. NVivo 12 Pro was used to store and organise the data and thematic analysis was employed.

**Findings:** Five themes were identified: Acceptability and Feasibility; Clinic Environment; Empowerment; Relationships; and Self-management. Young adults overall had very positive perceptions and experiences about participating in the study. They reported that the agenda setting tool provided focus, structure and meaning to consultations; the support worker provided advocacy, a 'safe space' and continuity of care. However, there were mixed views regarding the utility of the interactive messaging service.

**Discussion:** A feasibility pilot RCT that included an agenda setting tool and support worker were viewed very positively by participants. However, most suggested that the interactive messaging service could be improved. These findings will inform the future RCT.

# Coping with pain and psychosomatic issues

11:05 - 12:35

Dimitri van Ryckeghem



11:05 - 11:17

## Risk and resilience predictors for recovery after spinal fusion surgery in adolescents with idiopathic scoliosis

M. Beeckman<sup>1</sup>, S. Hughes<sup>1</sup>, J. Van der Kaap-Deeder<sup>2</sup>, F. Plasschaert<sup>3</sup>, J. Michielssen<sup>4</sup>, P. Moens<sup>5</sup>, S. Schelfaut<sup>6</sup>, L. Goubert<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Norwegian University of Science and Technology, Norway

<sup>3</sup>Ghent University Hospital, Belgium

<sup>4</sup>Antwerp University Hospital, Belgium

<sup>5</sup>KU Leuven, Belgium

<sup>6</sup>University Hospital Leuven, Belgium

**Background:** Spinal fusion surgery in children and adolescents is an invasive procedure which is followed by an intensive recovery process. Past research on this topic has focused on identifying risk factors that impede post-surgical recovery and has largely ignored resilience factors that promote recovery. Our prospective study examined pre-surgical pain catastrophizing and pain intensity (risk), and psychological flexibility and postsurgical pain acceptance (resilience) as potential predictors of different recovery trajectories in pain and functioning.

**Methods:** One hundred adolescents with idiopathic scoliosis (aged 12-18 years, 77% girls) completed assessments prior to, as well as three weeks, six weeks, and six months post-surgery. Different recovery trajectories in pain, health-related quality of life (HRQOL), and objectively monitored physical activity at moderate-to-vigorous intensity (MVPA) were identified.

**Findings:** Latent growth class analyses revealed four distinct pain recovery trajectories, two HRQOL recovery trajectories, and two trajectories characterizing recovery in MVPA. Pain catastrophizing and pain intensity were predictive of poorer recovery in HRQOL. Psychological flexibility and postsurgical pain acceptance were predictive of better recovery in HRQOL. MVPA trajectories were not predicted by any of these factors.

**Conclusion:** Pre-surgical psychological screening could include assessment of pain intensity, pain catastrophizing, psychological flexibility and pain acceptance to identify adolescents who are at-risk for poorer recovery. These are potentially modifiable factors that can be targeted in pre-surgical interventions to prevent maladaptive and foster adaptive outcomes after major surgery in youth.

## The evolution of the psychosomatic child: psychological characteristics and psychiatric comorbidity

A. Gershfeld-Litvin<sup>1</sup>, A. Shtilerman<sup>2</sup>, S. Rapaport<sup>2</sup>, H. Weisman<sup>3</sup>

<sup>1</sup>the academic college of Tel aviv yaffo, Israel

<sup>2</sup>The Academic College of Tel Aviv – Yaffo, Israel

<sup>3</sup>The Edmond and Lily Safra Children's Hospital, Israel

**Background:** Somatic symptoms with no physical explanation (i.e., abdominal pain, headaches), are a common cause for unnecessary utilizing health systems and impairing the daily routine and quality of life of children and their parents. The revised criteria of DSM-5 led to increased numbers of children diagnosed with somatic symptom disorder (SSD). The purpose of this study is to examine common psychological factors in children with SSD and assess a possible application of Barlow's triple vulnerability model as a theoretical framework to underpinning the development of the disorder.

**Methods:** fifty children (age 7-18) meeting the DSM-5 criteria for SSD and their parents completed questionnaires measuring demographic data, Somatic Complaints List (SCL), Children's Depression Inventory, (CDI), State Trait Anxiety Inventory for children (STAIC), The life event scale for children (LES-C), parental accommodation (FASA), Alexithymia questionnaire for children (AQC), Child adolescent perfectionism scale (CAPS).

**Findings** supported our hypothesis demonstrating a positive correlation between parental accommodation, perfectionism, one of the alexithymia scales (difficulties in identifying his/her emotions), depression, anxiety and negative life events and the existence of somatic symptoms. Furthermore, larger number of somatic symptoms reflected bigger psychological distress.

**Discussion:** our findings are in accordance with Barlow's transdiagnostic model and therefore present a framework to understand the development of SSD as a combination of parenting style, negative life events and personality traits. The psychological implications of depression and anxiety as well as impaired functioning were also described. Accordingly, we discuss implication for treatment for children combined with parental training.

11:29 - 11:41

## Endometriosis : physical and psychological impact of pain

C. Guillemot<sup>1,2</sup>, F. Sordes<sup>1,2</sup>

<sup>1</sup>University Toulouse Jean Jaures, France

<sup>2</sup>CERPPS, France

Endometriosis is a chronic and progressive gynecological disease affecting between 1 in 10 women in France. The objective of this research is to understand the determinants of quality of life in relation to the significant painful symptomatology in these patients (75%), distinguishing in the extent and depth of the lesions. Thus, in the light of Bruchon-Schweitzer's multifactorial integrative transactional model, various psychological processes will be examined to explain quality of life.

A sample of 1309 women aged 18-55 responded to a self-administered questionnaire, assessing different types of pain and intensity, body image (BIS), self-esteem (Rosemberg), anxiety-depressive symptomatology (HAD), sexual functioning (BISE-W) and quality of life (SF-36). The socio-biographical and medical characteristics of the patients were also evaluated.

Variance analyses show that patients with chronic pain have lower self-esteem, body image and overall sexual functioning and quality of life than women with cyclic pain and women without pain. Regression analyses show that emotional state, self-esteem, body image and sexual functioning are mediating variables in the "painful typology" and quality of life relationship.

The consequences of the pain associated with endometriosis reveal several problems that can be considered under a new look. If psychological disorders can be a response to painful phenomena, they can also participate in their increase. This is the issue of global psychological care.

11:41 - 11:53

## Does Functional Somatic Symptoms measurement differ across Sex and Age?

A. Acevedo-Mesa<sup>1</sup>, R. Monden<sup>1,2</sup>, S. Castro-Alvarez<sup>3</sup>, J.G. Rosmalen<sup>1</sup>, A.M. Roest<sup>4</sup>, J.N. Tendeiro<sup>3</sup>

<sup>1</sup>University of Groningen, University Medical Center Groningen, Interdisciplinary Center Psychopathology and Emotion regulation (ICPE), Netherlands

<sup>2</sup>Osaka University, Department of Biomedical Statistics, Graduate School of Medicine, Japan

<sup>3</sup>University of Groningen, Department of Psychometrics and Statistics, Netherlands

<sup>4</sup>University of Groningen, Department of Developmental Psychology, Interdisciplinary Center Psychopathology and Emotion regulation (ICPE), Netherlands

**Background:** Functional Somatic Symptoms (FSS) are physical symptoms that cannot be attributed to underlying pathology. Their severity is often measured with sum-scores on questionnaires, assuming that severity and symptoms are interchangeable to represent FSS severity. Moreover, relevant covariates (e.g., sex and age) are ignored in the assessment. We aimed to identify which of the somatization items of the Composite International Diagnostic Interview (CIDI) is the best discriminative of FSS severity, and to assess their functioning in sex and age subgroups.

**Methods:** Two Parameter Logistic Model of Item Response Theory (IRT) was applied to the 19 somatization section items of the CIDI collected from a general population sample of 962 participants in the Prevention of Renal and Vascular End-Stage Disease study. Subsequently, Differential Item Functioning (DIF) with Lord, Raju, and Mantel Haenszel's methods were examined to identify differences in item functioning between subgroups of sex and age.

**Findings:** "Localized (muscle) weakness" was the most discriminative item ( $\alpha = 2.36$ ) of FSS severity. "Abdominal pain" consistently showed a large DIF effect by sex

( $\Delta_{MH} = 1.61$ ), indicating males reported the item at higher FSS severity levels than females. There was no consistent DIF by age, however, "joint pain" showed poor discrimination of FSS severity in older ( $\geq 60$ ) adults ( $\alpha = 0.53$ ) than younger adults ( $\alpha = 1.71$ ).

**Discussion:** Clinicians could give extra attention to these symptoms to identify patients with different severities of FSS considering their sex and age. Moreover, these items could be included when constructing tests to improve FSS assessment.

11:53 - 12:05

## Adapting the AIMS Intervention for Breast Cancer Survivors following Adjuvant Endocrine Therapy using Intervention Mapping

A. Janssen<sup>1</sup>, J. Dam<sup>2</sup>, L. Buffart<sup>1</sup>, J. Prins<sup>1</sup>, M. de Bruin<sup>1</sup>

<sup>1</sup>Radboudumc, Netherlands

<sup>2</sup>Radboudumc - RIHS - IQ Healthcare, Netherlands

**Background:** Although Adjuvant endocrine therapy (AET) can reduce mortality risk of women with hormone-sensitive breast cancer by 33%, non-adherence and premature treatment-discontinuation are common. Consequently, interventions promoting AET adherence are needed. The Adherence Improving self-Management Strategy (AIMS) was shown to be feasible and (cost-)effective in reinforcing adherence to HIV-medication. The aim of the present study was to evaluate whether we could adapt the AIMS-HIV intervention systematically to support AET adherence.

**Methods:** We applied the first four of six steps of the Intervention Mapping protocol to adapt the AIMS intervention by: 1) conducting a needs assessment, 2) reviewing target behaviors and determinants, 3) reassessing theory and behavior change methods, 4) adapting program content. In these steps, we performed a literature review and organized multiple meetings with patients and health care professionals.

**Findings:** Just like in HIV, non-adherence in AET is explained by the determinants knowledge, motivation, self-efficacy, and self-regulation skills; thus, most behavior change methods from AIMS-HIV remained. However, in AET-treatment, less treatment efficacy and more burdensome side effects can lead to discontinuation. Hence, besides supporting adherence, reinforcing persistence became a centerpiece of AIMS-AET. A module on sustaining treatment motivation and coping with side effects was added. Physical activity and mobilizing social support were emphasized as core coping-strategies.

**Conclusion:** AIMS-AET required a broader focus on motivating treatment persistence and managing side effects compared with HIV. Intervention Mapping offered a systematic to adapting AIMS-HIV to AET-treatment. Adapting potent behavioral interventions, rather than developing a novel program, supports cumulative science and intervention implementation.

12:05 - 12:17

## Young women's experiences of an endometriosis diagnosis and subsequent support

G. Wren<sup>1,2</sup>

<sup>1</sup>Cardiff University, United Kingdom

<sup>2</sup>Cardiff Metropolitan University, United Kingdom

Contemporary literature surrounding the long-term reproductive condition of endometriosis, has reported widespread physical and emotional effects on individuals' quality of life. However, the current body of research presents a persistent case of dismissal and misinformation throughout the diagnostic journey, particularly for young women due to the normalization of symptoms during puberty. Using interpretative phenomenological analysis (IPA), this study employed semi-structured video interviews to explore the diagnostic experiences of nine women aged 18-30, and the significance of social and online support methods during this period. Four superordinate themes, with associated subthemes were identified; these represented key discussions surrounding shortfalls within clinical practice, the longstanding physical and emotional consequences of the condition, a need to create a new sense of normality and the importance of an effective support network. These themes were later discussed with reference to similar findings within recent literature, and areas of potential future research included the impact of infertility battles in identity formation. Implications for clinical policy and practice included the need to amend current guidelines to facilitate a more emboldening process for patients, and to develop effective support structures to guide and inform both patients and clinicians throughout the diagnostic process.

# Assessing and promoting physical and wellbeing in mid and late life

11:05 - 12:35

Molly Byrne

## Health-related behaviours among stroke survivors: an 18 months post-stroke assessment

A. Moura<sup>1,2</sup>, F. Teixeira<sup>3</sup>, E. Alves<sup>3</sup>

<sup>1</sup>EPIUnit – Instituto de Saúde Pública, Universidade do Porto; Rua das Taipas, n. °135, 4050-600 Porto, Portugal; Portugal

<sup>2</sup>Centre for Research and Intervention in Education (CIIE), Faculty of Psychology and Education Sciences, University of Porto; Rua Alfredo Allen, 4200-135 Porto, Portugal., Portugal

<sup>3</sup>EPIUnit – Instituto de Saúde Pública, Universidade do Porto; Rua das Taipas, n. °135, 4050-600 Porto, Portugal., Portugal

**Introduction:** Changes in health-related behaviours may impact survivors' psychosocial health. We aimed to assess lifestyle changes among stroke survivors, 18 months post-stroke, according to sociodemographic and stroke-related characteristics.

**Methods:** Stroke survivors (n=452) hospitalized between September 2018 and August 2019 in all Stroke Units of the North of Portugal were included the study, 18 months post-stroke. Sociodemographic, stroke-related and lifestyles characteristics were collected through structured questionnaires. Odds ratios and 95% confidence intervals (95%CI) were estimated through logistic regression, adjusted for age and sex. Answers to open-ended questions were synthesized using content analysis.

**Results:** Tobacco and alcohol consumption decreased 7.9% and 8.9%, respectively. About 41% of survivors introduced dietary changes by reducing salt, fats and sugars and increasing fruits' and vegetables' consumption, 30.3% changed physical activity habits and 28.8% reported alterations in sleep quality, namely difficulty in falling asleep and interruptions during sleep. Male (OR=6.58; 95%CI:2.88-15.05), younger (OR=3.67; 95%CI:2.02-6.68) and more educated participants (OR=2.09; 95%CI:1.10-3.98) reduced or stopped smoking more frequently. Reducing alcohol consumption was less frequent among men (OR=4.13; 95%CI:2.42-7.04). Survivors living in rural areas (OR=1.55; 95%CI:1.05-2.28) and with lower educational levels (OR=1.69; 95%CI:1.05-2.69) were more likely to report dietary changes, while those with monthly income above 1000€ (OR=1.67; 95%CI:1.05-2.65) significantly described more changes in physical activity. Alterations in sleep quality were associated with living in rural areas (OR=1.60; 95%CI:1.06-2.44), being employed (OR=2.03; 95%CI:1.03-3.99) and have stroke sequelae (OR=3.51; 95%CI:1.34-9.18).

**Findings:** To improve the psychosocial health of stroke survivors, evidence-based guidelines and interventions should consider the effective behavioural changes of survivors.



## Psychosocial and behavioural Predictors of Self-Efficacy in Treatment Adherence among older hypertensive Patients with Diabetes

F. Zanatta<sup>1,2</sup>, A. Pierobon<sup>2</sup>, E. Nissanova<sup>2</sup>, N. Granata<sup>3</sup>, J. Polański<sup>4</sup>, A. Giardini<sup>5</sup>, W. Tański<sup>6</sup>, B. Jankowska-Polańska<sup>7</sup>

<sup>1</sup>Department of Psychology, University of Milano-Bicocca, Italy

<sup>2</sup>Psychology Unit of Montescano Institute, Istituti Clinici Scientifici Maugeri IRCCS, Italy

<sup>3</sup>Department of Cardiac Respiratory Rehabilitation of Tradate, Istituti Clinici Scientifici Maugeri IRCCS, Italy

<sup>4</sup>Department of Internal and Occupational Diseases, Hypertension and Clinical Oncology, Wrocław Medical University, Poland

<sup>5</sup>Information Technology Department, Istituti Clinici Scientifici Maugeri IRCCS, Pavia, Italy

<sup>6</sup>IV Military Clinical Hospital Wrocław, Poland

<sup>7</sup>Department of Clinical Nursing, Faculty of Health Science, Wrocław Medical University, Poland

**Background:** Adherence to clinical prescriptions is widely recognized as a protective factor against uncontrolled hypertension, and acute and chronic cardiovascular diseases development, including diabetes. Besides, positive correlations between self-efficacy and self-care behaviours are acknowledged in literature. The objective of the study is to observe the association between specific psychosocial and behavioural factors and self-efficacy related to treatment adherence in older patients with comorbid hypertension and type-2 diabetes mellitus.

**Methods:** This observational, cross-sectional, and multicentre study involved the IRCCS Maugeri institute of Montescano (Italy) and the Department of Clinical Nursing of Medical University of Wrocław (Poland). A total of 180 Italian and Polish older patients (>65) were recruited and responded to self-report standardized questionnaires measuring behavioural (pharmacological adherence, adherence to refill medicines, intentional non-adherence) and psychosocial factors (beliefs about medicines, perceived physician's communication effectiveness, medication-specific social support, self-efficacy) related to treatment adherence. A multiple linear regression analysis was performed.

**Findings:** The regression model showed a significant impact of age ( $\beta=-.08$ ;  $p<.05$ ), gender ( $\beta=1.03$ ;  $p<.05$ ), adherence to refill medications ( $\beta=-.07$ ;  $p<.05$ ), intentional non-adherence ( $\beta=-.03$ ;  $p<.05$ ), beliefs about medications ( $\beta=.13$ ;  $p<.001$ ), perceived physician's communication skills ( $\beta=.09$ ;  $p<.001$ ), and perceived medication-specific social support ( $\beta=.06$ ;  $p=.001$ ) on self-efficacy related to treatment adherence. The model explained 47.1% of the variance and a significant regression equation was found ( $<.001$ ).

**Discussion:** In a secondary prevention framework, clinical research and practice should leverage psychosocial and behavioural factors to enhance self-efficacy contributing to foster adherence to clinical prescriptions, and consequently, to increase health-related quality of life of this chronic population.

## The Clinical Frailty Scale employment in the frailty assessment of chronic patients: a systematic review

N. Granata<sup>1</sup>, A. Steccanella<sup>1</sup>, M. Vigorè<sup>2</sup>, S. Sarzi Braga<sup>1</sup>, M.T. La Rovere<sup>3</sup>, A. Pierobon<sup>2</sup>

<sup>1</sup>Department of Cardiac Respiratory Rehabilitation of Tradate Institute, Istituti Clinici Scientifici Maugeri IRCCS, Italy

<sup>2</sup>Psychology Unit of Montescano Institute, Istituti Clinici Scientifici Maugeri, IRCCS, Italy

<sup>3</sup>Cardiac Rehabilitation Division of Montescano Institute, Istituti Clinici Scientifici Maugeri, IRCCS, Italy

**Background:** The Clinical Frailty Scale (CFS) is a well-established tool that has been widely employed to assess patients' frailty status and to predict clinical outcomes in the acute phase of a disease, but more information is needed to determine the impact of this tool when dealing with chronic diseases.

**Methods:** An electronic literature search was performed on PubMed, Medline, Scopus, EMBASE, Web of Science, and EBSCO databases to identify studies employing the CFS to assess frailty in patients with chronic diseases.

**Findings:** After database searching and article suitability evaluation, 46 studies were included in the systematic review. Researches were conducted mostly in Japan (32.61%), and half of the studies were focused on cardiovascular diseases (50%), followed by cancer (21.74%), and diabetes (10.87%). Simplicity (32.61%), efficacy (28.26%), and rapidity (15.22%) were the CFS' characteristics mostly appreciated by the authors of the studies. The CFS-related results indicated that its scores were associated with patients' clinical outcomes (26.09%), with the presence of the disease (13.04%), and with clinical decision making (10.87%). Furthermore, CFS resulted as a predictor of life expectancy in 15 studies (32.61%), clinical outcomes in 12 studies (21.74%), and hospital admissions/readmissions in 3 studies (6.52%).

**Discussion:** CFS was found to be a well-established and useful tool to assess frailty in chronic diseases, too. It resulted to be related to the most important disease-related clinical characteristics and, thus, it should be always considered as an important step in the multidimensional and interdisciplinary evaluation of frail and chronic patients.

11:41 - 11:53

## Promoting volunteering among older adults: Two randomized controlled trials

L.M. Warner<sup>1</sup>, D. Jiang<sup>2</sup>, A.M. Chong<sup>2</sup>, T. Li<sup>2</sup>, J.K. Wolff<sup>3</sup>, S. Wurm<sup>3</sup>, K. Chou<sup>2</sup>

<sup>1</sup>MSB Medical School Berlin, Germany

<sup>2</sup>The Education University of Hong Kong, Hong Kong

<sup>3</sup>University Medicine Greifswald, Germany

### Background:

Although volunteering is assumed to relate to mental, physical, behavioral, and social benefits for older adults - these RCTs are among the first to use theory-based behavior change techniques (BCTs) to promote volunteering in old age and test their efficacy in terms of increases in volunteering and psychosocial health as well as potential social-cognitive mechanisms of these effects.

### Methods:

Two RCTs with older adults from Berlin (n=280) and Hong Kong (HK; n=384). Face-to-face group intervention sessions for volunteering against a parallel control condition (same BCTs promoting physical activity). Latent change models regressed volunteering changes from baseline to up to 6 months after intervention on condition (Berlin: baseline, 2&6 weeks, HK: baseline, 6 weeks, 3&6 months, controlling for age, sex, education, health). In HK, the outcomes volunteering and psychosocial health (depression, autonomy, general self-efficacy, meaning in life), and mediators were tested (outcome expectations, volunteering self-efficacy, intention, planning, self-monitoring).

### Findings:

As compared to controls, individuals in the intervention condition in Germany increased volunteering from 2 to 6 weeks ( $\beta=-.23$ ,  $p=.02$ ). In HK, all changes in volunteering over time were attributable to condition ( $\beta=.29$ ,  $p<.001$ ,  $\beta=.11$ ,  $p=.05$ ,  $\beta=.24$ ,  $p<.001$ ). Intervention effects were mediated via self-efficacy, intention and planning (no CI containing 0). The only psychosocial health change was a decrease in depressive symptoms from 3 to 6 months ( $\beta=-.014$ , CI95%[-0.044, -0.001]) in HK.

### Discussion:

Theory-based BCTs promoted volunteering among older adults with different cultural backgrounds. Active ingredients were self-efficacy, intention and planning. Effects on psychosocial health were negligible within 6 months.

## Depression and attenuated physiological responses to acute stress: the moderating role of early life adversity

T. Keogh<sup>1,2</sup>, S. Howard<sup>1,3</sup>, S. Gallagher<sup>1,3</sup>

<sup>1</sup>Department of Psychology, University of Limerick, Ireland

<sup>2</sup>Health Research Institute, University of Limerick, Castletroy, Limerick, Ireland, Ireland

<sup>3</sup>Health Research Institute, University of Limerick, Ireland

**Background:** Both cardiovascular reactivity and depression have been linked to the subsequent onset of cardiovascular disease (CVD), yet the pathways underlying this association remain unclear. The current study examined the role of early life adversity on the relationship between depression and cardiovascular reactivity to acute psychological stress. **Methods:** Moderation analyses were conducted using data from 639 participants drawn from the Midlife Development in the United States (MIDUS II) Biomarker Project. Responses were derived from the Childhood Trauma Questionnaire [CTQ] and Center for Epidemiologic Studies Depression Scale [CES-D]) and participants had their systolic and diastolic (SBP, DBP) blood pressure and heart rate (HR) monitored throughout a standardized stress testing protocol. **Results:** Depression was negatively associated with cardiovascular reactions to the stress task (all  $p$ s < .05); those who reported higher depressive symptomology exhibited blunted SBP, DBP and HR responses. These effects were more pronounced in depressed participants with a history of sexual abuse; for SBP at high levels of childhood sexual abuse,  $\beta = -.49$ ,  $t(628) = -2.92$ ,  $p = .004$ , 95% CI [-.81, -.15], and for DBP at moderate levels,  $\beta = -.15$ ,  $t(629) = -2.76$ ,  $p = .006$ , 95% CI [-.26, -.04] and at high levels of childhood sexual abuse,  $\beta = -.25$ ,  $t(629) = -3.89$ ,  $p < .001$ , 95% CI [-.37, -.12]. **Discussion:** The findings extend on the depression and cardiovascular reactivity literature and demonstrate that sexual abuse in childhood is indeed one of the underlying psychosocial mechanisms linking depression and blunted cardiovascular reactivity to acute psychological stress.

12:05 - 12:17

## Portuguese colonial war veterans' mental and physical health: 45 years later, what do we know?

D. Morgado<sup>1</sup>, B. Sousa<sup>1</sup>, P. Correia-Santos<sup>1</sup>, A. Maia<sup>2</sup>

<sup>1</sup>University of Minho, Portugal

<sup>2</sup>Universidade do Minho, Portugal

**Background:** No work has systematized the key themes and results regarding Portuguese veterans' mental and physical health after the Colonial War (1961-1974). To fill this gap, we conducted two systematic reviews.

**Method:** Following the PRISMA guidelines, searches were conducted, on March 2019, in seven electronic databases for the inclusion of published studies, and grey literature that focused on veterans' mental and physical health. Searches were supplemented with bibliographic reviews and consultation with experts. Minimum sample sizes, limits on study design or publication year were not stipulated.

**Findings:** The two reviews yielded 286 titles; 36 eligible studies. Veterans' mental health literature crosses several domains, including, prevalence, risk factors and functional impairment. Main themes regarding veterans' physical health include characterization of physical health, risk behaviors, health services use, relationship between combat exposure, posttraumatic stress disorder (PTSD), and physical health, and differences between veterans with and without PTSD diagnosis. Veterans reported a high prevalence rate of PTSD and comorbidities. Veterans with PTSD reported worst family, occupational and clinical outcomes compared to those without PTSD. Regarding physical health, veterans reported physical complaints, chronic diseases, risk behaviors, and health services use. PTSD was a mediator between combat exposure and health variables.

**Discussion:** Despite the breath of descriptive knowledge regarding veterans' mental and physical health, the literature still presents understudied content, such as, the impact of ageing on veterans' health. These data would be important for the establishment of policies that would prevent the veterans' perception of health deterioration and promote a successful ageing process.

12:17 - 12:29

# A systematic review of active ingredients of social prescribing interventions targeting mental health

M. Cooper<sup>1</sup>, L. Avery<sup>1</sup>, J. Scott<sup>2</sup>, K. Ashley<sup>1</sup>, C. Jordan<sup>1</sup>, L. Errington<sup>3</sup>, D. Flynn<sup>1</sup>

<sup>1</sup>Teesside University, United Kingdom

<sup>2</sup>Northumbria University, United Kingdom

<sup>3</sup>Newcastle University, United Kingdom

## Background:

Systematic reviews have reported on the effectiveness of social prescribing interventions (SPIs) but they have provided few insights into the active ingredients associated with improved outcomes. This systematic review aimed to identify the active ingredients of SPIs targeting mental health.

## Methods:

Two independent reviewers screened studies for inclusion derived from a structured search strategy of nine databases. Data were extracted on models of SPIs, outcome measures, application of theories/ models of behaviour change, and theory-linked behaviour change techniques (BCTs) using the BCT Taxonomy V1. Methodological quality was assessed using CASP and NIHR frameworks.

## Findings

18 studies, reporting on 12 different SPIs, were included in the review. Most SPIs utilised a link worker model (n=8). None of the studies reported the application of a specific theory/model of behaviour change to underpin SPIs. Most SPIs reported on wellbeing outcomes (n=11), followed by symptom-based measures of mental health (n=6), and general health (n=5). Across the 18 studies, 44 different BCTs were identified. The most common BCT groupings were goal planning (n=10), social support (n=10), comparisons of outcomes (n=7), and feedback and monitoring (n=6).

## Discussion

The link worker model and outcomes focused on well-being are dominant features of SPIs targeting mental health. There is a lack of explicit reporting on the theoretical underpinning of SPIs in this context. Future research would benefit from exploring which specific combinations of BCTs are most effective at engaging clients in SPIs and improving outcomes at each stage of social prescribing pathways.

# Implementation and health services research

11:05 - 12:35

Lucie Byrne-Davis

11:05 - 11:17

## What behaviour change techniques are used in 262 randomized trials of audit and feedback interventions?

J. Crawshaw<sup>1</sup>, C. Meyer<sup>2</sup>, V. Antonopoulou<sup>2</sup>, F. Lorencatto<sup>2</sup>, J. Pesseau<sup>1</sup>, K. Konnyu<sup>3</sup>, J. Antony<sup>4</sup>, M. Simeoni<sup>4</sup>, S. Michie<sup>2</sup>, J. Grimshaw<sup>1</sup>, N. Ivers<sup>4</sup>

<sup>1</sup>Ottawa Hospital Research Institute, Canada

<sup>2</sup>University College London, United Kingdom

<sup>3</sup>Brown University, United States

<sup>4</sup>Women's College Hospital, Canada

**Background:** Audit and feedback (A&F) is widely used as a strategy to improve healthcare professional practice. We aimed to identify the behaviour change techniques (BCT) within randomized trials of A&F interventions targeting practice-change among healthcare professionals.

**Methods:** We conducted a content analysis of 262 randomized trials of A&F included in a Cochrane review update (searched up to March 2019). A team of three researchers used the 93-item BCT Taxonomy (v1) to code intervention content in all trial arms. Two additional BCTs were added to the original taxonomy: 'Feedback (unspecified)' and 'Education (unspecified)'.

**Findings:** 35/95 BCTs (mean=4.9, range=1-13) were identified across 334 treatment arms. The five most common BCTs were 'Feedback on behaviour' (300/334; e.g., feedback on drug prescribing), 'Instruction on how to perform the behaviour' (238/334; e.g., issuing a clinical guideline), 'Social comparison' (172/334; e.g., peer-to-peer data), 'Credible source' (133/334; e.g., endorsed feedback reports), and 'Education (unspecified)' (104/334; e.g., giving a lecture to staff). Only six (2%) of the treatment groups included 'Feedback on behaviour' without additional BCTs. 28/95 BCTs (mean=2.8, range=1-9) were identified across 262 control/comparator arms. The five most common BCTs were identical to those listed above.

**Discussion:** Randomized trials of interventions using A&F to improve healthcare professional practice used a limited range of BCTs, focusing predominantly on providing behavioural feedback, clinical guidelines, peer comparison data, education, and leveraging credible individuals/groups. Our analysis provides a basis for exploring which BCTs and combinations of BCTs are associated with intervention effectiveness and which underutilized BCTs could inform future A&F interventions.



11:17 - 11:29

# What works to increase patient participation in critical care rehabilitation: a systematic review

C. Lawrence<sup>1,2</sup>, L. Aitken<sup>3</sup>, F. Lorencatto<sup>1</sup>

<sup>1</sup>Centre for Behaviour Change, Department of Clinical, Educational, and Health Psychology, University College London, United Kingdom

<sup>2</sup>Therapies and Rehabilitation, University College London Hospital NHS Foundation Trust, United Kingdom

<sup>3</sup>School of Health Sciences, City, University of London, United Kingdom

## Background:

Research demonstrates rehabilitation is safe and beneficial for critical care patients, however, uptake and delivery remain poor. The aim of this review was to apply behavioural science frameworks to identify which behaviour change strategies have been used in interventions to increase rehabilitation in critical care and their association with effectiveness.

## Methods:

Searches were conducted across eight databases (CRD42020204098). Intervention descriptions were coded into component behaviour change techniques (BCTs) using an established taxonomy (BCTT v 1.0). Due to heterogeneity of outcomes meta-regression to explore BCTs linked to effectiveness was not possible. Instead, interventions were categorized into three groups: 'very promising' (all outcomes show significant improvements), 'quite promising' (at least one outcome shows significant improvements) and 'not promising' (no outcomes show significant improvements). The number of 'quite' and 'very' promising interventions featuring each BCT were divided by the number of 'not' promising interventions featuring the BCT to generate a promise ratio (PR).  $PR \geq 2$  suggested a promising BCT.

## Findings:

Fifty-six studies (52 interventions) were included. The most frequently used BCTs were 'Instruction on how to perform the behaviour' (94.2%) and 'social support practical' (82.7%). Thirty-three interventions reported effectiveness, 17 were classified as 'very promising', eight 'quite promising' and eight 'not promising'. 'Self-monitoring of behaviour' (PR=8) and 'graded tasks' (PR=4.75) were the most promising BCTs.

## Discussion:

Interventions were poorly specified and reported and many did not report a behavioural approach to development or evaluation. Interventions including BCTs: 'self-monitoring of behaviour' and 'graded tasks' are likely to enhance early rehabilitation delivery.

11:29 - 11:41

## Health Behaviour Change Technique in Routine Practice in HIV Counselling and Testing sessions in Uganda

F. Martin<sup>1</sup>, W. Nalukenge<sup>2</sup>

<sup>1</sup>Coventry University, United Kingdom

<sup>2</sup>MRC/UVRI & LSHTM Uganda Research Unit, United Kingdom

**Objectives:** HIV Counselling and testing sessions offer a unique opportunity to provide behaviour change techniques to address repeat HIV testing, condom use, and HIV medication adherence, if tested positive. Current training and policy focus for these sessions focuses predominately on testing large number of patients, with less emphasis on intervention. Whilst it is not known which behaviour change techniques specifically work best to change specific behaviours for specific populations, there is mounting evidence that offers guidance into what can usefully be included and the need to include a range of techniques. This study objective is to analyse which behaviour change techniques are currently used, to elucidate current level of practice and training needs.

**Methods:** HIV Counsellors working in four clinics across southern Uganda audio-recorded a convenience sample of their sessions with their clients, following informed consent from both counsellor and client. These recordings were transcribed and coded against the Behaviour Change Taxonomy for HIV testing, condom use and medication adherence behaviours.

**Findings:** 115 sessions were coded. The most commonly used techniques across all behaviours related to Goals and Planning; Feedback and monitoring; Social Support; Shaping knowledge; and Natural consequences. Many techniques were never used, including several from the category "Scheduled consequences".

**Discussion:** Counsellors demonstrated a repertoire of existing techniques. Further indepth research is required to clearly evidence which techniques work, for which behaviour, and for whom. Nevertheless, training counsellors in the use of further techniques could be beneficial to enhance their practice and potentially client outcomes.

11:41 - 11:53

## Non-Clinical Patient Factors: Assisting or Hindering Mental Health-Related Clinical Decisions? A Data Linkage Study

L. Burns<sup>1</sup>, A. John<sup>1</sup>, A. da Silva<sup>1</sup>

<sup>1</sup>Swansea University, United Kingdom

**Background:** Non-clinical patient factors (NCpF) such as gender, educational level and socio-economic status can impact mental health clinical decisions. Understanding the extent to which this happens is important for appropriate and equitable care. This research seeks to i) investigate the feasibility of using administrative health data to investigate clinical decision making in mental health; and ii) understand the impact of NCpF on mental health-related diagnosis, treatment, and referral decisions.

**Methods:** Three waves of the Welsh Health Survey containing a five-item Mental Health Inventory (Short- Form SF36) and NCpF information were used to create our interest cohort. The records with a low SF36, a 'gold standard' identifier of common mental health conditions, were then linked to the healthcare records datasets securely stored on the Secure Anonymised Information Linkage Databank. A total of 2,770 patient records were linked and underwent logistical and cox regression analysis.

**Results:** Factors such as GP events, gender (female) and being permanently unable to work were associated with increased likelihood of mental health diagnosis and treatment, while those over 65 and in a lower supervisory roles had a decreased likelihood of diagnosis and treatment.

**Discussion:** Administrative data can provide a unique opportunity to investigate issues related with clinical decision-making in mental health and improve health equity. Having a better understanding of the influence of non-clinical patient factors on mental health decisions is necessary to prevent inequity in mental health care.

11:53 - 12:05

## Using focus group discussions to explore the use of routinely collected health data: lessons learned

L. Ballard<sup>1</sup>, K. Lyle<sup>1</sup>, F. Hardcastle<sup>1</sup>, A. Lucassen<sup>1</sup>

<sup>1</sup>University of Southampton, United Kingdom

**Background:** The NHS aspires to the highest standards of excellence regarding the quality of healthcare. However, improvements often stall when viewed as research, separating them from healthcare. Ways to inhabit the hybrid space between healthcare and research, for example, technological developments in healthcare data collection, generate concerns about privacy, consent and data protection. Whilst such concerns are understandable, too much emphasis on these values comes at the cost of healthcare progress. Health psychology researchers can shine a light on this important area.

**Aim:** Explore stakeholder views regarding their health data being routinely available for research and learning purposes.

**Methods:** A rapid qualitative research design was used to conduct online focus group discussions (FGD). Twenty-nine participants (21 women) between 19-77 years-of-age (mean 33 years-of-age) took part in six FGDs; transcripts were analysed thematically.

**What went wrong:** Despite our team's experience, deliberating extensively regarding the content of the topic guide and several iterations after each FGD, the data were unable to meet our research aim. Participants often had strong, polarised views regarding privacy and security that prevented nuanced discussion and data saturation was quickly reached.

**Possible solutions/conclusions:** Focus groups are not an effective method to explore complicated topics with which participants may have limited previous experience. Therefore, we have developed an innovative new approach, which includes: non-digital methods to engage with a broader sample; public consultation; space for science communication and for participants to form opinions; as well as creative methods of collecting views and opinions i.e. story/comic strip completion.

12:05 - 12:17

# Preparing handover instructions for primary care at patient discharge: an ethnography of the hospital environment

O. Markiewicz<sup>1</sup>, G. Judah<sup>1</sup>, N. Sanford<sup>2</sup>, F. Lorencatto<sup>3</sup>, M. Lavelle<sup>4</sup>, A. Darzi<sup>1</sup>

<sup>1</sup>Imperial College London, United Kingdom

<sup>2</sup>King's College London, United Kingdom

<sup>3</sup>University College London, United Kingdom

<sup>4</sup>City University of London, United Kingdom

## Background:

Poor quality handover instructions for primary care teams (PCTs) have been identified as a key threat to safe patient transitions from hospital to primary care settings, leading to avoidable hospital readmissions. The limited effect of previous interventions to improve handover instructions may be due to a lack of consideration of the hospital context. The objectives of this study were to define features of the hospital environment in which handover instructions for PCTs are prepared, ahead of patients' discharge from hospital.

## Methods:

Ethnographic observations were conducted in a large teaching hospital (October 2018-March 2019). Observations of ward work and meetings took place on surgical, medical and elderly care wards. Thematic analysis of observations (73 hours) was performed to describe features of the physical and non-physical hospital environment.

## Results:

Descriptions of the hospital environment were categorised into four themes, each including potential barriers and enablers to preparing good quality handover instructions for PCTs: (1) the physical hospital environment (e.g. access to computers); (2) organisational processes (e.g. competing priorities for clinical staff); (3) working together (e.g. frequent team handovers) and (4) individuals in the hospital (e.g. unmet staff training needs).

## Discussion

Knowledge of the hospital environment generated through this study will support future intervention design, allowing them to be tailored to existing contexts and processes, optimising chances of success. The potential environmental barriers and enablers identified in this study are being investigated further with interview studies, to explore their impact alongside other predictors of poor quality handover instructions for PCTs.

# Implementing a text messaging system for diabetes medication adherence in general practice: A qualitative study

J. Mc Sharry<sup>1</sup>, K. Butler<sup>1</sup>, Y.K. Bartlett<sup>2</sup>, N. Newhouse<sup>3</sup>, D. French<sup>2</sup>, C. Kenning<sup>4</sup>, L. Locock<sup>5</sup>, R. Rea<sup>6</sup>, V. Williams<sup>7</sup>, A. Farmer<sup>3</sup>

<sup>1</sup>Health Behaviour Change Research Group, National University of Ireland, Galway, Ireland

<sup>2</sup>Manchester Centre for Health Psychology, University of Manchester, United Kingdom

<sup>3</sup>Nuffield Department of Primary Care Health Sciences, University of Oxford, United Kingdom

<sup>4</sup>University of Manchester, United Kingdom

<sup>5</sup>Health Services Research Unit, University of Aberdeen, United Kingdom

<sup>6</sup>Oxford Centre for Diabetes, Endocrinology and Metabolism, Oxford University Hospitals NHS Foundation Trust, United Kingdom

<sup>7</sup>Faculty of Education and Professional Studies, School of Nursing, Nipissing University, Canada

## Background:

The Support through Mobile Messaging and digital health Technology for Diabetes (SuMMiT-D) project is developing and testing a mobile-device based system delivering automated, tailored brief text messages to offer support for medicine use to people with type 2 diabetes in general practice. This study aims to inform development of the SuMMiT-D system by exploring healthcare staff perceptions of the implementation of messaging support within current and future diabetes care.

## Methods:

Seven focus groups and four interviews with 48 healthcare professionals (including GPs, nurses, healthcare assistants, pharmacists and receptionists) with a potential role in the implementation of a messaging system were conducted. Interviews were audio-recorded, transcribed and analysed following an inductive thematic analysis approach.

## Findings:

Participants described non-adherence to medication as a problem, and saw the benefits of a brief messaging system to support patients. However, practice staff were concerned about time and resources needed, and felt a system could only be implemented if the process for patient sign-up was simple and fast. Pharmacists felt GPs were best placed to introduce the system to patients, whereas GPs and nurses thought pharmacists could fulfil this role.

Participants also wanted messages to target “more than” just medication adherence to be of most benefit. Participants perceived a need for messages to support self-management more broadly, and for the system to be applicable to conditions other than diabetes.

## Discussion:

The findings from this study are being combined with parallel work with patients to ensure stakeholder views inform the design of the SuMMiT-D system.

# e- and mHealth for physical activity, dietary behaviours and weight management

11:05 - 12:35

Laura Konig

11:05 - 11:17

# Systematic review of RCTs comparing face-to-face vs remote behaviour change interventions for weight management

S. Dombrowski<sup>1</sup>, E. Whitcomb<sup>1</sup>, J. Olthuis<sup>1</sup>, R. Witherspoon<sup>1</sup>, J. Hebert<sup>1</sup>

<sup>1</sup>University of New Brunswick, Canada

## BACKGROUND:

Weight management interventions can successfully support weight loss. Many face-to-face interventions are resource intensive preventing widespread implementation. Remote delivery of is possible and potentially cost-effective. The objective of this study was to examine the effectiveness of weight management interventions delivered face-to-face compared to delivering the same intervention remotely.

## METHODS:

Systematic review of RCTs. Five electronic databases were searched for RCTs reporting weight outcomes of  $\geq 3$  months (12 weeks), included adult participants ( $\geq 18$  years) with overweight or obesity (BMI of  $\geq 25\text{kg/m}^2$ ). Weight change was examined using random effects meta-analyses at intervention cessation and sub-group analyses were conducted for: intervention duration, remote delivery including human contact, and theory-base.

## FINDINGS:

22 RCTs met inclusion criteria. Face-to-Face interventions had significantly greater weight changes at the end of the active intervention period  $-0.81\text{kg}$  (95% CI,  $-1.39$  to  $-0.23\text{kg}$ ). No significant difference was found after 3 months. After 6 months differences emerged favouring face-to-face intervention delivery. Significant subgroup differences were found for theory use and human contact. Remotely delivered interventions were not significantly different to face-to-face delivered interventions when based on theory or when remote delivery included no human contact elements.

## DISCUSSION:

Face-to-face delivered weight management interventions are more effective than remote delivery, although the difference is small. However, remote delivery was associated with similar effectiveness to face-to-face delivery in the short term, when not including human contact elements, and when the intervention was based on theory.



# Is there a digital divide? A systematic review of mobile interventions for weight-related behaviours

D. Szinay<sup>1</sup>, C. Forbes<sup>2</sup>, H. Busse<sup>3,4</sup>, A. DeSmet<sup>5</sup>, E. Smit<sup>6</sup>, L.M. König<sup>7,8</sup>

<sup>1</sup>University of East Anglia, United Kingdom

<sup>2</sup>University of Hull, United Kingdom

<sup>3</sup>Leibniz-Institute of Prevention Research and Epidemiology, Germany

<sup>4</sup>Leibniz Science Campus, Digital Public Health, Germany

<sup>5</sup>Université libre de Bruxelles, Belgium

<sup>6</sup>University of Amsterdam/ASCoR, Netherlands

<sup>7</sup>University of Bayreuth, Germany

<sup>8</sup>University of Cambridge, United Kingdom

**Background:** Mobile health interventions are promising behaviour change tools. However, there are concerns that some populations benefit less thereby widening health inequalities. This research investigated differences in reach of, engagement with, and effectiveness of mobile interventions for weight-related behaviours (i.e., diet, physical activity, sedentary behaviour) based on a range of inequality indicators including age, gender, race/ ethnicity, and socioeconomic status.

**Methods:** Six databases (CINAHL, EMBASE, ProQuest, PsycINFO, Pubmed, Web of Science) were searched, identifying 1936 individual records. Publications were independently screened by two authors. Articles were included if they reported results of an exclusively mobile intervention study on reach, engagement, and/or effectiveness, and examined outcomes by at least one inequality indicator. PROSPERO registration CRD42020192473.

**Results:** Ten publications (nine studies) were included. Seven were RCTs and five targeted multiple behaviours simultaneously. Seven included multiple inequality indicators. Six addressed engagement: one reported increased engagement in females vs males; one reported increased engagement in white vs black participants. Seven addressed effectiveness; two reported increased effectiveness in females; one reported greater effectiveness in males. One study reported increased effectiveness in older vs younger participants and participants with higher vs lower income. Finally, one study reported increased effectiveness in participants in urban vs rural areas, with university degrees vs less education, and in professional-type jobs vs in lower skilled jobs or being unemployed. No study addressed reach.

**Conclusions:** Evidence for a digital divide in mHealth interventions targeting weight-related behaviours is limited. Inequality indicators should be specifically addressed, analysed, and reported when evaluating mobile interventions.

## Effects of avatar appearance on healthy eating intentions: exploring the effects of avatar body size

N. van der Waal<sup>1</sup>, L. Janssen<sup>1</sup>, M. Antheunis<sup>1</sup>, N. van der Laan<sup>1</sup>

<sup>1</sup>Tilburg University, Netherlands

Avatar users tend to adapt their real-world behaviour to their avatar's appearance; this has been coined the Proteus Effect. An example thereof, is that playing an exergame with an overweight avatar decreases the amount of physical activity in reality. The Proteus Effect in relation to eating behaviour is understudied, as well as the effects that visual perspective could have on the strength of the Proteus Effect. Therefore, this study aimed to answer the following RQ: To what extent does experiencing an overweight (compared to normal-weight) avatar lead to lower intentions to eat healthy, and is this effect stronger in a 3rd compared to a 1st person perspective?

A 2 (avatar body size: normal-weight vs. overweight) x2 (visual perspective: 1st vs. 3rd person) between-subjects experiment was conducted (N=148). Participants went grocery-shopping for lunch in a virtual supermarket. Afterwards they filled out a questionnaire measuring, among other constructs, intentions to eat healthy.

The ANOVA revealed a significant interaction effect ( $p = .046$ ), but in an unexpected direction. A simple effects analysis showed that, in the 3rd person perspective, those in the overweight condition held more positive intentions to eat healthy, than those in the normal-weight condition ( $p = .021$ ). An alternative explanation for this finding is that the overweight avatar could have functioned as a fear appeal, leading to increased intentions to perform danger-controlling behaviour (i.e., healthy eating). Future studies should investigate whether avatar body weight effects are caused by threat appraisals rather than the components underlying the Proteus Effect.

11:41 - 11:53

## Effects of suggestions and nudges in mobile self-scanning applications on healthy choices in the supermarket

N. van der Laan<sup>1</sup>, O. Orcholska<sup>1</sup>, L. Clabbers<sup>2</sup>

<sup>1</sup>Tilburg University, Netherlands

<sup>2</sup>Nakko, Netherlands

**Background:** Novel digital applications enable intervening in food choice processes at moments hitherto impossible. For instance, self-scanning solutions in supermarkets allow providing suggestions and nudges immediately after the product choice. Based on post-choice biases and endowment effects one may expect that changing made decisions is challenging. We investigated whether suggestions and nudges provided immediately after choice can correct unhealthy food choices towards healthier ones.

**Methods:** Experimental manipulations were integrated in the self-scanning function of a smartphone application with which people could scan and purchase products in the physical supermarket. We compared: 1) a control version without adaptations, 2) a version in which after scanning an unhealthy product (e.g., white bread) a pop-up with a healthier alternative (e.g., whole wheat bread) appeared, 3) a version similar to version 2 but with additionally a textual nudge denoting the healthiness of the alternative, and 4) a version similar to version 2 but with additionally a graphical icon nudge denoting the healthiness of the alternative. Sales data were collected during a 3-week period.

**Findings:** The percentage of healthy products purchased was significantly higher for the version in which the healthier alternative was suggested without any additional nudge (37.7% healthy, 62.3% unhealthy) compared to the control condition (29.9% healthy, 70.1% unhealthy), and the versions with an additional textual (30.0% healthy, 70.0% unhealthy) or icon nudge (28.8% healthy; 71.8% unhealthy).

**Discussion:** The findings imply that merely suggesting a healthy alternative stimulates healthier purchasing behavior but that an additional nudge emphasizing health may cancel this effect out.

11:53 - 12:05

## Do food tracking apps differ in acceptability, induced food-related cognitions and behaviour? A pilot study

A. Allmeta<sup>1</sup>, S. Sutton<sup>2</sup>, L.M. König<sup>1</sup>

<sup>1</sup>University of Bayreuth, Germany

<sup>2</sup>University of Cambridge, United Kingdom

**Purpose:** Smartphone apps have become popular for tracking food intake in daily life. However, the wide range of available apps differ substantially in the implemented tracking features such as photo-based recording, food databases, and recording of serving sizes, and thus the required input. The present study investigated whether differences in the required input are related to acceptability, induced food-related cognitions and behaviour.

**Methods:** In an online study, 30 participants were randomly assigned to viewing one of two app mock-ups, consisting of screenshots and a verbal description: (1) “simple” app requiring to take one photo of their meal; (2) “complex” app requiring to take a meal photo, identifying the meal components in a database or by free-text input, and providing the serving size. Subsequently participants were asked to rate the app’s acceptability for tracking food intake in daily life and potential consequences of tracking on food-related cognitions, intentions, and behaviour.

**Results:** The simple app was perceived to be more feasible ( $t(28) = -3.81$ ,  $p = .001$ , Cohen’s  $d = 1.38$ ) and to induce fewer food-related cognitions ( $t(28) = -3.72$ ,  $p = .001$ , Cohen’s  $d = 1.38$ ) compared to the complex app. No significant differences were found regarding intentions or eating behaviour ( $t(28) = -0.68$ ,  $p = .504$ ).

**Conclusions:** Complex food tracking apps provide a higher level of detail, but recording is more cumbersome and induces more food-related cognitions that may impact behaviour. Depending on the goal of the study, careful considerations have to be made regarding the choice of the tracking app.

12:05 - 12:17

# Effectiveness of digital physical activity interventions in low SES individuals: a systematic review and meta-analysis

M. Western<sup>1</sup>, M. Armstrong<sup>2</sup>, I. Islam<sup>3</sup>, K. Morgan<sup>3</sup>, U. Jones<sup>3</sup>, M. Kelson<sup>4</sup>

<sup>1</sup>University of Bath, United Kingdom

<sup>2</sup>University of Bristol, United Kingdom

<sup>3</sup>University of Cardiff, United Kingdom

<sup>4</sup>University of Exeter, United Kingdom

Despite increased access and use, little is known about their effectiveness of digital technologies to improve physical activity in low socioeconomic status (SES) populations. The aim of this systematic review was to explore the effectiveness of digital interventions in low SES and whether interventions are of equal benefit to higher SES individuals.

A systematic search strategy was used to identify randomised controlled trials using digital technology as the primary intervention tool, and extracted PA outcomes were split by high and low SES.

Nineteen studies were included in the final meta-analysis. Using random-effects models, in low SES there was a standardised mean difference (SMD (95%CI)) in PA between intervention and control groups of 0.04 (-0.11,0.19). In high SES the SMD was 0.32 (0.19,0.44). Heterogeneity was modest in both low ( $I^2 = 0.21$ ) and high ( $I^2 = 0$ ) SES groups. The studies used a range of digital technologies and behaviour change techniques in their interventions, but the main findings were consistent across all of the sub-group analyses (number of BCTs, digital interventions with a PA only focus, country, chronic disease, and duration of intervention).

In conclusion, for people of low SES, there is no evidence that digital PA interventions are effective, irrespective of the behaviour change techniques used. In contrast, the same interventions in high SES participants do indicate effectiveness. To reduce inequalities and improve effectiveness, future development of digital interventions aimed at improving PA must make more effort to meet the needs of low SES people within the target population.

# Ecological momentary assessment to examine associations of psychological factors with dietary intake: A systematic review

D. Powell<sup>1</sup>, B. Asare<sup>1,2</sup>, P. Gérain<sup>3</sup>, D. Kwasnicka<sup>2</sup>, O. Perski<sup>4</sup>, G. ten Hoor<sup>5</sup>, D. Kale<sup>4</sup>, J. Keller<sup>6</sup>, F. Naughton<sup>7</sup>, V. Schneider<sup>4</sup>, A. DeSmet<sup>8</sup>

<sup>1</sup>University of Aberdeen, United Kingdom

<sup>2</sup>Curtin University, Australia

<sup>3</sup>Université catholique de Louvain, Belgium

<sup>4</sup>University College London, United Kingdom

<sup>5</sup>Maastricht University, Netherlands

<sup>6</sup>Freie Universität Berlin, Germany

<sup>7</sup>University of East Anglia, United Kingdom

<sup>8</sup>Université libre de Bruxelles, Belgium

**Background:** Dietary behaviour (and its correlates) can vary (and covary) over time and contexts, meaning within-person as well as between-person variance is important to capture. Ecological momentary assessment (EMA) is well-suited to studying such variability in everyday life. This systematic review aimed to summarize methodological features as well as synthesise within- and between-person associations of psychological factors with dietary intake in EMA studies. **Methods:** A systematic literature review was conducted (Dec 2019) as part of a larger, multi-behavioural review on EMA in healthy adults. OVID Medline, Embase, PsycINFO and Web of Science databases were searched. This review adhered to the PRISMA checklist and used CREMAS to assess study quality. **Findings:** Ninety-three EMA studies were selected that examined diet. Average sample size was  $n = 129$  (Mean Age = 31.7y; 81% female). Most studies were observational (80/93) and used signal-based EMA. Nearly half of those reporting the device to record the EMA used mobile phones (38/82). The most commonly reported psychological correlates were mood, affect and emotions ( $n = 43$  studies), context and situational cues ( $n=10$ ), stress ( $n=8$ ), cravings ( $n=7$ ), suppression ( $n=4$ ) and appearance-related constructs ( $n=5$ ). Fewer studies reported socio-cognitive determinants such as attitudes ( $n=4$ ) and social norms ( $n=4$ ). **Discussion:** Affective psychological predictors have been investigated more than environmental contexts or other psychological factors. Although most theories of behaviour in health psychology suggest that behaviour can be explained by within-person variations in socio-cognitive determinants, very few EMA studies have actually examined these kinds of determinants with dietary behaviour.

# COVID-19

11:05 - 12:35

Vera Araujo Soares

11:05 - 11:17

## Stigmatization of Chinese and Asian-looking people during the COVID-19 pandemic in Germany

J. Koller<sup>1</sup>, K. Villinger<sup>1</sup>, N. Lages<sup>1</sup>, I. Brünecke<sup>1</sup>, J. Debbeler<sup>1</sup>, K. Engel<sup>1</sup>, S. Griebler<sup>1</sup>, P. Homann<sup>1</sup>, R. Kaufmann<sup>1</sup>, K. Koppe<sup>1</sup>, H. Oppenheimer<sup>1</sup>, V. Radtke<sup>1</sup>, S. Rogula<sup>1</sup>, J. Stähler<sup>1</sup>, B. Renner<sup>1</sup>, H. Schupp<sup>1</sup>

<sup>1</sup>University of Konstanz, Germany

The outbreak and global spread of COVID-19 was accompanied by an increase in reports of stigmatization of Chinese and Asian-looking people. The present study investigated whether stigmatization intensifies in times of greater infectious disease threat. As part of the “EUCLID” project (<https://euclid.dbvis.de>), a total of 5,011 persons from Germany were surveyed via an online-questionnaire between February 2 and April 3, 2020, covering the progression of the COVID-19 pandemic over three time periods defined by critical events. Stigmatization was examined across three topics: personal proximity, air travel, and medical measures upon arrival from China. There was no evidence for an increase in the stigmatization of Chinese and Asian-looking people. The present findings provide good news in that participants showed an adaptive response to the infectious disease threat rather than displaying increased stigmatization.



11:17 - 11:29

# Loneliness and mental health in lockdown: a longitudinal analysis

J. Groarke<sup>1</sup>, E. McGlinchey<sup>1</sup>, P. McKenna-Plumley<sup>1</sup>, E. Berry<sup>1</sup>, L. Graham-Wisener<sup>1</sup>, C. Armour<sup>1</sup>

<sup>1</sup>Queen's University Belfast, United Kingdom

## Background:

Mitigation policies to reduce the spread of COVID-19 have resulted in major reduction of social contact. It is important to determine how relationships between key outcomes, specifically loneliness and depressive symptoms, manifest over time and in a pandemic context.

## Method:

Data was collected between March and June 2020 using an online survey with three repeated measures at monthly intervals (N = 1958; 69.8% females; Age 18-87 years, M = 37.01, SD = 12.81). Cross-lagged structural equation modelling was used to examine the temporal relationships between loneliness (UCLA three-item loneliness scale), depression (The patient health questionnaire), and emotion dysregulation (Difficulties in emotion regulation scale).

## Findings:

The model was a good fit ( $\chi^2(647) = 4384.02$ ,  $p < .001$ ;  $Q = 6.78$ ;  $CFI = .94$ ,  $RMSEA = .05$ ). Baseline loneliness predicted higher depressive symptoms one month later (i.e., at time 1;  $r = .14$ ), and loneliness at Time 1 predicted higher depression at time 2 ( $r = .05$ ). Depressive symptoms at baseline predicted higher loneliness at time 1 ( $r = .08$ ), and depression at this time predicted higher loneliness at time 2 ( $r = .10$ ). The relationship was not mediated by emotion dysregulation. However, emotion dysregulation and depressive symptoms were also reciprocally related over time ( $r = .08-.11$ ).

## Discussion

The longitudinal association between loneliness and depressive symptoms was positive and reciprocal. Efforts to improve mental health during pandemics could focus on interventions that target either loneliness, depression, or both. Potential approaches include increasing physical activity or low-intensity cognitive therapies delivered remotely.

11:29 - 11:41

## Health behaviors and mental health during the COVID-19 pandemic: A longitudinal population-based survey

J. Mata<sup>1</sup>, A. Wenz<sup>1</sup>, T. Rettig<sup>1</sup>, M. Reifenscheid<sup>1</sup>, K. Möhring<sup>1</sup>, U. Krieger<sup>1</sup>, S. Friedel<sup>1</sup>, M. Fikel<sup>1</sup>, C. Cornesse<sup>1</sup>, A. Blom<sup>1</sup>, E. Naumann<sup>1</sup>

<sup>1</sup>University of Mannheim, Germany

**Objective:** To understand the mental health response to repeated and prolonged stress during the Covid-19 related lockdown and the role of health behaviors to buffer against this stress, testing vulnerability-stress models on habituation and sensitization.

**Methods:** In a longitudinal study with four measurement points over three months during the COVID-19 pandemic, about 3,500 randomly selected participants representative of the German population reported their mental health (anxiety, depression, loneliness), screen time, snack consumption, and physical activity.

**Results:** Symptoms of anxiety, depression, and loneliness were highest shortly after the lockdown came into effect. Over time, the symptoms were stable or went down slightly, suggesting patterns of habituation. Among people with higher vulnerability to poor mental health during the lockdown (e.g., women), the proportion with high levels of anxiety, depression, and loneliness was considerably larger. These groups also reported fewer health-promoting behaviors. More screen time, more snacking, and less physical activity were related to higher symptoms of anxiety, depression, and loneliness across all time points. Changes in health behaviors over time did not predict changes in mental health symptoms.

**Conclusions:** Mental health and health behaviors worsened as an immediate response to stress but mostly returned to pre-lockdown levels within three months. Engaging in healthier behaviors was associated with better mental health. This study provides important insights into (unintended) side effects of a major crisis and contributes to a better understanding of how to preserve mental health.

11:41 - 11:53

# Hope in a crisis: Evaluation of a digital intervention for people with cancer during COVID-19

H. Wright<sup>1</sup>, F. Martin<sup>1</sup>, G. Matouskova<sup>2</sup>, C. Clark<sup>1</sup>, W. Clyne<sup>3</sup>, M. McGillion<sup>4</sup>, A. Turner<sup>1</sup>

<sup>1</sup>Coventry University, United Kingdom

<sup>2</sup>Hope 4 The Community CIC, United Kingdom

<sup>3</sup>Plymouth University, United Kingdom

<sup>4</sup>McMaster University, Afghanistan

## Background

COVID-19 has exacerbated the psychosocial challenges experienced by people living with cancer. Working with Macmillan Cancer Support, a leading cancer charity in the UK, we delivered and evaluated a self-management support programme to help address these challenges. The Hope Programme is a six-week, digital, peer-delivered, self-management programme which provides support for fear of cancer recurrence, cancer-related fatigue, sexuality and mental health. Participants are encouraged to use behaviour techniques including goal setting.

## Methods

A pre-test, post-test design was used to identify any improvements in mental wellbeing (WEMWBS), depression (PHQ-9), anxiety (GAD-7). Ninety-one participants completed the pre and post measures. Data were analysed using related sample t-tests.

## Results

Participants' mean age was 52.0 years (SD 12.0), half of all participants (49/91, 50%) had breast cancer and 47% were still receiving treatment. There were statistically significant improvements in mental wellbeing ( $p < 0.001$ ) with 64% reporting a meaningful improvement ( $\geq 3$  points). There were also statistically significant improvements in depression and anxiety (both  $p < 0.001$ ). At baseline 45% and 47% exceeded the cut-offs indicating a clinical level of depression and anxiety, respectively. At post course, clinical levels were reduced to 25% and 24% for depression and anxiety, respectively.

## Discussion

COVID-19 is likely to create ongoing challenges for healthcare providers who support people living with cancer. The findings show that a peer-delivered, digital self-management intervention has the potential to improve important outcomes for people living with cancer. A fully powered randomised controlled trial is planned.

11:53 - 12:05

## One quick needlestick, one giant leap for mankind: How to increase COVID-19 vaccination intention

A. Carolus<sup>1</sup>, M. Abebe<sup>1</sup>, C. Becker<sup>1</sup>, A.Y.A. Do<sup>1</sup>, J. Hagmann<sup>1</sup>, J. Heeger<sup>1</sup>, L. Murr<sup>1</sup>, A. Schäfer<sup>1</sup>, L. Zink<sup>1</sup>

<sup>1</sup>Julius Maximilians University Wuerzburg, Germany

The first authorized vaccines are a dawn of hope in the COVID-19 pandemic. However, vaccine hesitancy constitutes a major threat to coverage rates necessary to confer herd immunity. From research on other diseases, a variety of predictors of vaccination readiness is already known. Considering the singularity of the current pandemic, the transferability of these results is uncertain. Consequently, this study asks for variables affecting the intention to vaccinate against COVID-19.

In an online experiment, 525 participants reported their general vaccination attitudes. Regarding COVID-19, their knowledge was tested and their attitudes towards the disease and the vaccination were assessed. Afterwards, one out of three infographics on COVID-19 was randomly presented (factor “frame”: neutral, ego or prosocial). Finally, participants assessed COVID-19 vaccination intention, vaccination importance and the credibility of the infographic.

Regression analysis revealed no significant effect of the differently framed infographics on COVID-19 vaccination intention and importance. However, vaccination attitude (general and COVID-19 specific), perceived severity of COVID-19 and the credibility of the infographic were significant predictors. To account for the sample’s very high general vaccination attitude, it was subdivided into three groups (high, medium, lower attitude). Regression analysis revealed significant group differences regarding the effects of the infographic. For participants with lower general vaccination attitude, the presentation of the prosocial framed infographic resulted in an increase of both COVID-19 vaccination attitude and importance.

Results are discussed in the light of COVID-19 vaccine communication campaigns, suggesting that future campaigns should address specific target groups and consider the effects of influencing variables.

12:05 - 12:17

# Lithuanian informal caregiver burden and support needs during COVID-19 and beyond

I. Biliunaite<sup>1</sup>, E. Kazlauskas<sup>2</sup>, R. Sanderman<sup>3</sup>, G. Andersson<sup>1</sup>

<sup>1</sup>Linköping University, Sweden

<sup>2</sup>Vilnius university, Lithuania

<sup>3</sup>University of Groningen, Netherlands

## Background:

Informal caregivers can experience burden, anxiety, or depression. To provide with the best possible support, caregiver characteristics, support needs, as well as cultural background must be considered.

## Objective:

In this presentation results of a survey from the informal caregivers in Lithuania in relation to their well-being and needs will be presented.

## Methods:

A survey was conducted from May to September 2020. It consisted of multiple-choice questions in relation to the caregiver and receiver characteristics, available support and needs, general well-being and burden as assessed by the Caregiver Burden Inventory (CBI). In addition, few questions about the well-being and support during the COVID-19 pandemic were included. Descriptive analyses were performed.

## Findings:

Overall, 226 individuals filled in the survey. Most of the respondents were female (87.6%) caring for their parent (57.1%). More than half of the respondents experienced physical (58.8%) or psychological (55.8%) health problems. Also, a wish to receive more professional support for caregiving (73.9%). Respondents on average scored 50.21 points (SD=15.63) on the CBI with females scoring significantly higher than males ( $p=.011$ ). For majority, COVID-19 pandemic did not have influence on own (63.7%) or the well-being of the care-receiver (68.1%).

## Discussion:

In conclusion, the respondents experienced high burden and wished to receive more support. Interestingly, no changes in the well-being were observed due to the COVID-19 pandemic. Psychological as well as caregiving related support options for informal caregivers in Lithuania should be investigated more in research.

## How Covid-19 is affecting eating behaviour on peri/postmenopausal women?

M. Leitão<sup>1</sup>, I. Queiroz-Garcia<sup>1</sup>, M. G. Porto<sup>1</sup>, F. R. Pérez-López<sup>2</sup>, J. Marôco<sup>1</sup>, F. Pimenta<sup>1</sup>

<sup>1</sup>William James Center for Research, ISPA – Instituto Universitário, Portugal

<sup>2</sup>Department of Obstetrics and Gynecology, University of Zaragoza Faculty of Medicine, Zaragoza, Spain

**Background:** Obesity prevalence is influenced by eating behaviour and is particularly incident in middle-aged women and during peri/postmenopause. Also, it is a risk factor for severe Covid-19. In response to this new situation, it is crucial to explore how these women may change their eating behaviour.

**Methods:** Overall, 1,309 Portuguese middle-aged women aged 45-65 (M=53.93, SD=4.851) filled in the Three-Factor Eating Questionnaire, which assesses Cognitive Restraint (CR), Emotional Eating (EE), and Uncontrolled Eating (UE), both before national lockdown and after that. Menopausal stage (perimenopause [n=280] and postmenopause [n=1,029]) and weight changes (loss [n=144], maintenance [n=387] and gain [n=778]) from pre- to current menopausal stage were also measured. A mixed between-within subjects' analysis of variance was conducted to assess the impact of eating behaviour before and during the Covid-19, considering menopausal stage and weight changes.

**Findings:** The effect of Covid-19 on EE was significant between menopausal stages,  $F(1,1303)=4.891; p=.027; \eta^2=.004; \pi=.599$ . EE was higher before Covid-19 (M=2.21, SD=.026) and lower during Covid-19 (M=2.10, SD=.039) in the postmenopausal group. Additionally, the effect of Covid-19 on UE was significant among participants with different menopausal status and weight trajectory,  $F(2,1303)=3.735; p=.024; \eta^2=.006; \pi=.685$ . UE was higher before Covid-19 on postmenopausal women who lost weight (M=2.09, SD=.060), as well as in those that maintained their weight (M=1.92, SD=.060), and it was lower during Covid-19 (M=1.99, SD=.054; M=1.87, SD=.038, respectively).

**Discussion:** The postmenopausal group showed an improvement in eating behaviour: women who maintained or lost weight decreased both EE and UE. However, women who gained weight didn't improved their eating behaviour, consequent to the pandemic.

# Women`s health issues across the lifespan: Identifying risks and opportunities for change

14:15 - 15:15

Efrat Neter

# Mother-infant contact after birth can reduce postpartum post-traumatic stress by reducing birth-related fear and guilt

Y. Benyamini<sup>1</sup>, R. Kahalon<sup>2</sup>, H. Preis<sup>3</sup>

<sup>1</sup>Tel Aviv University, Israel

<sup>2</sup>University of Zurich, Switzerland

<sup>3</sup>Stony Brook University, United States

## Background

Despite the well-documented negative effects of posttraumatic stress symptoms following childbirth (PTSS-FC), research on protective factors for PTSS-FC is still missing. Aiming to fill this gap, we proposed and examined a process model through which maternal-infant skin-to-skin contact after birth reduces PTSS-FC by decreasing negative emotions, especially for women who had operative births.

## Methods

Pregnant women (N=1371) rated their prenatal depressive symptoms. At two-months postpartum, they reported their mode of birth, whether they had skin-to-skin contact with their newborn after birth, their emotions during birth, and their current PTSS-FC. A moderated mediation model was used to test the hypotheses.

## Findings

At two months postpartum, PTSS-FC scores were significantly higher among women following an instrumental or a cesarean birth, compared to a vaginal birth ( $p \leq .01$ ). Of the emotions examined, guilt ( $B = -.05$ ,  $SE = .02$ , [95%CI:  $-.09$  to  $-.01$ ]) and fear ( $B = -.03$ ,  $SE = .02$ , [95%CI:  $-.07$  to  $-.01$ ]) during birth mediated the association between mode of birth (instrumental or cesarean versus vaginal) and PTSS-FC. A significant interaction effect showed that skin-to-skin contact after birth was related to later reporting of reduced feelings of guilt and fear during birth, especially for women who had a cesarean section.

## Conclusions

Our results identify the specific emotions that contribute to the development of PTSS-FC following operative births and show that skin-to-skin can possibly reduce them. As such they emphasize the importance of the implementation of skin-to-skin contact following childbirth, and especially following a cesarean section as recommended by the Baby Friendly Health Initiative of the WHO & UNICEF.



14:27 - 14:37

## The role of hereditary cancer risk perception in defensive coping

A.Y. Kinney<sup>1</sup>, J.K. Ani<sup>2</sup>, B. Xu<sup>2</sup>, O. Foran<sup>2</sup>, A. Chaudhary<sup>2</sup>, E. Heidt<sup>2</sup>, J. McDougall<sup>3</sup>

<sup>1</sup>School of Public Health, Rutgers University and The Rutgers Cancer Institute of New Jersey, United States

<sup>2</sup>The Rutgers Cancer Institute of New Jersey, United States

<sup>3</sup>Department of Internal Medicine and University of New Mexico Comprehensive Cancer Center, United States

**Background:** People may respond defensively to threatening health information, such as cancer risk, family cancer experiences, and personal and familial vulnerability. Women with a mutation in BRCA 1/2 genes are at substantially elevated lifetime risk of developing breast (up to 80%) and ovarian cancer (up to 50%). Associations between perceived risk of hereditary breast and ovarian cancer (HBOC) and defensive avoidance coping are not well understood. Guided by a Fear Management Theoretical Framework, we hypothesized that lower perceived personal and family risk of HBOC is associated with higher defensive avoidance and that ovarian cancer patients will have lower perceived personal and family HBOC risk compared to breast cancer patients.

**Method:** We examined baseline data from a population-based, randomized controlled trial of a personalized risk communication intervention that enrolled 578 ethnically diverse women with breast (n=487) and ovarian cancer (n=91) who were at increased risk for HBOC. Generalized linear modeling was used to investigate the relationships between defensive avoidance, risk perceptions, cancer site, and perceived risk.

**Findings:** In the adjusted linear regression analysis, women with lower perceived risk of HBOC for self and family had higher defensive avoidance ( $p=.004$ ,  $p=.012$  respectively). Compared to women with breast cancer, women with ovarian cancer had lower perceived HBOC risk in the adjusted regression model ( $p=.004$ ).

**Discussion:** These findings illuminate the need for personalized interventions that promote protective actions to reduce cancer risk, and opportunities for healthcare providers to tailor discussions with high-risk women about genetic testing and risk management for themselves and their relatives.

## The impact of cultural and health-care system differences on psychological adaptation to breast cancer

E. Karademas<sup>1,2</sup>, P. Simos<sup>1,2</sup>, R. Pat Horenczyk<sup>3</sup>, K. Mazzocco<sup>4</sup>, B. Sousa<sup>5</sup>, I. Roziner<sup>6</sup>, P. Poikonen-Saksela<sup>7</sup>

<sup>1</sup>University of Crete, Greece

<sup>2</sup>FORTH, Greece

<sup>3</sup>University of Jerusalem, Israel

<sup>4</sup>University of Milan, Italy

<sup>5</sup>Champalimaud Cancer Center, Portugal

<sup>6</sup>Tel-Aviv University, Israel

<sup>7</sup>University of Helsinki, Finland

**Background:** Culture affects illness-related perceptions and behaviours, and adaptation to illness. Also, cultural/historical and socioeconomic factors shape health systems and the delivery of health care. Our aim was to examine the impact of cultural and health-care differences on the psychological adaptation of women with breast cancer, across four European countries of distinct social-political history.

**Methods:** We examined baseline data from BOUNCE (<https://www.bounce-project.eu/>), a prospective study funded by Horizon 2020. Women recently diagnosed with non-metastatic breast cancer, coming from Finland, Italy, Israel, and Portugal, participated in the study (N=726; M age=54.05). We examined the impact of cultural/health-care differences on the relations between certain important factors: mental health and quality of life, affect, self-efficacy for coping with breast cancer, and trait resilience.

**Findings:** After controlling for sociodemographic and medical variables, small to medium size differences were found in all variables across countries (partial  $\eta^2$ s=.03-.17). Mental health and quality of life were strongly related to self-efficacy, resilience, and affect ( $r$ s=.28-.72,  $p$ <.001), but the country of origin had no impact on the strength of these relationships ( $B$ s<|3.75|,  $t$ s<|1.90|,  $p$ >.05). Even when more complex relations were examined (i.e., the effect of resilience on the relation of self-efficacy to well-being), also no impact of the country was found ( $B$ s<|5.80|,  $t$ s<|1.80|,  $p$ >.05).

**Discussion:** The country of origin did not impact the relationships among significant aspects of psychological adaptation to breast cancer. Women's personal variables and experience are likely more important for adaptation to breast cancer than potential cultural or health-care differences, at least soon after diagnosis.

## Effects of three planning interventions on physical activity in woman patient—women partner dyads

M. Boberska<sup>1</sup>, E. Kulis<sup>2</sup>, Z. Szczuka<sup>2</sup>, A. Banik<sup>2</sup>, A. Luszczynska<sup>1</sup>

<sup>1</sup>University of Social Sciences and Humanities, Poland

<sup>2</sup>SWPS University of Social Sciences and Humanities, Poland

**Background:** The study investigated the influence of individual, dyadic, and collaborative planning interventions on self-reports of moderate-to-vigorous physical activity (MVPA) levels in patient-partner dyads.

**Method:** Data from 102 patient-partner dyads were collected (patients: 100% women, age: 18-90 years old,  $M = 45.56$ ; partners: 100% women, age: 18-81 years old,  $M = 42.19$ ) at the baseline (one week before the planning intervention) and at eight weeks after the planning intervention. The inclusion criteria referred to patients' reports of (1) physical activity below the level recommended by World Health Organization (100%) or (2) a chronic illness (77.4%). The majority of dyads included either two family members (31.6%) or two close friends (62.1%). Dyads were randomly assigned to the individual ( $n = 31$ ), dyadic ( $n = 28$ ), or collaborative ( $n = 19$ ) planning conditions or to the active control condition ( $n = 24$ ).

**Findings:** Among patients, the significant Time x Group interaction effect was found for dyadic planning, with significant MVPA increases in the dyadic planning condition compared to the control condition. Among partners, a trend ( $p = .06$ ) for the Time x Group interaction was found in case of the individual planning, with a tendency to improve MVPA levels in the individual planning condition compared to the control condition.

**Discussion:** There may be no optimal intervention for dyads, prompting MVPA in patients and partners. Women patients may benefit more for dyadic planning interventions, whereas their partners may benefit more from forming individual plans.

# Advances and innovations in the use of implicit measures to assess and modify health-related processes

14:15 - 15:15

Dimitri Van Ryckeghem

14:15 - 14:27

## The effect of a contextual motivational state on attentional bias for food

E. Kemps<sup>1</sup>, F. Thomolaris<sup>1</sup>, D. Van Ryckegehem<sup>2</sup>, G. Crombez<sup>2</sup>

<sup>1</sup>Flinders University, Australia

<sup>2</sup>Ghent University, Belgium

**Background:** Emerging evidence in health behaviour research suggests that attentional biases may be functional rather than maladaptive processes, driven by changing contexts and motivational factors. Applied to the food domain, this study examined the effect of an induced current concern with food and eating, as frequently experienced by dieters in the face of palatable food temptations, on attentional bias for food and snack intake.

**Methods:** Undergraduate women (N=97; 18-30 years; MBMI = 23.24 kg/m<sup>2</sup>) underwent a current concern induction (i.e., priming by alluding to a future taste test of snack foods). Attentional bias for healthy and unhealthy food was assessed before and after the induction using a well-established implicit measure, the dot probe task. In addition to determining food intake (via the taste test), a measure of food choice and self-reported dieting were also collected.

**Findings:** Attentional bias for healthy, but not unhealthy food increased following the current concern induction, which correlated with a greater selection of healthy than unhealthy snacks. Dieting moderated the relationship between this change in attentional bias and both snack choice and intake, whereby more successful dieters chose and consumed more healthy than unhealthy snacks.

**Discussion:** The induced current concern with food and eating, reflected by a greater attentional bias for healthy food, resulted in healthier food choices and intake among dieters. These findings support the revised conceptualisation of attentional biases from pathological schema-based traits to context-based, goal-directed states or motives.

## Assessing sleep-related attitudes with the IAT: a preliminary investigation

C. Peuters<sup>1</sup>, J. Cummins<sup>1</sup>, A. Vandendriessche<sup>1</sup>, G. Crombez<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

Automatic measures of attitude towards sleep, in addition to reflective self-report measures, might improve our ability to predict and explain sleep-inhibiting practices. We developed two types of implicit association tests (IATs): a sleep-evaluations IAT (E-IAT) and a sleep-self-identity IAT (I-IAT); and examined the effectiveness of the IATs in assessing automatic attitude towards sleep-promoting behaviour.

The study included 147 young adults ( $21.7 \pm 2.22$  years; 52% male). At baseline, participants completed the two IATs, a speeded self-report measure of sleep evaluations (to assess spontaneous reactions), and regular self-report measures assessing the determinants of sleep-promoting behaviour (cognitive and affective evaluations, outcome-expectancies, self-efficacy, intention and action planning) and behavioural outcomes (sleep-promoting behaviour, and sleep quality and quantity). At follow-up (2 weeks after baseline), participants completed one of the two IATs, the speeded measure, and the behavioural outcome measures.

Results show that both versions of the IAT had good test-retest reliability, but were unrelated to either speeded self-reported sleep evaluations or any of the sleep determinants or behavioural outcomes. The speeded self-report measure also had good test-retest reliability and correlated significantly with cognitive and affective evaluations, outcome-expectancies, intention and action planning of sleep-promoting behaviour, and with sleep latency.

Our findings suggest that sleep-related IATs might not be suitable to assess automatic sleep-related attitudes. The exploration of IATs with different target stimuli could give a more decisive answer. Speeded self-reports could offer an alternative as spontaneous measures of attitude, but further investigation is needed to explore their construct validity and further develop their content validity.

14:39 - 14:51

## Comparing direct and indirect measures of attentional bias to pain in men and women

E. Keogh<sup>1</sup>, M. Fanous<sup>1</sup>, S. Winslade<sup>1</sup>, A. ten Brink<sup>1</sup>

<sup>1</sup>University of Bath, United Kingdom

**Background:** Explanations for gender differences in pain acknowledge the wider social context, including the how observers respond to men and women's pain. This study considered whether observers differentially attend to men and women's expressions of pain, using both indirect and direct measures of attention.

**Methods:** Two experiments using a dot probe task are reported, each comprising 60 adults. Images of men and women displaying pain and other expressions through their body posture were used. Experiment 1 paired same-sex images, where the type of expression was varied within the pairing (e.g., pain-neutral). Experiment 2 paired similar expressions (e.g., pain-pain), but by a man and a woman. As a direct measure of attention, gaze position was assessed and the ratio of fixations between images computed (oculomotor bias). The indirect measure was derived from response times to dot-probes that followed the image pairs (response bias).

**Findings:** ANOVA was conducted on first fixations and attentional bias index. In Experiment 1, a significant effect of gender was found on the oculomotor bias. When presented with female images, participants were less likely to initially fixate on pain, than fear expressions. No effect of gender was found on the response bias. In Experiment 2, no gender-related effects were found for the oculomotor or response bias.

**Discussion:** Partial support was found for a gender-related bias when observing body expressions of pain. However, this depends on the task and measure of attention used. Further investigations are warranted to see how reliable this effect is.

14:51 - 15:03

## Self-concept IAT and Attentional Bias towards fatigue: demonstration and user tests of measures and CBM

J. Geerts<sup>1</sup>, M. Pieterse<sup>1</sup>, R. Wolbers<sup>1</sup>, E. Salemink<sup>1</sup>, C. Bode<sup>1</sup>

<sup>1</sup>University of Twente, Netherlands

**Background.** Fatigue is a highly invalidating symptom in chronic diseases, and has been shown to be perpetuated by implicit cognitive biases. Recurring fatigue may result in an integration of fatigue into one's self-schema, a self-as-fatigued concept bias, as well as attentional bias towards fatigue signals. Based on preliminary research a self-concept IAT (SF-IAT) and a dot-probe test (F-AB) were developed. Additionally, a CBM mobile app was developed, based on the SF-IAT, retraining self-fatigue towards self-vital associations. In this paper we demonstrate the applications and present findings from user testing in patient populations.

**Methods.** Mixed-methods, including interviews with thematic data-analyses, and usability testing, were applied among small samples of kidney patients and breast cancer patients, and healthcare professionals.

**Findings.** Acceptance of CBM and bias measures in patients was found to be high, but adherence may be improved by carefully educating users about the underlying mechanism. Patients appreciated the simplicity and low effort required. In the CBM mobile app, users suggested a vertical positioning of the CBM categories, with Self/Vitality at the bottom and Other/Fatigue on top, allowing more intuitive swiping towards or away from their body.

**Discussion.** The cognitive bias measures and CBM applications aimed at fatigue symptoms were embraced by both patients and caregivers, provided that skepticism about the role of cognitive bias is addressed. Several improvements were implemented, including a novel addition of an approach-avoidance paradigm to the IAT-based mobile phone CBM.



# Open Science and Health Psychology: Case studies of applying principles to practice

14:15 - 15:15

Emma Norris

14:15 - 14:25

## Factors impacting open science practices of early career healthcare researchers: a mixed methods study'

E. Toomey<sup>1,2</sup>, K. Zecevic<sup>3,4</sup>, C. Houghton<sup>4</sup>, H. Lee<sup>5,6</sup>, K. Matvienko-Sikar<sup>7</sup>, C. Noone<sup>4</sup>

<sup>1</sup>University of Limerick, Ireland

<sup>2</sup>Health Research Institute, University of Limerick, Ireland

<sup>3</sup>University of Ljubljana, Slovenia

<sup>4</sup>National University of Ireland Galway, Ireland

<sup>5</sup>University of Oxford, United Kingdom

<sup>6</sup>University of Newcastle, Australia

<sup>7</sup>University College Cork, Ireland

**Background:** There is a growing movement towards open science and transparent health research. It is vital that researchers are prepared for this environment from early in their careers. There is little understanding of the barriers and enablers to practicing open science for early career researchers (ECRs). This study explored the views, experiences and factors influencing open science behaviours amongst ECRs working in health research.

**Methods:** Semi-structured individual interviews were conducted with ECRs working in health research. Participants also completed surveys. Thematic analysis was used to analyse the qualitative data and descriptive statistical analyses were used to analyse survey data.

**Results:** 14 participants represented a range of disciplines including health sciences (42.9%) and health psychology (36%). Two main themes were identified; Valuing Open Science and Creating a Culture for Open Science. Within 'Valuing Open Science', participants spoke about the conceptualisation of open science to be open across the entire research cycle, and important for producing better and more impactful research for patients and the public. Within 'Creating a Culture of Open Science' participants spoke about a number of factors influencing their practice of open science. These included cultural/academic pressures, the positives and negatives of increased accountability and transparency, and the need for more training and resources to facilitate open science practices.

**Conclusion:** ECRs see the importance of open science but many feel they are not supported to practice it. Tangible engagement from institutions, funders and researchers including resources and incentives are needed to facilitate the development of an open science culture.

14:25 - 14:35

## Developing an open educational resource for open research: the PaPOR TRAIL project

K. Matvienko-Sikar<sup>1</sup>, B. Palmer<sup>1</sup>, A. Coffey<sup>1</sup>, D. Dahly<sup>1</sup>, C. Houghton<sup>2</sup>, S. Egan<sup>1</sup>, J. Pope<sup>1</sup>, E. Ó Carragáin<sup>1</sup>, E. Toomey<sup>3</sup>, S. Dockray<sup>1</sup>

<sup>1</sup>University College Cork, Ireland

<sup>2</sup>National University of Ireland, Galway, Ireland

<sup>3</sup>University of Limerick, Ireland, Ireland

**Background:** Developing educational resources for students is essential to enhance awareness and early engagement with open research practices. The PaPOR TRAIL project developed an open educational resource (OER) on open research for undergraduate and masters students.

**Methods:** Interviews and surveys of students and supervisors explored students' and supervisors' knowledge, attitudes, and experiences of open research, in addition to needs and preferences for OER content and delivery. Development of the final OER was based on survey and interview findings, and guidance on best practice in open research.

**Findings:** Interviews, conducted with 16 students and 14 research supervisors, highlighted inconsistencies in knowledge and attitudes to open research. While students discussed perceived benefits of open research, they wanted more open research resources and supports. Surveys were completed by 74 students, and 76 research supervisors. Supervisors reported that all aspects of open research were important for students; students reported that an introduction to open research, data management, dissemination, and reproducibility were most important to them. Preferred approaches to OER delivery included use of videos, templates, and best practice examples. The final OER includes a stand-alone introductory module. Once completed, students have the option to complete up to six modules on specific open research practices.

**Discussion:** The PaPOR TRAIL project has developed an evidence-based OER providing a foundation in all aspects of open research theory & practice. Teaching health psychology students open research will promote development of core research skills and values that will benefit students, research, and health psychology as a discipline.

14:35 - 14:45

## Do “Evidence-Based” Interventions Need to Be Based on Open Science? An Analysis of Clearinghouse Standards

S. Grant<sup>1</sup>

<sup>1</sup>Indiana University Richard M. Fairbanks School of Public Health, United States

**Background:** Clearinghouses are influential databases that rate which interventions have strong evidence of effectiveness in achieving health behavior change. To identify “evidence-based” interventions, these clearinghouses assess whether studies evaluating intervention effectiveness use specific design features that improve causal inference. This study examined the degree to which clearinghouses include open science practices in the standards that they use to identify “evidence-based” interventions.

**Methods:** We obtained information on the policies, procedures, and practices of 10 clearinghouses that are funded by the United States federal government and run by either federal government staff or contracted research organizations. We then evaluated the degree to which federal clearinghouses consider the following open science practices: citation standards, data sharing, code sharing, materials sharing, design and analysis transparency, study registration, protocol sharing, analysis plan registration, investigator conflicts of interest, public availability of results, and replication.

**Findings:** We found that seven clearinghouses consider at least one open science practice: replication (6 of 10 clearinghouses), public availability of results (6), investigator conflicts of interest (3), design and analysis transparency (3), study registration (2), and protocol sharing (1). Three clearinghouses do not consider any open science practices, and no clearinghouses consider five open science practices of interest (analysis plan registration, data sharing, code sharing, materials sharing, and citation standards).

**Discussion:** Clearinghouse processes and standards could be updated to promote research transparency and reproducibility incorporating open science practices in their standards of evidence. Explicit standards on open science practices could safeguard the credibility of health behavior change interventions rated as “evidence-based”.

14:45 - 14:55

## Promoting open behaviour science through ontologies: The case of the tailoring ontology

M. Marques<sup>1</sup>, E. Smit<sup>2</sup>, E. Norris<sup>3</sup>, C.C. Silva<sup>1</sup>, J. Dinsmore<sup>1</sup>, S. Michie<sup>4</sup>

<sup>1</sup>Trinity College Dublin, Ireland

<sup>2</sup>University of Amsterdam/ASCoR, Netherlands

<sup>3</sup>Brunel University, United Kingdom

<sup>4</sup>University College London, United Kingdom

**Background:** Ontologies formalise and systematize knowledge using clear, coherent, and shared terminology. When available in a machine-readable open format (e.g. OWL), they can facilitate accumulation of evidence and increased understanding of a scientific discipline. An example is the Behaviour Change Intervention (BCI) Ontology (<https://www.humanbehaviourchange.org/>), which specifies the components of BCIs (e.g. content) in various lower-level ontologies. An important component is tailoring (selection or modification of the content or delivery of the intervention based on a set of attributes). This study aimed to develop an ontology with which to describe tailoring and personalisation of behaviour change interventions.

**Methods:** The development of the ontology follows an open iterative process, consisting of three main stages: 1) knowledge foundations, through a scoping review; 2) development of the ontology, by standardising constructs and features in a formal machine-readable ontological structure; 3) validation through expert consensus and annotation of large datasets.

**Findings:** So far, data has been extracted from 90 conceptual papers/reviews and from 170 behaviour change intervention reports. Few studies provide definitions or descriptions of personalisation, tailoring, adaptation and related constructs. When available, definitions are not clear or standardised, and present considerable overlap.

**Discussion:** A machine-readable ontology of tailoring contributes to shaping current knowledge about the characteristics of personalised and tailored BCIs. Further, it allows the establishment of relationships with other BCI ontologies. A challenge that will be discussed in this presentation is the access to and integration of the broader digital health literature that is not open source.

# Digital decision aids: Considerations for design and evaluation

14:15 - 15:15

Thomas Gültzow

# Integrating Behaviour Change Interventions & Patient Decision Aids: How to accomplish synergetic effects?

T. Gültzow<sup>1</sup>, C. Hoving<sup>1</sup>, E. Smit<sup>2</sup>, H.L. Bekker<sup>3,4</sup>

<sup>1</sup>Maastricht University, Netherlands

<sup>2</sup>University of Amsterdam/ASCoR, Netherlands

<sup>3</sup>University of Leeds, United Kingdom

<sup>4</sup>Aarhus University, Denmark

## Background

People make numerous health-related choices each day: For example, deciding to brush one's teeth or to eat well and healthy – or not to do these activities. To support complex decisions and subsequent behaviour change, both behaviour change interventions (BCIs) and patient decision aids (PtDAs) have been developed and evolved independently to support people in health-related decision making.

## Methods

We critically reviewed BCIs and PtDAs, examined their similarities and differences, and identified potential for integration of expertise to increase the benefits for people engaging with healthcare and health behaviours.

## Findings

The two approaches appear(ed) to mainly differ in terms of their (1) goals and foci, (2) theoretical basis, (3) development frameworks, (4) active ingredients and (5) effect evaluation.

## Discussion

To facilitate the integration of insights from these two fields, we recommend to (1) bring both fields together and promote interprofessional discussions, (2) train (health) professionals to recognise strengths of both approaches, (3) investigate the synergy of the two fields, (4) be prepared for and try to mitigate a culture shock when the fields start to interact. This integration could allow researchers and intervention providers to increase the benefits for people engaging with healthcare and health behaviours.

# Reproductive decision-making: An online decision aid for couples at risk of transmitting a genetic disease

Y. Severijns<sup>1</sup>, C. De Die-Smulders<sup>2</sup>, H. de Vries<sup>1</sup>, L. Van Osch<sup>1</sup>

<sup>1</sup>Maastricht University, Netherlands

<sup>2</sup>Maastricht University Medical Centre+, Netherlands

## Background

Couples who are at risk of transmitting a genetic disease to their offspring may face challenges regarding reproductive decision-making. Deciding if and how to pursue their child wish can be a demanding process and many couples indicate a need for support during decision-making. With the aim of optimizing informed decision-making regarding reproductive options, we report on the development of an online decision aid (DA).

## Methods

As a first step in the DA development process, semi-structured interviews with 16 couples were conducted to assess their motives to choose or refrain from reproductive options (e.g. prenatal diagnosis, preimplantation genetic testing) and to explore their needs and preferences regarding the content of the DA. The International Patient Decision Aids Standards (IPDAS) were then used to guide DA prototype development. Subsequently, usability testing among 10 couples and 10 healthcare providers' pilot testing took place.

## Findings

Many different motives and considerations of couples to choose for or refrain from reproductive options were found (e.g. physical, psychological and practical). Most couples were not aware of all reproductive options. Even though they would not consider some options, they would like to know that they are available. Couples indicated that they would like information about risks, medical procedures, costs, pregnancy chances and duration of procedures in clear and comprehensible language.

## Discussion

Couples need to be aware of all reproductive options, being completely informed enables couples to make a suitable reproductive decision. Genetic counselling in combination with decisional support is therefore advocated.



14:41 - 14:53

# The Contraception Choices digital decision-aid

J. Bailey<sup>1</sup>

<sup>1</sup>University College London, United Kingdom

## Background

There are many concerns which can put people off choosing and using reliable methods of contraception.

The Contraception Choices website presents the benefits and drawbacks of 12 different methods of contraception, addressing women's concerns and priorities. The website features clear, concise information, videos, an effectiveness infographic and the What's right for me? decision aid which offers tailored contraception method recommendations.

## Aim

To describe the theoretical rationale and development of the Contraception Choices website

## Methods

Contraception Choices was developed in close collaboration with young women and a software company, drawing on evidence from systematic reviews; focus groups and interviews with young women (n=72); discourses about contraception on YouTube; an expert workshop; and clinical guidelines. The website content was written by sexual health clinicians, and we incorporated young women's views at every stage.

## Findings

Contraception Choices was designed from three main perspectives: the concerns, views and priorities of young women; the principles of an 'ideal' informed choice consultation; and attractive and engaging digital design. We drew on a number of theoretical approaches to behaviour change and decision theory, but these were implicit rather than the starting-point. The website attracts over 30,000 visitors a month, and our qualitative evaluation shows that it can facilitate learning, prompt different choices, and help users be better prepared for conversations with clinicians.

## Discussion

Interventions must reflect user priorities and be attractive and engaging or they will fail at the first hurdle. There is a balancing act between text-book theoretical approaches, and addressing users' priorities and preferences.

14:53 - 15:05

# Values clarification strategies: what are they and do they work?

J. Jansen<sup>1</sup>, H. Witteman<sup>2</sup>

<sup>1</sup>Maastricht University, Netherlands

<sup>2</sup>Laval University, Canada

## Background

Decision aids aim to support decisions that are informed by the best available evidence and aligned with what is important to the person making the decision. An essential element of decision aids is Values Clarification Methods that help people think about options, in order to identify the preferred option. Several different methods have been developed, for example helping patients identify the pros and cons of options, or rating or ranking the different attributes of options. Digital decision aids offer even more possibilities for values clarification, through the use of interactive models.

## Methods

This presentation will describe state-of-the art knowledge around Values Clarification Methods used in digital decision aids, based on experimental studies and systematic literature reviews including the recently updated Patient Decision Aids Standards (IPDAS) chapter and meta-analysis.

## Findings

Previous studies have found that Values Clarification Methods are used for a variety of different decisions and rarely mention underlying theory. The evidence around effectiveness suggests that (compared to control conditions or to implicit Values Clarification Methods) explicit Values Clarification Methods increase value-congruent decisions and decrease decisional regret. Multicriteria decision analysis (a method that uses models to show users how options align with their values) leads to more values-congruent decisions than Methods, with no difference between different methods regarding decisional conflict.

## Discussion

During this presentation I will provide some evidence-based guidance on how to improve values clarification in the context of digital decision aids and will show examples of Values Clarification Methods that have been used in digital decision aids.

# Coping with the COVID-19 pandemic: individual and collective regulation of emotional distress

14:15 - 15:15

Andrea B. Horn

14:15 - 14:27

## The language of Covid-19: Official communications and emotional responses across countries

O. Dworakowski<sup>1</sup>, T. Meier<sup>1</sup>, R.L. Boyd<sup>2</sup>, M.R. Mehl<sup>3</sup>, F.W. Nussbeck<sup>4</sup>, A.B. Horn<sup>5</sup>

<sup>1</sup>University of Zurich, Switzerland

<sup>2</sup>Lancaster University, United Kingdom

<sup>3</sup>University of Arizona, United States

<sup>4</sup>University of Konstanz, Germany

<sup>5</sup>University of Zuerich, Switzerland

### Background:

The Covid-19 pandemic is a great stressor and threat — both to the physical and mental health of people around the world. Nevertheless, the lived experiences of individuals in different countries may vary drastically. While political leaders of different countries may communicate similar messages (e.g., hand washing, social distancing), they do so in remarkably different ways. The aim of this study is to investigate, for the first time, how political leaders' language styles are associated with individual and collective emotional responses as markers of co-regulatory processes.

### Methods:

The study compares language styles of the political leaders in the USA, Switzerland, Germany, and UK throughout the Covid-19 pandemic, modeling their associations with collective and individual emotional responses, while considering infection rates of Covid-19. Language use in Twitter posts in the respective countries are mined for collective emotional reaction. Additionally, an online survey including a writing task about the Covid-19 pandemic has been conducted in each country. Language was analyzed using LIWC2015.

### Results:

Preliminary results show differences in language style between political leaders, indicating different patterns of co-regulation of collective and individual emotion. Associations were found between positive emotion and affiliation words of leaders and emotional responses on Twitter. Further analysis is still ongoing.

### Discussion:

Correlations indicate some kind of co-regulation patterns, which are specific to each country. Further research is needed to understand the importance of political leaders' language use.

14:27 - 14:39

# The Psychosocial Impact of COVID-19 on Diet-Related Motives and Behaviours

R. Gregson<sup>1</sup>, R. Boyd<sup>1,2</sup>

<sup>1</sup>Lancaster University, United Kingdom

<sup>2</sup>Security Lancaster, United Kingdom

**Background.** Around the globe, the COVID-19 pandemic has been the source of considerable psychological, economic, and political stress. The day-to-day lifestyles and coping strategies of individuals have seen detrimental shifts, ranging from changes in how the public gets physical exercise to an increase in unhealthy eating habits. The aim of the current project is to better understand how the COVID-19 pandemic may have impacted interest in and adoption of healthier eating behaviors, specifically shifts towards vegan diets.

**Methodology.** To investigate these trends, we conducted a naturalistic study using social media data. Specifically, we collected full timelines (~1.3M tweets) of Twitter users (N ~5,100) in the UK that had used one or more predetermined, relevant hashtags (e.g., #Vegan, #Veganuary) between January-2019 and December-2020. We compared the relative, user-level frequency of vegan-related hashtag use from pre- to mid-COVID, using a range of text analytic methods to understand differences between these samples, both qualitatively and quantitatively

**Findings.** Our analyses revealed evidence for a dampening effect of the COVID-19 pandemic on social metrics surrounding healthier diets. The onset of this effect coincided with the emergence of the pandemic in the UK (i.e., March-June 2020) before returning to comparable levels in August. Talk around veganism was not only less frequent post-COVID-19, but qualitatively different too, characterised by less positive and more negative and anxious tone. Our analyses remain ongoing.

**Discussion.** These findings will be discussed in the broader context of the health, cognitive, and social impacts of COVID-19.

**Keywords:** social media, COVID-19, veganism, text analysis

14:39 - 14:51

## Coping with Covid-19: mental health outcome and emotion regulation across the lifespan in 4 countries

O. Dworakowski<sup>1,2</sup>, Z.M. Huber<sup>1,2</sup>, T. Meier<sup>1,2</sup>, R. Boyd<sup>3</sup>, M. Martin<sup>1,2</sup>, A.B. Horn<sup>2,4</sup>

<sup>1</sup>University of Zurich, Switzerland

<sup>2</sup>University Research Priority Program (URPP) Dynamics of Healthy Aging, University of Zurich, Switzerland

<sup>3</sup>Lancaster University, United Kingdom

<sup>4</sup>University of Zuerich, Switzerland

### Background:

The COVID-19 pandemic impacts all of us as a global stressor which can lead to mental health problems. Studies have shown age differences in dealing with the pandemic, however, the underlying mechanisms remain unclear. Ruminative (co-)brooding have been established as intra- and interpersonal risk factors for maladaptive emotion regulation which in turn are supposed to differ by age. This study aims at investigating COVID-19-related adjustment disorder symptoms in relation to age and whether this relation can be explained by age-differences in ruminative brooding and co-brooding. Furthermore, linguistic indicators of rumination will be examined with reference to age.

### Methods:

N = 1401 participants (from USA, UK, Switzerland and Germany) filled out online-questionnaires in November 2020 and completed a writing task. Measures include brooding, co-brooding, adjustment disorder symptoms and language indicators of negative self- and other-focus (I-talk, negative emotion, focus on the past, We-talk, cause).

### Findings:

Mediation analyses reveal a direct effect linking age and adjustment disorder symptoms which is fully mediated by brooding and co-brooding. Self-reported (co-)brooding were associated with negative emotion when writing about COVID-19. An interaction effect revealed more I-talk in younger people being associated with ruminative brooding while the reverse was found in older people.

### Discussion:

These findings support the importance of ruminative self-focus as maladaptive regulation style also in the pandemic. It furthermore encourages further research considering age-related differences, as our results suggest not only less rumination as a protective factor in older individuals but also different qualities of self-focus over the life-span.

14:51 - 15:03

## The Role of Embitterment in Individual's Intend to Vaccine against COVID-19

D. Koroma<sup>1</sup>, H.J. Znoj<sup>2</sup>

<sup>1</sup>University of Berne, Switzerland

<sup>2</sup>Universität Bern, Switzerland

As Switzerland faced the “second wave” of Covid-19 cases, a discussion of a potential vaccine against the virus emerged. While some individuals accept vaccines, others challenge or refuse to be vaccinated, a phenomena called vaccine hesitancy (Dubé et al., 2013). Here, individuals' trust in authorities plays a vital role in the intend to vaccine (Schmid et al., 2017). Embittered individuals tend to distrust their environment (Znoj et al., 2016) and as such, embitterment may influence individuals' aim to vaccine. Thus, we investigate whether the perceived impact of the pandemic is associated with embitterment scores measured by the Berne Embitterment Inventory (Znoj, 2006) and whether these scores are related to individuals' vaccine intention. Furthermore, we assessed whether embitterment is associated with the tendency to hold Covid-19 related conspiracy beliefs (CCB). A convenience sample of 281 individuals completed an online survey developed on Qualtrics. In this cross-sectional, non-experimental designed study, indirect effects in the form of mediation and serial mediation were analyzed using Jamm (Jamovi, Version 0.9; 2019). Results indicate that the perceived impact of the pandemic is positively associated with embitterment ( $r = .28$ ,  $p < .001$ ). Further, when entered as mediators, both individuals' embitterment ( $\beta = .11$ ,  $p \leq .05$ ) and tendency for CCB ( $\beta = -.72$ ,  $p < .001$ ) are related to vaccine intention, while the former is positively associated with the latter ( $\beta = .29$ ,  $p < .001$ ). Taken together, these results suggest that embitterment plays a relevant role in the intend to vaccine against COVID-19.

15:03 - 15:15

## Stories of life during a pandemic: experiences of individuals in different speaking parts of Switzerland

Z. Kostova<sup>1</sup>, L. Camponovo<sup>2</sup>, C. Michoud<sup>2</sup>, M. Del Rio Carral<sup>2</sup>

<sup>1</sup>University of Massachusetts Medical School, United States

<sup>2</sup>University of Lausanne, Switzerland

### Background

The spread of COVID-19 has been a disruptive and traumatic event with profound impacts on people's lives. This pandemic has brought not only the risk of death from infection but also psychological pressures due to its implications. While recent studies focus on the psychological distress resulting from the losses and ruptures related to the lockdown measures and isolation, the lived experience of individuals and meaning making during the lockdown remains underexplored.

### Aim

This study is part of a larger international study involving 15 countries. Its aim is to understand how people are making sense of their lives as they are being transformed by the pandemic, as well as of the measures taken to limit its public health impacts. This communication will explore how lay populations from the French and Italian speaking parts of Switzerland experienced changes in their lives and relationships during lockdown.

### Methodology

Data were collected through an anonymous online semi-qualitative survey. The sample consisted of 150 individuals from the French and Italian speaking parts of Switzerland, including 3 open-ended questions. The data were coded on the basis of the same international codebook. Then a thematic content analysis was conducted upon collected narrative material to identify patterns of meaning.

### Results

In Switzerland, participants reported increased awareness of societal problems, the importance given to relationships, transformations regarding the self, and a sense of joy. We will discuss how these results relate more particularly to narratives on personal growth and resiliency in terms of meanings and interpretations.



# Habit formation and disruption as mechanisms for sustainable health behaviour change

14:15 - 15:15

Benjamin Gardner

14:15 - 14:30

## Changes in hygiene habits during the COVID-19 pandemic: An international, repeated measures study

A. Rebar<sup>1</sup>, B. Verplanken<sup>2</sup>, D. Koutoukidis<sup>3</sup>, P. Lally<sup>4</sup>, R. Rhodes<sup>5</sup>, P. Lanzini<sup>6</sup>, D. Kwasnicka<sup>7</sup>, A.(. Venema<sup>8</sup>, S. Diefenbacher<sup>9</sup>, B. Gardner<sup>10</sup>

<sup>1</sup>Central Queensland University, Australia

<sup>2</sup>University of Bath, United Kingdom

<sup>3</sup>University of Oxford, United Kingdom

<sup>4</sup>UCL, United Kingdom

<sup>5</sup>University of Victoria, Canada

<sup>6</sup>Università Ca' Foscari Venezia, Italy

<sup>7</sup>Newcastle University, United Kingdom

<sup>8</sup>Utrecht University, Netherlands

<sup>9</sup>Ulm University, Germany

<sup>10</sup>King's College London, United Kingdom

**Background:** Promotion of novel behaviours to prevent Coronavirus transmission, alongside shifts in everyday contexts due to social distancing, offer a unique opportunity to observe whether, how and which transmission-prevention habits changed during the pandemic. **Methods:** This international repeated-measures study tracked 470 participants (age  $M = 42.19 \pm 16.35$ , 80% female) fortnightly between April-October 2020. Each assessment captured habit strength and behavior frequency for 'good' habitually instigated behaviors (handwashing when entering home; maintaining physical distance from others), 'good' habitually executed behaviors (handwashing with soap for 20 seconds), and 'bad' habitually instigated behaviors (coughing or sneezing into hands, making physical contact with others). Analysis of trajectory parameters identified habit change trajectory clusters for each participant and behaviour which were entered into regression analyses to predict behaviour frequency overall, and at early and late measurement points. **Findings:** Four distinct change trajectories were observed: 'habit formation', 'strong stable habit', 'weak stable habit', and 'habit degradation'. 'Habit formation' and 'strong stable habit' were the most common clusters for handwashing when entering home and maintaining physical distance. 'Weak stable habit' and 'habit degradation' were the most common clusters for 'coughing or sneezing into hands, and making physical contact. 'Habit formation' and 'strong stable habit' clusters were associated with more overall behavioral engagement than weak habit and habit degradation. **Discussion:** As expected, people typically formed or maintained strong habits for desirable behaviours and reduced or maintained weak habit strength for undesirable behaviours. These findings suggest that Covid-preventive behaviours are likely to persist beyond the pandemic.

## When behaviour becomes a habit: how older adults form and maintain lifestyle-integrated exercise habits

S. Labudek<sup>1</sup>, G.M.A. Steckhan<sup>2</sup>, L. Fleig<sup>2</sup>, L.M. Warner<sup>2</sup>, C. Jansen<sup>1,3</sup>, F. Kramer-Gmeiner<sup>1</sup>, C. Nerz<sup>3</sup>, C. Becker<sup>3</sup>, J. Klenk<sup>3,4</sup>, M. Schwenk<sup>1</sup>

<sup>1</sup>Heidelberg University, Germany

<sup>2</sup>MSB Medical School Berlin, Germany

<sup>3</sup>Robert-Bosch-Hospital, Stuttgart, Germany

<sup>4</sup>Ulm University, Germany

**Background:** Goal-setting and action planning set the stage for habit formation, whereas habits themselves are seen as implicit processes. This study examines whether older adults' habit strength of lifestyle-integrated balance and strength exercises one year after a falls prevention intervention is still predicted by intention, action planning, and plan enactment.

**Methods:** Self-reports of older adults (N=294; mean age=78.8, SD=5.4; range 70-95 years) regarding their activity-related intentions and action planning were collected at the end of the intervention period (T1). Plan enactment was assessed at 6-months follow-up (T2) and habit strength at 12-months follow-up (T3). A sequential mediation model was specified by using structural equation modelling in R (lavaan package).

**Results:** The model fit was acceptable (CFI=.94, TLI=.92, RMSEA=.06 [CI=.05-.08]). Variance explained in habit strength was  $R^2=.31$ . Intention (T1) was significantly associated with action planning (T1) and predicted plan enactment (T2), but did not predict habit strength (T3) directly. Action planning significantly predicted plan enactment, but not habit strength. Only the specific indirect effect from intention to habit strength via plan enactment was significant ( $\beta =.05$ ,  $p=.021$ ).

**Discussion:** The mediation of the association between intentions and habit strength via plan enactment indicates that older adults still adhered to their previously formed action plans (i.e., engaged in context-stable behavior), but did not need to plan their exercises deliberately anymore. However, it is still unclear when action planning becomes dispensable. Future studies could investigate in more detail when habit "takes over" behavioral performance.

14:45 - 15:00

## Script Elicitation as a method for changing habitually executed sleep hygiene routines among short sleepers

B. Gardner<sup>1</sup>, A. Mohideen<sup>1</sup>, C. Bouvin<sup>1</sup>, F. Picariello<sup>1</sup>, G. Judah<sup>2</sup>

<sup>1</sup>King's College London, United Kingdom

<sup>2</sup>Imperial College London, United Kingdom

**Background:** Insufficient sleep is linked to Type 2 diabetes, cardiovascular disease, and obesity. Many sleep problems originate in maladaptive sleep preparation – i.e., ‘unhygienic’ sleep behaviours, many of which are likely habitual. This study explored the acceptability of ‘Script Elicitation’, a method to gather details of habitually executed routines as a basis for personalised habit disruption advice, for changing unhygienic sleep habits.

**Method:** A mixed-methods acceptability design was used. Twenty-four self-declared short-sleepers (<6h/night), recruited via social media, completed measures of sleep hygiene (Sleep Hygiene Index) and quality (Leeds Sleep Evaluation Questionnaire), and a Script Elicitation interview. The interview involved interviewer and interviewee collaborating to generate maps of which fine-grained behaviours are performed, and in what order, within sleep hygiene routines, and agreeing plans for reconfigured alternative routines. One week later, participants repeated sleep measures and undertook a semi-structured qualitative interview. Quantitative analyses compared attrition, and patterns of sleep hygiene change, against acceptability thresholds (16% attrition; no tendency towards declines in sleep hygiene or quality). Qualitative Thematic Analysis extracted themes underlying intervention experiences.

**Findings:** Study attrition (0%), sleep quality (mean change from baseline: 37% improvement), and sleep hygiene (mean change from baseline 5% improvement) suggested the Script Elicitation method was acceptable. Qualitative data suggested Script Elicitation enhanced awareness of problematic habitually executed behaviours, enhanced perceived control over sleep patterns, modified behaviour, and improved sleep quality and alertness.

**Discussion:** Eliciting and using information about habitually executed routines to reconfigure such routines offers promise as a method for modifying ingrained, unwanted behaviours.

# Theories of behaviour change

15:25 - 16:25

Rik Crutzen

15:25 - 15:33

## Leveraging behavioural science to understand facial 'T-zone' touching to reduce the spread of infectious diseases

M. Wilson<sup>1</sup>, J. Grimshaw<sup>2,3</sup>, J. Brehaut<sup>2,3</sup>, A. Durand<sup>4</sup>, J. Francis<sup>5</sup>, J. Lalonde<sup>4</sup>, D. Manuel<sup>2,3</sup>, S. Michie<sup>6</sup>, H. Witteman<sup>4</sup>, J. Pesseau<sup>2,3</sup>

<sup>1</sup>The Ottawa Hospital Research Institute, Canada

<sup>2</sup>Ottawa Hospital Research Institute, Canada

<sup>3</sup>University of Ottawa, Canada

<sup>4</sup>Université Laval, Canada

<sup>5</sup>University of Melbourne, Australia

<sup>6</sup>University College London, United Kingdom

**Background:** Multiple viruses, including SARS-CoV-2, can infect us when we touch our eyes, nose, and mouth (i.e., the facial T-zone). People are often unaware of touching their T-zone, presenting unique challenges to developing behaviour change interventions. We aim to build a foundational understanding of individuals' beliefs about their T-zone touching, factors that are associated with it, and the acceptability of possible strategies to reduce it. The research will inform behaviour change interventions to limit the spread of transmissible viruses, such as SARS-CoV-2.

**Methods:** We will recruit a national sample of 650 Canadians in February/March 2021. A baseline questionnaire will assess constructs within the Health Action Process Approach (intention, outcome expectancies, risk perception, individual severity, task self-efficacy, action planning, coping planning, social support), the Theoretical Framework of Acceptability (affective attitude, burden, perceived effectiveness, ethicality, intervention coherence, opportunity costs, self-efficacy), and self-reported T-zone touching. A two-week follow-up questionnaire will assess self-regulatory activities (awareness of standards, effort, self-monitoring) and self-reported behaviour. We will identify theory-informed correlates of T-zone touching, assessing sociodemographic and theory-based predictors of touching each T-zone area separately to identify predictors of intention to reduce facial T-zone touching behaviour. Additionally, we will assess the prospective acceptability and theory-informed correlates for a possible web-based, video-capture intervention to help individuals reduce T-zone touching.

**Findings and Discussion:** Reducing facial T-zone touching is an understudied personal protective behaviour. Identifying theory-informed correlates of T-zone touching and views about acceptability of possible interventions will provide the basis for designing novel behaviour change interventions for infection control.

# Using the capability, opportunity, and motivation model of behaviour to explore sun-protection behaviours in adults

M.A. Mulqueen<sup>1</sup>, G. Garip<sup>1</sup>

<sup>1</sup>University of Derby, United Kingdom

## Background:

Despite numerous public health campaigns around sun protection, the number of skin cancer cases continues to rise worldwide. This study aimed to explore individual beliefs and practices around sun-protection behaviours in adults and identify barriers to and facilitators of engaging in the recommended sun-protection behaviours using the capability, opportunity, and motivation model of behaviour (COM-B).

## Methods:

Using an online qualitative survey study, data was collected from a sample of 52 participants (46 women; 6 men) aged between 24 and 67 years ( $M=44.62$ ;  $SD=11.59$ ), resident in 12 countries. A mixed qualitative-method approach to data analysis was adopted: survey responses were inductively analysed using thematic analysis before sub-themes were deductively mapped to constructs of the COM-B model.

## Findings:

Four themes were identified: 1) Adopting sun-protection behaviours; 2) Beliefs about sun/ultraviolet radiation (UVR) exposure; 3) Factors influencing sun/UVR-protection behaviours, and 4) Barriers to and facilitators of sun/UVR-protection behaviours. In terms of the COM-B constructs, Capability: Participants possessed the capability to understand the benefits and dangers of sun and UVR exposure, however, misconceptions existed around sun-protective behaviours and weather changes. Opportunity: Social influence of family experiences encouraged sun-protection behaviours; however, the cost of suitable products created difficulties. Motivation: Participants were motivated to adapt their sun-protection behaviours over time; however, motivational barriers existed in day-to-day situations.

## Discussion:

Future public health campaigns could use the COM-B model to create clear and unambiguous information around both sun exposure and sun-protection behaviours, focusing on increasing physical opportunities and individual motivation to use sun-protection products.

## Social cognitive predictors of intention to obtain the human papillomavirus vaccine among Indonesian young adults

A.C. Kirana<sup>1</sup>, S.R. Asih<sup>1</sup>

<sup>1</sup>Universitas Indonesia, Indonesia

**Background:** As one of the most common sexually transmitted diseases and the cause of most cervical cancer cases, human papillomavirus (HPV) infection can put various burdens to many sexually active individuals. Despite the effectiveness of HPV vaccine in mitigating the risk of HPV infection, its uptake rate in Indonesia is low. This study aimed to examine knowledge, attitude, and subjective norm as potential predictors of HPV vaccination intention, using the Theory of Reasoned Action (TRA). Intention has been studied as a proxy of future behaviour.

**Methods:** This was a quantitative and cross-sectional study. Unvaccinated Indonesians aged 18 to 26 years old (N=380, female=80%) completed a 46-items online questionnaire adapted from Catalano et al. (2017), Chiang et al. (2016), and Marlow et al. (2013).

**Findings:** Using multiple regression analysis, knowledge, attitude, and subjective norm were found to be significant predictors of intention ( $R^2 = .53$ ,  $p < .01$ ). Subjective norm was the strongest predictor ( $\beta = .54$ ,  $p < .01$ ), followed by attitude ( $\beta = .32$ ,  $p < .01$ ) and knowledge ( $\beta = .10$ ,  $p < .05$ ). On average, the participants were found to have a low knowledge, positive attitude, positive subjective norm, and moderate intention to obtain HPV vaccine.

**Discussion:** This study provided an insight that intervention programs to increase HPV vaccination rate in Indonesia should comprise the underlying foundations of subjective norm, attitude, and HPV-related knowledge. Findings also suggest that future HPV vaccine promotion programs should consider targeting a national population that not only based on age or gender but also targeting parents, religious leaders, and other influential figures as the agent of change.



# Psychosocial Determinants of Edible Insect Consumption Intentions and Behavior in Western Democratic Republic of Congo

E. Mopendo Mwisomi<sup>1</sup>, O. Luminet<sup>2</sup>, B. Chang<sup>3</sup>, N. Manwanina Kiumba<sup>4</sup>, O. Desmedt<sup>2, 5</sup>

<sup>1</sup>UCLouvain/ Psychological Sciences Research Institute (IPSY),, Belgium

<sup>2</sup>UCLouvain, Psychological Sciences Research Institute (IPSY), Louvain-la-Neuve, Belgium

<sup>3</sup>The European Food Information Council, Brussels, Belgium

<sup>4</sup>University of Kinshasa, Psychology Department, Commune de Lemba, Congo [DRC]

<sup>5</sup>Belgian Fund for Scientific research (FRS-FNRS), Brussels, Belgium

Insect consumption faces many obstacles in some regions around the world, whereas it has been proposed as a crucial solution for food insecurity and ecological issues. This study investigates individual and collective factors that influence intentions and actual consumption of insects, within the Theory of Planned Behavior (TPB). Questionnaires were administered to 537 participants (Females = 46.6%, mean age = 35 years) coming from the western Democratic Republic of Congo (DRC) across three provinces (Kinshasa, Grand Bandundu and Kongo Central). The majority of participants had a positive attitude towards insect consumption (79.2%), and consumed insects on average once a week (74.4%). Caterpillars, locusts and crickets, termites and grasshoppers were among the most consumed insects. Individuals who never consume insects reported different reasons such as cultural habits (42.6%), lack of opportunity (25.3%), lack of interest and associated negative emotions (10.7%). Insect consumption was lower in Kongo Central (only 45.5% ate insects once a week) compared to the other provinces (Grand Bandundu = 85.4%, Kinshasa = 82.7%). Among socio-demographic variables, education level was the only significant predictor of insect consumption behavior ( $\beta = -.171$ ,  $t = -2.147$ ,  $p < .05$ ). TPB factors (attitudes, subjective norms and perceived control) explained 64% of the variance in intention to consume insects ( $F(3,349) = 209,34$ ,  $p < .05$ ) and 59% of the variance in actual eating behaviors ( $F(4,348) = 126,00$ ,  $p < .05$ ). In conclusion, this study suggests that TPB factors could be potential targets for future interventions that aim to increase insect consumption.

15:57 - 16:05

## A Cognitive-Emotional Model to Explain Message Framing Effects: Reducing Meat Consumption

V. Carfora<sup>1</sup>, M. Pastore<sup>2</sup>, P. Catellani<sup>3</sup>

<sup>1</sup>Catholic University of the Sacred Heart - Milan, Italy

<sup>2</sup>University of Padua, Italy

<sup>3</sup>Catholic University of the Sacred Heart - Milan, Italy

We tested the plausibility of a cognitive-emotional model to understand the effects of messages framed in terms of gain, non-loss, non-gain, and loss, and related to the health consequences of red meat consumption. 544 Italian reported their attitude towards reduced meat consumption and intention to eat meat (Time 1). One week later, participants were randomly assigned to four different message conditions: a) gain messages focused on the positive health outcomes associated with low meat consumption; b) non-loss messages focused on the avoided negative health outcomes associated with low meat consumption; c) non-gain messages focused on the missed positive health outcomes associated with high meat consumption; d) loss messages focused on the negative health outcomes associated with high meat consumption. Then, participants reported their emotional and cognitive reactions to the messages, their evaluation of the messages, and again their attitude and intention (Time 2). Using a Bayesian approach, we selected the model with the highest plausibility conditioned to observed data. Message-induced fear influenced systematic processing, which in turn positively influenced message evaluation and attitude, leading to reduced intention to consume red/processed meat. Vice versa, message-induced anger reduced systematic processing, which in turn negatively influenced message evaluation, and led to no effect on attitude and intention. Gain and non-loss messages activated an integrated emotional and cognitive processing of the health recommendation, while loss and non-gain messages mainly activated emotional shortcuts towards attitude and intention. These results advance our comprehension of the effects of message framing on receivers' attitudes and intentions.

## Lyme Disease Social Representations After a Tick-bite: How Do Patients Attribute Their Post-bite Health Problems?

C. Puppo<sup>1</sup>, Y. Hansmann<sup>2</sup>, L. Moinot<sup>3,4</sup>, X. Duval<sup>5</sup>, C. Chirouze<sup>6</sup>, M. Préau<sup>1</sup>

<sup>1</sup>Université Lyon 2, France

<sup>2</sup>CHRU de Strasbourg, France

<sup>3</sup>Université de Bordeaux, France

<sup>4</sup>CHU de Bordeaux, France

<sup>5</sup>Hopital Bichat Claude Bernard, Paris, France

<sup>6</sup>CHU de Besançon, France

**Background.** The scarce psychosocial literature on people who have been bitten by a tick and get Lyme disease highlights the difficult experience these people have, especially given the controversy surrounding Lyme disease. In the qualitative and exploratory study “C18-48 Quali-Explo-PIQTIQ” (2019), we explored the social representations of tick bites and Lyme disease in patients bitten by ticks. **Methods.** Semi-structured and exploratory interviews were conducted with 24 patients bitten by ticks in three French medical units. Thematic and patient trajectory analyses were performed, the latter to valorize the temporal perspective of participants’ discourses on their experience. **Findings.** Conceiving diagnosis as a process, we focused on the first stage of the patient trajectory (i.e. the ‘pre-diagnostic work’), beginning after the tick bite and the possible emergence of health problems. Patients attributed non-specific and non-visible health problems following their tick bite either to the bite itself (sequelae or active Lyme disease) or to other factors. For a minority of the participants, these attributions analytically corresponded to different self-identified health statuses (i.e., ill, healthy, cured). Most participants were unsure about their health status. Second, loved ones played a role in influencing patients’ attributions of health problem, thereby orienting the patient trajectory. **Discussion.** Using different levels of analysis presented by Doise (1986), we were able to define the pre-diagnostic work performed by patients as dynamic, interactional and social. Using both social representation theory and attribution theory, we were able to highlight how patients’ gave sense - albeit lay - to their experience through social interactions.

# Health behaviour change interventions

15:25 - 16:25

Lisa Warner

15:25 - 15:33

## Health behaviour change interventions for heart failure self-care: a theory-based manual

A. Whittal<sup>1</sup>, O.R. Herber<sup>1</sup>

<sup>1</sup>Institute of General Practice (ifam), Centre for Health and Society (chs), Medical Faculty, Heinrich Heine University Düsseldorf, Germany

**Background:** Heart failure (HF) can be effectively managed with regular self-care, but patients are often not able to engage sustainably in such behaviours. Interventions for improving HF self-care have shown inconsistent success, possibly because they were not theory based, and did not identify mechanisms of behaviour change. This study aims to develop a manual of theory-based behaviour change interventions (BCIs) to improve HF self-care.

**Methods:** The COM-B model was applied to develop theory-based BCIs. Barriers of HF-self care were extracted by two researchers independently from a qualitative and quantitative meta-review. These were mapped onto the COM-B model to identify specific techniques to be used for BCIs. Interviews with key stakeholders (e.g. patients, clinicians), analysed with thematic analysis, inform the process to help ensure uptake of the BCIs into daily life. The Delphi technique will elicit consensus regarding potential ambiguities.

**Findings:** 28 barriers to (e.g. inability to interpret symptoms) and 48 behaviour change techniques (BCTs) for (e.g. behavioural practice/rehearsal) HF self-care were identified from the meta-reviews. Stakeholders largely agreed with the suggested BCTs, and highlighted those that they would not use.

**Discussion:** The process and benefits of intervention mapping with a theoretical model and stakeholder engagement for BCI development will be discussed. The resulting manual from this study contains BCIs with high potential for effectiveness, which can help HF patients engage in self-care and increase well-being and quality of life. In a subsequent study, a pilot test and RCT will be conducted to test acceptance and uptake of the intervention manual.

15:33 - 15:41

## A tailored intervention to reduce the transmission risk of antimicrobial-resistant bacteria through food handling

V. Visschers<sup>1</sup>, C. Freivogel<sup>2</sup>

<sup>1</sup>University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

<sup>2</sup>University of Applied Sciences and Arts of Northwestern Switzerland, Switzerland

**Background:** People should handle foods more hygienically to prevent the transmission of antimicrobial-resistant (AMR) bacteria carried by food. We aimed to examine the effectiveness of a tailored intervention on increasing hygienic food-handling behaviour among food preparers.

**Methods:** A randomized control trial was set up, including three conditions (tailored, generic or no intervention) and four measurements during two months. Relying upon the Health Action Process Approach, we developed different behaviour change techniques (BCTs, e.g. an education video) and a questionnaire to assess hygienic food handling and its determinants. 398 Food preparers completed the study. Data were analysed using multilevel modelling.

**Findings:** Hygienic food-handling behaviour increased significantly over time in all three conditions, ( $\gamma = 0.28$ , 95%CI [0.19, 0.38]), AIC = 5,454.27,  $p = .001$ , ICC = .59. Type of intervention ( $\gamma(\text{control}) = 0.11$ , ns,  $\gamma(\text{generic}) = 0.10$ , ns) and the time x intervention interaction ( $\gamma(\text{control}) = -0.09$ , ns,  $\gamma(\text{generic}) = 0.00$ , ns) did not affect behaviour. Receiving no intervention only improved behaviour among participants with high motivation to change, whereas the tailored intervention also did this among those with low motivation ( $b = 0.19$ ,  $p = .001$ ). Other beneficial effects of tailoring were found for increasing risk perception, self-efficacy and intention regarding hygienic food handling.

**Discussion:** Merely presenting information about AMR in food seems to improve hygienic food handling. However, a tailored intervention additionally raises hygienic food handling because it also reaches people less motivated towards behaviour change. Future research should also tailor the timing of BCTs to individuals' needs.

## An educational video and risk message to reduce consumers' risk of antimicrobial-resistant bacteria in food

C. Freivogel<sup>1</sup>, V. Visschers<sup>2</sup>

<sup>1</sup>University of Applied Sciences and Arts of Northwestern Switzerland, Switzerland

<sup>2</sup>University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

**Background:** Antimicrobial-resistant (AMR) bacteria spread via food to humans and cause infection treatment failure. We tested the effect of an educational video and risk message on consumers' awareness of the risk of transmitting AMR and on their intentions to implement hygienic food handling practices. The video provided information about foodborne AMR. The risk message addressed raw poultry prevalence of AMR.

**Methods:** We applied a 2 (educational video or control video) x 2 (risk message or not) between-subjects design. Participants were randomly assigned to one of the four conditions. The online experiment was conducted with 328 Swiss members of an internet panel, who regularly prepare raw meat or poultry. The video was shown, followed by the risk message. All participants subsequently completed the same questionnaire. Using MANCOVA, we analyzed to what extent the video and the risk message affected the dependent variables knowledge, risk perception, outcome expectancies and intentions.

**Findings:** The educational video increased participants' knowledge and risk perception about AMR in foods. Participants who had watched the video perceived a contamination with AMR bacteria through food as more likely. Moreover, we found a marginally significant main effect of risk message on positive outcome expectancies of hygienic food handling. No interaction effects were found.

**Discussion:** A educational video can effectively increase consumers' awareness about AMR in foods. However, there is room for improvements in relation to outcome expectancies. A longitudinal study should investigate whether the video not only increases knowledge and risk perception, but also leads to more hygienic food handling.

15:49 - 15:57

# S.A.I.N.T.S.: Co-development and delivery of the MAP behaviour change training in St Helena

W. Maltinsky<sup>1</sup>, V. Swanson<sup>1</sup>, S. Hotham<sup>2</sup>

<sup>1</sup>University of Stirling, United Kingdom

<sup>2</sup>University of Kent, United Kingdom

## Background:

St Helena is a remote, south-Atlantic island and British Overseas territory. Its isolated location and topography make eating fresh food and active lifestyles difficult. High levels of obesity and type2 diabetes are evident. Practitioners' communication and behaviour change skill-gaps were identified. We co-developed an evidence-based, sustainable, whole-system intervention for health services, using the MAP (motivation, action, prompt), training programme based on a dual processing approach. Acceptability, feasibility and outcomes of delivery in St Helena are described.

## Design:

A pragmatic pre-post, 3m follow-up cohort intervention study

## Participants

32 multidisciplinary health practitioners participated: 75% female, 62% had no previous training in behaviour change; 38% had training in brief interventions or communication skills.

## Measures

Training Assessment Rating Scale (TARS) assessed acceptability. Competence, confidence, BCTs and communication skills were assessed pre and post training (CARE Measure,2010). Patient's perceptions of health professionals' competence were assessed pre-and at follow-up

## Method

Video conferencing with St Helena steering group co-developed the intervention. In situ, training was delivered by 3 psychologists. Follow-up mentoring sessions were held.

## Results

Acceptability was high (TARS, qualitative feedback). Confidence, BCT use and communication skills increased post-test ( $p < .01$ ). Intention to use BCTS significantly increased for self-monitoring, pros and cons, and reminders ( $p < .01$ ).

## Discussion

Local support for delivery of intervention was extremely positive. Co-development of the programme ensured it was tailored to the community and its unique setting. Sustainability is ensured using regular mentoring via Skype.

## Conclusions

Co-development of behaviour change interventions is crucial to ensure local fit in a unique social and cultural context.



## Evaluation of evidence-based and population-tailored behaviour change interventions in the context of humanitarian aid

M. Harter<sup>1</sup>, H. Mosler<sup>2</sup>

<sup>1</sup>Ranas Ltd., Switzerland

<sup>2</sup>RanasMosler, Switzerland

The Rohingya refugee camp in Bangladesh, largest refugee camp in the world with more than 1 million people, bears the risk of cholera outbreaks or other diseases due to inadequate health-protecting behaviours, such as handwashing with soap or adequate menstrual hygiene management. This also includes environmental behaviours, such as waste management in order to keep drainages clear to prevent floods. To change unsafe practices, behaviour change theories like the RANAS model suggest developing interventions based on psychosocial determinants, such as risk beliefs, attitudes, norms, ability beliefs and self-regulation.

A before and after control trial was implemented in the refugee camp focusing on 9 different health and environmental behaviours and realized by 11 local NGOs. Health and environmental behaviours and all variables of the RANAS model were assessed before and after the implementation of different behaviour change campaigns by the use of structured questionnaires in 400 household interviews per behaviour.

Multivariate analysis revealed that people in intervention areas reported significantly more health-protective behaviours: handwashing at critical times (23%), and women were significantly more likely to manage their menstrual hygiene safely (59%), compared to control areas (handwashing: 10%, menstrual hygiene: 40%). Considering environmental behaviours: people reported to litter less (70%) compared to control areas (not-littering: 12%). The effects however varied between implementation areas, and implementing NGO.

Discussion: Results imply that the implementation process of behaviour change campaigns in humanitarian aid contexts need to be closely monitored, and contextual factors need to be considered when planning and implementing such campaigns.

16:05 - 16:13

## Selecting relevant socio-cognitive determinants for interventions on adult 24-hour movement behaviours using the CIBER approach

A. DeSmet<sup>1</sup>, S. Chastin<sup>2,3</sup>

<sup>1</sup>Université libre de Bruxelles, Belgium

<sup>2</sup>Glasgow Caledonian University, United Kingdom

<sup>3</sup>Ghent University, Belgium

**Background:** Physical activity (PA), sleep and sedentary behaviour (SB) are interdependent behaviours in a 24-hour day that should be jointly addressed. Research on socio-cognitive determinants of 24-hour movement behaviours to target in interventions is currently lacking. Our aim was to assess socio-cognitive determinants of 24-hour movement behaviours, using the CIBER approach, which takes into account both effect size and room for improvement.

**Methodology:** Adults between age of 22-55y were recruited via a convenience sample of employers. An online survey measured socio-cognitive determinants for each behaviour. PA, sleep and SB were measured with Fitbits Charge 2. The CIBER approach was used in R software.

**Results:** In total, 263 adults participated (68% female, M age=39.4+-7.9). Participants spent on average 47.5m+-32.8 on moderate-vigorous PA, 7.6h+-0.6 on sleep, 4.7h+-1.2 on light PA, and 10.5h+-1.3 on SB per day. Socio-cognitive determinants of sleep duration had very small effect sizes in relation to 24-hour movement behaviour. Socio-cognitive determinants of SB showed small effect sizes, all relating to leisure-time SB, while also indicating room for improvement here. PA determinants however, showed the strongest effect sizes in relation to 24-hour movement behaviours, with as main modifiable determinants intention, self-efficacy to be physically active even without a companion or when there is a lot of work, experiencing barriers of lack of time, companions for PA or lack of interest.

**Conclusions.** 24-hour movement behaviour programs may achieve most effects when focusing on socio-cognitive determinants of leisure-time SB and time, interest and social aspects of PA.

# Coping and adjustment to Chronic Disease

15:25 - 16:25

Miloux Fredrix

15:25 - 15:33

## Exploring understandings of cystic fibrosis patients and their spouses' parenthood experiences through focus groups

A. Jacob<sup>1</sup>, D. Hubert<sup>2</sup>, D. Grenet<sup>3</sup>, C. Brain<sup>1</sup>, C. Flahault<sup>1,4</sup>

<sup>1</sup>Université de Paris, Laboratoire de Psychopathologie et Processus de Santé, F-92100 Boulogne-Billancourt, France

<sup>2</sup>Hôpital Cochin, Service de pneumologie, APHP, Paris, France

<sup>3</sup>Hôpital Foch, Service de Pneumologie, Suresnes, France

<sup>4</sup>Hôpital Européen George Pompidou, Psychiatrie de l'Adulte et du Sujet Âgé, Paris, France

**Background:** Improvements in health outcomes and in life expectancy for people with cystic fibrosis (CF) allows an increasing number of patients to become parents. Our study aims to deepen understandings of parenthood with CF, which is scarcely studied, and address parents' and their spouses' needs.

**Methods:** parents with CF from two French adult CF centres were invited to participate alone or with their spouse in a single 2-hour focus group. Groups were audio-recorded and transcribed for analysis. Thematic content analysis is being conducted on transcripts.

**Findings:** Nine groups have been conducted between September 2020 and December 2021, including 34 patients (13 men), 6 with lung transplant, aged 32 to 61 years (mean=42), and 10 spouses (6 men), aged 29 to 62 years (mean=42). Parents with CF had 1 to 3 children (mean=1,53), aged 3 months to 37 years old, (mean=11).

The analysis of the first groups revealed 3 main themes: 1) CF patient's individual history, 2) construction of CF patient's family, 3) Parenthood and CF: the family experience. At most groups, parents with CF emphasised the major role of spouses and the positiveness of parenthood. Parents expressed difficulties related to procreation and, once the child was there, fatigue due to CF symptoms, as well as their preoccupation about their children's well-being.

Definitive themes will be presented.

**Discussion:** Findings will be used to develop recommendations and therapeutic interventions. They will be complemented by the second part of the research which just started and addresses children's (of parents with CF) experience.

15:33 - 15:41

## Fading effect of positive reappraisal: A Measurement-Burst Diary Study among People Living with HIV

E. Gruszczynska<sup>1</sup>, M. Rzesutek<sup>2</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>2</sup>University of Warsaw, Poland

**Background:** Changes of affective well-being are usually analyzed either as longitudinal processes or as daily fluctuations. We used a three-burst diary study to combine these perspectives. **Aims:** The aim of our study was twofold: 1) to test the assumed beneficial effects on daily affective well-being of positive reappraisal as a strategy and as a coping style; 2) to examine the stability of these effects over a longer period of time. **Method:** The participants were 211 patients with a diagnosis of HIV infection. In three bursts with a 6-month intervals, they completed online diary for five consecutive days, which leads to 15 days of measurements. They evaluate affective well-being (positive and negative affect), stress associated with a central hassle, and positive reappraisal as coping. **Results:**

For positive reappraisal as a coping strategy, its interaction with daily stress had an effect on negative, but not on positive, affect. This effect was significant at the first burst and disappeared in the second and third bursts. For positive reappraisal as a coping style, there was no direct effect on well-being. However, interaction with time revealed that with each burst, a higher positive reappraisal was coupled with decrease of positive affect and increase of negative affect, and thus with worsening of affective well-being. **Conclusions:** These results suggest limited and diminishing beneficial effect of daily positive reappraisal among people living with HIV. As such, they do not confirm the view that positive reappraisal sustains affective well-being during chronic health conditions, which stays relevant for clinical practice.

15:41 - 15:49

## Endometriosis and infertility : psychological impact on couples

J. Klinkenberg<sup>1</sup>, M. Pérez<sup>2</sup>, F. Sordes<sup>3</sup>

<sup>1</sup>University of Toulouse Jean Jaurès, CERPPS, France

<sup>2</sup>University of Toulouse Jean Jaurès, France

<sup>3</sup>University Toulouse Jean Jaures, CERPPS, France

Endometriosis is a chronic gynecological disease affecting young women. The main symptoms are pain, dyspareunia, dys-menorrhea and infertility, and affects mainly women in fertile age. Infertility can alter social life, sexual and conjugal life, psychological health. Thus, we ask ourselves the question regarding the psychological impact of infertility on couples' lives and on mental health.

50 women, aged 21 - 46 years, responded to a protocol consisting of 3 questionnaires: Sexual Satisfaction Inventory (Hudson, 1982); Marital Satisfaction Inventory (Brodard & al., 2015; Funk & Rogg, 2007); Hospital anxiety and depression scale (Zigmond & Snaith, 1983). Socio-biographical and medical data were also surveyed. 60% of participants had fertility disorders.

Results (correlations) show that infertility has no psychological impact on sexual and marital satisfaction. However, women's mental health is affected and explained by fertility disorders (regression analyses). In particular, the number of years of living together or the lack of sharing within the couple as well as sexual dissatisfaction are explanatory variables.

Infertility is a symptom that has psychological consequences, not only for the female partner but also for the couple's wellbeing. Interventions including proper care for the couple must be considered.

## A thematic analysis: experiences of being identified with pathogenic variants in BRCA1/2 in Ireland

N. Warner<sup>1</sup>, A. Groarke<sup>1</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

**BACKGROUND.** Pathogenic variants in BRCA1 and BRCA2 (BRCA1/2) genes are a commonly diagnosed hereditary cancer condition. These pathogenic variants increase susceptibility to developing certain cancers, namely melanomas, breast and pancreatic cancers in both sexes, ovarian in females and prostate in males. The lifetime risk of breast cancer is 87%, and 68% for ovarian cancer in affected females. To reduce this risk in females, intensive screening schedules, prophylactic surgeries or pharmacological approaches are undertaken. Psycho-social issues such as heightened distress or anxiety can occur because of this increased risk, and the need to make decisions about risk reduction strategy. This study aimed to assess the experiences of being identified as having a pathogenic variant in a BRCA1 or BRCA2 gene in Ireland.

**METHODS.** This study consists of 17 interviews with individuals with a pathogenic variant in BRCA1/2, that were tested in Ireland. Two of these were male, and 15 were female. Interviews were analysed using a thematic analysis.

**FINDINGS.** Individuals felt unsupported by professionals following the identification of a pathogenic variant, with a lack of follow-up psychological care. Females in particular had to 'project manage' their care and screening schedule, leading to increased stress. Good support was recognised as key to facilitate coping, and individuals often tried to find meaning from their BRCA1/2 alteration.

**DISCUSSION.** It is vital that these findings are addressed to ensure that people identified with a pathogenic variant in BRCA1/2 are adequately supported and that a model of care is developed to reduce the patient burden.

15:57 - 16:05

## HIV coping strategies in French Guiana : a qualitative approach in health psychology

A. Petit<sup>1</sup>, C. Piedrafita y Costa<sup>2</sup>, D. Michels<sup>2,3</sup>, M. Préau<sup>1</sup>

<sup>1</sup>University of Lyon 2 / GRePS, France

<sup>2</sup>AIDES association, France

<sup>3</sup>Laboratoire de recherche communautaire Coalition Plus, France

In French Guiana, people living with HIV (PLWHIV) are facing serious difficulties in their care pathways (e.g. isolated living areas) and in their daily lives (e.g. strong discrimination). Considering these issues, the aim of our research is to investigate the different forms of individual and collective coping of PLWHIV within the multicultural context of French Guiana. Episodic interviews (N=25) were conducted between September 2018 and November 2019 with PLWHIV. The sample included 12 women and 13 men. The interviews were conducted in French (n=10) or in English and Spanish for PLWHIV of Surinamese and Dominican (n=3) or, with the help of an interpreter in Brazilian Portuguese (n=8), Haitian Creole (n=4). These interviews were analyzed through a grounded theory approach and were systematized by using NVivo 12 software. The interviews have shown that for the majority, the discovery of seropositivity is assessed as a physical and social threat, in a context of social and economic precariousness (n=20). PLWHIV set up coping strategies focused on the problem (e.g. moving, stopping or maintaining sexuality), on emotions (e.g. mourning their life before). Religious coping is mobilized by both Haitian and Brazilian PLWHIV (n=10), with a dual God-physician figure as a resource for living with the infection. Individual strategies refer to the issues of accessing treatment or protecting its identity to prevent discrimination. On the religious coping, respondents refer more to a collective strategy within cultural communities. The proposed qualitative approach is designing health psychology interventions that fits the communities needs in a multicultural context.



16:05 - 16:13

## Early life environmental unpredictability predicts vulnerability to pain in adulthood

E. Simon<sup>1</sup>, A.N. Zsidó<sup>2</sup>, B. Birkás<sup>1</sup>, Á. Csathó<sup>1</sup>

<sup>1</sup>Department of Behavioural Sciences, Medical School, University of Pécs, Hungary

<sup>2</sup>Institute of Psychology, University of Pécs, Hungary

**Background:** Unpredictability in the childhood environment might strongly influence beliefs and behavior characterizing adult years. When children experience unpredictable and adverse situations, they develop an unpredictability schema with the core belief that situations are unpredictable and uncontrollable. In two studies, we examined the impact of this schema on sensory and affective aspects of pain vulnerability. **Methods:** In study 1, in separate models, we examined pain sensitivity and pain catastrophizing of healthy young adults (N = 252) in association with their experiences of childhood environmental unpredictability. In Study 2, we examined the impact of the unpredictability schema on pain-related fear (N = 293). The models constituted a path from childhood socioeconomic status and household unpredictability to pain variables via the factors of family resources, unpredictability schema and body awareness. We performed Structural Equation Modeling to assess fit measures for our proposed models. **Findings:** The results from both studies suggest that a stressful, unpredictable childhood environment might strongly enhance affectivity and fear-related processing of painful situations, and this association is mediated by a more developed unpredictability schema via a reduced level of body awareness. **Conclusions:** The investigations of the associations between disadvantageous childhood experiences and body awareness and their effects on pain-related factors can help to form a more comprehensive understanding of the pain experience and further improve pain management practices.

16:13 - 16:21

## The impact of Naluri app on depression, anxiety and quality of life among cardiac patients

D. Fadil Azim<sup>1</sup>, H. Abdul Majid<sup>2</sup>, A. Hickey<sup>3</sup>, K. Morgan<sup>1</sup>

<sup>1</sup>Perdana University Royal College of Surgeons in Ireland (PURCSI), Malaysia

<sup>2</sup>Naluri Hidup Sdn Bhd, Malaysia

<sup>3</sup>Royal College of Surgeons in Ireland, Ireland

App based interventions have a great potential in improving the psychological health of cardiac patients. This study, which is part of an ongoing study, aimed to investigate the effectiveness of the Naluri app on depression, anxiety and quality of life (QOL) outcomes of cardiac patients in Malaysia within four months.

Participants were recruited in a ward and were randomly assigned using simple random allocation, to either the Naluri app (treatment, n=35) or to the standard care (control, n=28). Patients in the treatment group downloaded the Naluri app which consist of real-time chat with dedicated coaches, daily modules, thought journal and used it for four months after discharge. The control group received usual care for their cardiovascular health that included lifestyle counselling. Depression, Anxiety and QOL were measured using Hospital Anxiety and Depression Scale (HADS) and Heart Quality of Life (HeartQOL) at baseline and after four months.

Between-group analysis did not show any significant differences for all variables at pre and post intervention. Within-group analysis showed that both groups did not have significant difference for depression. However, there was a significant decreased anxiety for the intervention group with large effect size,  $t(34)=2.84$ ,  $p=.008$ ,  $d=0.92$ ). Both groups showed significant increase in Physical, Emotional and Global QOL with small to medium effect size.

The Naluri app users reported lower anxiety scores and higher QOL scores within four months. This suggests that the Naluri app can be useful in helping cardiac patients in managing mental health issues.

# Health, families, and children

15:25 - 16:25

Ewa Gruszczynska

## Parental Self-Efficacy as a Predictor of Children's Nutrition

R. Möhler<sup>1</sup>, O. Wartha<sup>2</sup>, J. Steinacker<sup>2</sup>, S. Kobel<sup>2</sup>

<sup>1</sup>Hochschule Ravensburg-Weingarten, Germany

<sup>2</sup>Ulm University Hospital, Germany

Overweight and obesity, as well as their associated risk factors for diseases, are already prevalent in childhood and therefore, promoting healthy eating is important. Parental self-efficacy (PSE) and early health-promotion can be helpful in promoting healthy eating.

The aim of this study was to examine the influence of PSE on children's nutrition behavior and identify PSE as a mediator between an intervention and children's nutrition.

The kindergarten-based health-promotion program "Join the Healthy Boat" was evaluated in a randomized controlled trial with 558 children ( $4.7 \pm 0.6$  years; 52.3% male) participating at both times. Linear and logistic regression as well as mediation analyses with potential covariates such as parental outcome expectancies or parental nutrition were carried out using questionnaire data. In children, PSE was positively associated with fruit and vegetable intake ( $\beta = 0.237$ ;  $p < 0.001$ ) and showed a protective effect on soft drink consumption (OR 0.728;  $p = 0.002$ ). Parental nutrition was a stronger predictor of children's intake of fruit, vegetables ( $\beta = 0.451$ ;  $p < 0.001$ ) and soft drinks (OR 7.188;  $p < 0.001$ ). There was no mediator effect of PSE. However, outcome expectancies are associated with PSE ( $\beta = 0.169$ ;  $p = 0.032$ ).

In conclusion, interventions should promote self-efficacy, outcome expectancies and healthy nutrition for parents as well, in order to strengthen eating habits of children.

15:33 - 15:41

## Being a Parent of a Child with Down's Arthritis- An Interpretative Phenomenological Analysis

K. McDonagh<sup>1,2</sup>, H. Durand<sup>1,2</sup>, B. McGuire<sup>2,3</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>Centre for Pain Research, Ireland

<sup>3</sup>National university of Ireland, Galway, ireland, Ireland

**Background:** Down's Arthritis (DA) is an aggressive, erosive, inflammatory form of arthritis affecting children with Down syndrome. It is common but poorly understood, with research suggesting it may present unique parental challenges. The aim of this study was to explore the parental impact and experiences of caring for a child with DA

**Method:** Ten mothers of children with DA were interviewed via telephone to prevent the risk of COVID-19 transmission. The interviews were guided using a semi-structured non-directive topic guide and duration ranged from 17 minutes to 242 minutes. Parents were encouraged to lead the conversation. Interpretative Phenomenological Analysis was the method of analysis.

**Findings:** Three superordinate themes were identified: 'Struggle for Help', 'Parent and Child Communication' and 'Daily impacts.' Parents' experiences varied, common challenges included issues around child pain, communication, difficulty in getting a diagnosis for their child, and challenges in accessing relevant healthcare services. Parents portrayed a reality largely consumed by ongoing struggles, particularly parents of nonverbal children and those living outside the catchment area for paediatric rheumatology services in Dublin. Connecting with other parents of children with DA provided a vital source of emotional and informational support

**Discussion:** The current findings provide novel insight into the impacts and experiences of being a parent of a child with DA, highlighting regional healthcare disparities, the need for the upskilling of healthcare professionals, and the need for a greater level of awareness. Further research is needed to better understand its impact on fathers and siblings.

## How partnership, reproduction, and housing life courses are linked to mental and physical subjective health

L. Altweck<sup>1</sup>, S. Hahm<sup>2</sup>, H. Muehlan<sup>3</sup>, J. Klinger-König<sup>4</sup>, H.J. Grabe<sup>4</sup>, T. Fleischer<sup>5</sup>, C. Ulke<sup>5</sup>, S. Speerforck<sup>5</sup>, G. Schomerus<sup>5</sup>, C.O. Schmidt<sup>1</sup>, M.E. Beutel<sup>6</sup>, E. Brähler<sup>6</sup>, S. Schmidt<sup>7</sup>

<sup>1</sup>University of Greifswald, Germany

<sup>2</sup>University Greifswald, Germany

<sup>3</sup>University of Greifswald, Germany

<sup>4</sup>University Medicine Greifswald, Germany

<sup>5</sup>Leipzig University Medical Center, Germany

<sup>6</sup>University Medical Center, Johannes Gutenberg-University, Germany

<sup>7</sup>Universität of Greifswald, Germany

**Background.** We examined partnership, reproduction, and housing life course typologies and their relationship with mental and physical subjective health.

**Methods.** Data came from the Study of Health in Pomerania (SHIP-0/LEGENDE; N=2283). First, multi-channel sequence and Ward cluster analysis were used to identify life course clusters. Then, associations between cluster membership and sociodemographic variables were determined using multinomial regression analyses. Finally, linear regression analyses examined associations with subjective health (SF-12).

**Findings.** Five life course clusters were found: 'traditional with multiple children' (C1, reference; n=1085), 'traditional with one child' (C2; n=806), 'unstable partnerships and childless' (C3; n=240), 'multiple children and living with parents' (C4; n=66), and 'unstable partnerships and living with parents' (C5; n=86). Individuals in C1 were more likely to be older than those in C4 and C5 but younger than those in C2 and C3. Employed individuals were more likely to belong to C5 but less likely to belong to C3. Individuals in C4 and C5 were more likely to be male.

Life course clusters were only significantly associated with physical and not mental health: compared to membership of C1, belonging to C4 was related to worse while belonging to C2 and C3 was associated with better physical health. Gender stratified analyses revealed that these effects were only significant in the male sample.

**Discussion.** Having more than one child was associated with worse whereas moving out from the parents' home with better subjective physical health. This appears especially relevant for men.

15:49 - 15:57

## The Influence of Parental Self-Efficacy Expectations on Children's Physical Activity and Media Behavior

K. Kieslinger<sup>1</sup>, O. Wartha<sup>2</sup>, O. Pollatos<sup>3</sup>, J.M. Steinacker<sup>2</sup>, S. Kobel<sup>4</sup>

<sup>1</sup>Universität Ulm, Germany

<sup>2</sup>University Ulm, Germany

<sup>3</sup>University of Ulm, Germany

<sup>4</sup>Ulm University, Germany

Previous research suggests that parental self-efficacy (PSE) acts as an important predictor for a healthy trajectory of children. The aim of this study was to investigate the influence of PSE on children's physical activity and screen time. In addition, a moderating effect of the PSE on the intervention effect of the health promotion program "Join the healthy Boat" was investigated. Using a prospective randomized controlled trial, 558 children aged 3 to 6 years in kindergartens South-west Germany were examined. The intervention group received the health promotion program "Join the healthy Boat", whereas the control group did not. The data were assessed by questionnaire and objective measurements. A significant influence of the PSE on children's physical activity as well as on children's screen time could be confirmed. However, the moderating effect of PSE on the intervention effect was neither significant related to children's physical activity nor related to children's screen time. Thus, the results confirm the importance of PSE with respect of the health development of children. However, the results also show that further research is needed, especially regarding the role of PSE on health interventions.

## Preventing and reducing Parental Burnout: Effects of Cognitive Behavioral Stress Management and Positive Psychology interventions

A. Gauchet<sup>1</sup>, A. Urbanowicz<sup>1</sup>, J. Rance<sup>2</sup>, P. Bennett<sup>2</sup>, C. Baeyens<sup>1</sup>, I. Roskam<sup>3</sup>, M. Mikolajczak<sup>4</sup>, R. Shankland<sup>1</sup>

<sup>1</sup>university grenoble alpes, France

<sup>2</sup>university of Swansea, France

<sup>3</sup>university of Louvain, France

<sup>4</sup>university of Louvain, Belgium

**Background:** Parenting is a very demanding and often exhausting experience. Similarly, to professional burnout, parental burnout can be defined as a consequence of the process of chronic stress, which depletes personal resources and the ability to manage stress effectively. Conversely, personal resources and psychological flexibility mitigate the impact of environmental demands and stressors by improving stress management, mindfulness, and emotion regulation skills.

**Method:** In our study (N = 90), we have compared the effects of the stress management intervention based on the cognitive and behavioral approach (Cognitive Behavioral Stress Management, CBSM) and of the positive psychology intervention (Coherence, Attention, Relationship, Engagement; CARE program) in the context of parenting. We evaluated the effects of both interventions on the severity of parental burnout, perceived stress, physiological stress (hair cortisol and heart rate variability measures), and emotional skills (emotion regulation, empathy toward the child and unconditional self-kindness).

**Results:** Following the eight sessions of the CBSM and CARE group- interventions, we have observed the significant decrease in parental burnout, stress, depression, and rumination severity. Participants have also reported better: emotional regulation skills, mindfulness in parenting, and unconditional self-kindness. The results maintained up to three months follow up.

**Discussion:** This study demonstrates the acceptability, feasibility, and effectiveness of the CBSM and positive psychology interventions for parental burnout, taking into account both self-reported and physiological measures. Regarding the evidence of detrimental consequences of parental burnout for the parent, the couple, and for the children, developing and evaluating specific interventions and prevention programs appear to be crucial.



# Digital health behaviour interventions

15:25 - 16:25

Felix Naughton

15:25 - 15:33

## Digitisation and health-related behaviour: Results of a nationwide survey in Germany

K.K. De Santis<sup>1,2</sup>, T. Jahnel<sup>2,3</sup>, E. Sina<sup>2,4</sup>, J. Wienert<sup>5,6</sup>, H. Zeeb<sup>2,4</sup>

<sup>1</sup>Leibniz Institute for Prevention Research and Epidemiology - BIPS, Germany

<sup>2</sup>Leibniz Science Campus Digital Public Health Bremen, Germany

<sup>3</sup>University of Bremen, Germany

<sup>4</sup>Leibniz Institute for Prevention Research and Epidemiology- BIPS, Germany

<sup>5</sup>IUBH University of Applied Sciences, Germany

<sup>6</sup>Leibniz Institute for Prevention Research and Epidemiology – BIPS, Germany

### Background

Digital technologies deliver health-related information and may affect health-related behaviour. We aimed to assess the use and attitudes towards digitisation of health using a nationwide survey.

### Methods

**Design/Participants.** Our cross-sectional study was conducted using a panel sample of Internet users living in Germany. **Measures/Analysis.** Computer-assisted telephone interviews based on a partially self-developed survey with 28 items were conducted in October 2020. Survey data weighted by sociodemographic characteristics were descriptively analysed.

### Findings

Data were collected from n=1014 Internet users (mean age  $\pm$  standard deviation: 54 $\pm$ 17 years; range: 14-93 years; 52% female). Most participants completed secondary education, were employed and lived in 1-2 person, urban households with the country-average income. While 61% of participants reported having used digital technologies for health-related purposes, 89% noted that digitisation will be important for healthcare and health-related behaviour (promotion and maintenance of health) in the future. The interest in smartphone apps for health promotion/prevention was reported by 30% and 39% downloaded the official Corona-Warning App. The majority were confident in their ability to recognise false information (77%) and to evaluate health-related information online (87%). However, 43% felt confident in making Internet-based health decisions.

### Discussion

Internet users in Germany expect that digitisation will affect healthcare and health-related behaviour of individuals in the future. The specific health-related purposes and factors associated with the use of digital technologies require further research. The high confidence in the ability to evaluate information online is contradictory to the low trust in Internet-based health decisions.

## Towards personalised digital health interventions: clustering method of action and coping plans to promote PA

H. Schroé<sup>1</sup>, S. Carlier<sup>1</sup>, D. Van Dyck<sup>1</sup>, F. De Backere<sup>1</sup>, G. Crombez<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

**Background:** Despite effectiveness of action and coping planning in digital health interventions to promote PA, attrition rates remained high. Indeed, support to make plans is often abstract and similar for each individual. Nevertheless, people are different, and context varies. Tailored support at the operational level, involving personalised suggestions of specific plans, is needed. The aim was to identify user types that relate to specific action plans(=APs) and coping plans(=CPs) using clustering algorithms, in order to provide personalised suggestions in a later phase.

**Methods:** Data of 59 adults were used for this study and were collected as part of a digital health intervention to promote PA. Clusters of APs, and clusters of combined APs & CPs were identified using hierarchical clustering. Associations with user information (i.e. gender, age,...) were examined using anova's and chi<sup>2</sup>-tests.

**Findings:** Three clusters of APs were identified, each characterized by different aspects: cluster1 by outdoor activities (walking, biking and running), cluster2 by household activities, cluster3 by active transport and sport activities (swimming, fitness,...). Cluster1 was associated to a higher BMI, cluster2 to women and users that didn't perform PA regularly, and cluster3 to younger adults. Furthermore, eight clusters of combined APs & CPs were identified. Here, associations with user information weren't straightforward.

**Discussion:** Some associations of APs with user information were found, however user types that relate to specific APs and CPs couldn't be identified. To conclude, other strategies are needed to provide personalised suggestions, notwithstanding that the associations found can be used as a starting point.

## What goes on in DBCIs for weight loss maintenance targeting physical activity: A Scoping Review

J. Encantado<sup>1,2</sup>, A.L. Palmeira<sup>3</sup>, C. Silva<sup>4</sup>, F. Sniehotta<sup>5</sup>, R.J. Stubbs<sup>6</sup>, M.J. Gouveia<sup>7</sup>, P. Teixeira<sup>1</sup>, B.L. Heitmann<sup>8,9</sup>, M. Marques<sup>1,4</sup>

<sup>1</sup>Universidade de Lisboa, Portugal

<sup>2</sup>ISPA – Instituto Universitário, Portugal

<sup>3</sup>Universidade Lusófona, Portugal

<sup>4</sup>Trinity College Dublin, Ireland

<sup>5</sup>Newcastle University, United Kingdom

<sup>6</sup>University of Leeds, United Kingdom

<sup>7</sup>ISPA - Instituto Universitário, Portugal

<sup>8</sup>Frederiksberg Hospital, Denmark

<sup>9</sup>University of Copenhagen, Denmark

**Background:** To identify the core components of digital behaviour change interventions for weight loss maintenance targeting physical activity: i) Behaviour Change Techniques; ii) Mechanisms of Action; iii) Modes of Delivery; iv) Dose; and v) Tailoring. In addition, the links between these components were investigated.

**Methods:** A literature search was performed in 5 electronic databases. Two reviewers independently extracted data related with the study characteristics and behaviour change techniques, mechanism of action, mode of delivery, dose, and tailoring, using standardized classifications whenever available.

**Findings:** Seventeen articles reporting eleven original studies were selected. Two studies were protocols, nine studies presented results for weight change and all but one showed no significant differences between the intervention and control groups. Eight studies (73%) provided adequate information on Behaviour Change Techniques. Five studies (45%) provided partial information about how the Behaviour Change Techniques were linked to mechanisms of action, and only one study (0.9%) described these links for all the techniques. Around half of the studies reported the modes through which behaviour change techniques were delivered. Descriptions of dose were present in most studies, but with minimal information. The use of tailoring or personalisation approaches was mentioned in eight studies (73%), but descriptions of what was tailored and how were minimal.

**Discussion:** The compilation of information regarding intervention components was difficult due to the lack of information and systematisation in reporting across papers. This is particularly true for the reporting of the links between behaviour change techniques and the other core intervention components.

15:49 - 15:57

## A feasibility randomised controlled trial evaluating a context aware smoking cessation app (Quit Sense)

A. Hope<sup>1</sup>, C. Brown<sup>2</sup>, J. High<sup>3</sup>, C. Notley<sup>1</sup>, C. Mascolo<sup>2</sup>, T. Coleman<sup>4</sup>, L. Shepstone<sup>3</sup>, S. Sutton<sup>2</sup>, T. Prevost<sup>5</sup>, F. Naughton<sup>6</sup>

<sup>1</sup>UEA, United Kingdom

<sup>2</sup>University of Cambridge, United Kingdom

<sup>3</sup>UEA, Norwich Clinical Trials Unit, United Kingdom

<sup>4</sup>University of Nottingham, United Kingdom

<sup>5</sup>Kings College London, United Kingdom

<sup>6</sup>University of East Anglia, United Kingdom

### Background

Quit Sense is a Just-In-Time Adaptive Intervention (JITAI) smartphone app which provides smokers with in-the-moment support to manage cue-induced cravings. The app uses location sensing to tailor the timing and content of support messages to high-risk locations. We undertook a feasibility randomised controlled trial (RCT) to estimate key parameters to inform a definitive RCT.

### Methods

A two-arm RCT allocating smokers (N=210) recruited via advertisements on Google search and Facebook to a 'usual care' arm (link to NHS SmokeFree website) or a 'usual care' plus Quit Sense arm. Recruitment, enrolment, randomisation and baseline data collection were fully automated via the study website. Outcomes were collected at 6-weeks and 6-months post enrolment and included completion rates of outcome and health economic data, online recruitment costs, app installation and engagement rates, biochemically-validated abstinence at 6 months and hypothesised mechanisms of action.

### Findings

Recruitment costs per participant were £4.10 for Facebook and £29.46 for Google Search. The sample was: 91.4% white; 55.7% female; mean age of 41.1 years, 60.3% smoked  $\leq 16$  cigarettes per day at enrolment and 29.0% were classed as low socioeconomic status. Among Quit Sense arm participants, 78 (74.3%) installed the app. Between arm differences in smoking outcomes and hypothesised mechanisms of action will be described (data collection complete July 2021).

### Discussion

This is the first ever trial evaluation of a proactive smoking cessation JITAI and will provide key information to inform a definitive trial. Estimates of the impact of the app will also help inform app optimisation.

## Germ Defence digital behaviour change intervention to reduce the spread of viruses in the home

S. Miller<sup>1</sup>, J. Denison-Day<sup>1</sup>, C. Rice<sup>1</sup>, K. Morton<sup>1</sup>, L. Towler<sup>1</sup>, T. Chadborn<sup>2</sup>, R. Amlot<sup>2</sup>, P. Little<sup>1</sup>, L. Yardley<sup>1,3</sup>, B. Ainsworth<sup>1,4</sup>

<sup>1</sup>University of Southampton, United Kingdom

<sup>2</sup>Public Health England, United Kingdom

<sup>3</sup>University of Bristol, United Kingdom

<sup>4</sup>University of Bath, United Kingdom

**Background:** The Germ Defence intervention ([www.germdefence.org](http://www.germdefence.org)) is available to the general public to encourage infection prevention behaviours that reduce the spread of COVID-19 within households. Content is based on health psychology theory and evidence, including behavioral change techniques, to support users to self-isolate, social distance, put shopping/packages aside, wear face coverings, clean and disinfect, and wash hands more frequently at home. This study reports current and intended levels of these behaviours across 2020.

**Method:** As part of the intervention, users provided current and intended frequencies for performing the behaviours on a scale of 1 (almost never) to 5 (almost always). User data were examined across two periods based on peaks in usage: 8th April to 24th May (N=55,762) and 25th May to 4th December 2020 (N=136,777). Changes in mean frequencies are reported.

**Findings:** Mean frequencies for current behaviour across the two periods increased for social distancing (M=2.4, M=2.5), self-isolating (M=2.8, M=2.9) and wearing a face-covering (M=1.6, M=2.2). Cleaning/disinfection (M=3.2, M=3.0) and putting things aside (M=2.7, M=2.2) both decreased. Handwashing remained unchanged (M=4). Intended frequencies were higher than current across all behaviours at both time points (ranging between 0.2 and 0.5).

**Discussion:** Observed increases in intended behaviour are in line with previous research that demonstrated intervention effectiveness with fewer behaviours and smaller effect sizes (Little et al., *Lancet*, 2015), indicating that Germ Defence could reduce transmission of COVID-19. This also supports the application of psychological theories in a pandemic.

16:05 - 16:13

## Breast cancer survivors' and main carers' perspectives on the acceptability of internet-delivered cognitive behavioural therapy

S. Akkol-Solakoglu<sup>1</sup>, D. Hevey<sup>1</sup>

<sup>1</sup>Trinity College Dublin, Ireland

**Background:** Internet-delivered cognitive behaviour therapy (iCBT) has the potential to alleviate distress in breast cancer survivors. As greater social support predicts better adaptation among survivors, iCBT targeting distress, but also open for carers to access, may improve survivors' social support perceptions and encourage cancer-related communication. This study explores the perspectives of survivors and their informal carers on the acceptability of iCBT .

**Methods:** Semi-structured interviews were conducted with five breast cancer survivors and three main carers to evaluate the acceptability of the iCBT, and motivators and barriers to programme completion. The data were analysed using thematic analysis.

**Findings:** Guided iCBT was reported as an acceptable treatment option for women mostly due to the lack of in-person psychological support after diagnosis and treatment. Other reasons included survivors' need for easy access and flexibility, moderated and reliable platform, human contact, and useful content such as expressing feelings and managing mood, as well as private nature of the programme. Lack of time, feeling too overwhelmed or tired with cancer, and limited technological abilities were reported as likely demotivators. Most survivors and carers expected a positive impact of iCBT in terms of having more knowledge, better insight about how to help survivors, and strengthening their relationship; one survivor reported that it may depend on the relationship quality.

**Discussion:** The findings provide novel insights regarding the acceptability of iCBT and giving carers access to an iCBT programme for women with breast cancer.

## Attitudes towards health, healthcare, and eHealth in a disadvantaged neighborhood: A community-based participatory research approach

J. Faber<sup>1</sup>, I. Al-Dhahir<sup>2</sup>, J. Kraal<sup>1</sup>, T. Reijnders<sup>2</sup>, A. Evers<sup>2</sup>, N. Chavannes<sup>3</sup>, R. van den Berg-Emons<sup>4</sup>, V. Visch<sup>5</sup>

<sup>1</sup>Delft University of Technology, Netherlands

<sup>2</sup>Leiden University, Netherlands

<sup>3</sup>Leiden University Medical Centre, Netherlands

<sup>4</sup>Erasmus MC, Netherlands

<sup>5</sup>University of Technology Delft, Netherlands

A low socioeconomic status (SES) is associated with a higher prevalence of unhealthy lifestyles in comparison to a high SES. Interventions that promote a healthy lifestyle face limited adoption in low SES groups. To improve adoption, interventions should be aligned with the attitudes of the target group. Therefore, we investigated the attitudes of people with a low SES towards health, healthcare, and eHealth.

We adopted a community-based participatory research approach with 23 members of a community center in a low SES neighborhood in the Netherlands. We conducted semi-structured interviews and analyzed these using grounded theory analysis resulting in a set of themes (N=29). The themes were validated and generalized using a questionnaire (N=43) involving participants from multiple community centers in the same neighborhood. A subsequent cluster- and factor analysis resulted in two general attitudes based on nine profiles.

The optimistically engaged attitude related to being light-hearted towards health, loyal towards healthcare, and eager to adopt eHealth. The doubtfully disadvantaged attitude related to feeling encumbered towards health, disadvantaged within healthcare, and hesitant towards eHealth adoption.

The resulting attitudes strengthen the knowledge of the motivation and behavior of people with a low SES regarding their health, healthcare, and eHealth. We discovered that negative health attitudes are not as apparent as often claimed. Nevertheless, professionals should still consider these specific attitudes in intervention design. We recommend interventions should fit into the person's daily life, ensure personal communication, be perceived usable and useful, improve self-efficacy and allow for meaningful self-monitoring.



# Health and wellbeing in the workplace

15:25 - 16:25

Jutta Mata

## Intensified job demands as a risk for stress of conscience: Nurses experiences during organizational change

M. Heikkilä<sup>1</sup>, M. Huhtala<sup>1</sup>, S. Mauno<sup>1,2</sup>, T. Feldt<sup>1</sup>

<sup>1</sup>University of Jyväskylä, Finland

<sup>2</sup>Tampere University, Finland

Nurses frequently face ethically demanding situations in their work and these may lead to stress of conscience. Working life is currently accelerating and job demands are intensifying. These intensified job demands (IJDs) include 1) work intensification, 2) intensified job-related planning demands, 3) intensified career-related planning demands, and 4) intensified learning demands. At the same time, many healthcare organizations are implementing major organizational changes that have an influence to personnel.

The aim of the study was to investigate the association between intensified job demands and stress of conscience, and whether their association is moderated by organizational change experiences among nurses. Experiences of organizational change may expose employees to stress of conscience, or serve as a buffer because employees appraise, involve and cope with changes differently.

Questionnaires measuring stress of conscience, intensified job demands and organizational change experiences were completed by nurses (n=511) in a healthcare district undergoing a major organizational change.

Throughout the study procedures were implemented according to the guidelines of the Finnish National Board on Research Integrity and the 1964 Helsinki Declaration and its later amendments. According to the Finnish regulations, because participation was voluntary, informed consent was requested, and participants were advised of their right to withdraw from the study at will, no permission from an ethics committee was necessary.

Work intensification and personal worry considering organizational change were associated with more severe stress of conscience among nurses. Nurses' experiences of managements' competent handling of organizational change buffered the association between work intensification and stress of conscience.

## ACT in the workplace: A meta-analytic examination of randomized controlled trials

I. Unruh<sup>1</sup>, M. Neubert<sup>1</sup>, M. Wilhelm<sup>1</sup>, F. Euteneuer<sup>1,2</sup>

<sup>1</sup>Philipps-University of Marburg, Germany

<sup>2</sup>MSB Medical School Berlin, Germany

**Background:** Occupational stress is one of the main risk factors for the development of somatic and mental disorders and for the reduction of overall well-being. The use of Acceptance and Commitment Therapy (ACT), an already established treatment in clinical practice, as a non-clinical workplace intervention proliferated in recent years. The purpose of this study is to provide an up-to-date meta-analysis on how ACT affects occupational stress.

**Methods:** Random-effects meta-analyses were conducted exploring ACT's efficacy concerning psychological distress, psychological flexibility, stress, and well-being. Sub-group analyses and meta-regressions were performed to investigate individual, workplace-related, and treatment effects.

**Findings:** A total of 16 studies including 825 participants allocated to ACT conditions and 701 participants allocated to control conditions were extracted. ACT outperformed control conditions (passive and active control) regarding psychological distress (Hedges'  $g = -0.38$ , 95% CI [-0.53; -0.25]), psychological flexibility ( $g = 0.29$ , 95% CI [0.08; 0.50]), and well-being ( $g = 0.24$ , 95% CI [0.02; 0.47]) at post-treatment, and regarding stress ( $g = -0.22$ , 95% CI [-0.41; -0.04]), psychological flexibility ( $g = 0.31$ , 95% CI [0.16; 0.47]), and well-being ( $g = 0.26$ , 95% CI [0.03; 0.49]) at follow-up. Additional analyses revealed ACT to be most effective for office employees while showing little to no effect for health care workers.

**Discussion:** The findings demonstrate ACT to be an effective treatment to reduce psychological distress and stress, and to increase psychological flexibility and general well-being in a non-clinical, workplace setting. An application for employees working in an office setting appears to be most promising.

## Psychometric validation of the Italian version of Edmondson's Psychological Safety Scale in the organizational context

M. Todaro<sup>1</sup>, F. Brivio<sup>1</sup>, L. Fagnani<sup>1</sup>, R. Capelli<sup>1</sup>, J. Stringo<sup>1</sup>, S. Aproso<sup>1</sup>, P. Riva<sup>1</sup>, A. Greco<sup>1</sup>

<sup>1</sup>University of Bergamo, Italy

**Background:** Psychological Safety was defined by Amy Edmondson (1999) as a team-level phenomenon that occurs when team members believe the group is safe for taking interpersonal risks. The aim of this study was to assess psychometric properties of the Italian version of Edmondson's Psychological Safety questionnaire, a 7-items scale conceived as a measure of psychological safety at the team level.

**Methods:** The Italian version of Edmondson's scale was administered to a sample of individual contributors (N=130) of a multinational corporation based in Italy; moreover, participants were asked to rate the frequency of a list of behaviours related to psychological safety's phenomenon (e.g., feeling welcomed, listening to others). The factorial validity of the scale was tested using confirmatory factor analysis and concurrent validity was assessed through correlation with the list of behaviours. Cronbach alpha was calculated to assess scale's internal reliability.

**Findings:** The CFA fits statistics of the one factor model of the Italian version of Edmondson's scale exhibited a good fit ( $\chi^2(14)=29.005$ ,  $p \leq 0.05$ ; CFI=0.939; RMSEA=0.090; SRMR=0.051); moreover, the scale showed high internal reliability (Cronbach alpha=0.78). Finally, results of correlation analysis showed a significant positive association between psychological safety and the following behaviours: feeling welcomed ( $r=0,58$ ,  $p < 0.01$ ), receiving positive feedback ( $r=0,51$ ,  $p < 0.01$ ), feeling listened ( $r=0,44$ ,  $p < 0.01$ ), listening to others ( $r=0,24$ ,  $p < 0.01$ ).

**Discussion:** The Italian version of Edmondson's Psychological Safety questionnaire can be considered as a reliable, consistent and validated instrument for assessing the level of psychological safety and for designing tailored interventions in organizational context, with a focus on correlated behaviours.

# Alcohol prevention at the workplace and its impact on selected health outcomes

L. Bielefeld<sup>1</sup>, L. Fellbaum<sup>1</sup>, N. Benit<sup>1</sup>, A. Mojzisch<sup>1</sup>, R. Soellner<sup>1</sup>

<sup>1</sup>University of Hildesheim, Germany

## Background

Modern working conditions can be demanding for individuals. Research shows that ongoing high demands can be associated with, inter alia, psychological and physical health issues, productivity loss and increasing costs (Roschker, 2014). Not rarely do these conditions overextend people's coping strategies and not rarely does this lead to an increase of alcohol consumption (Turner et al., 2018). Vice versa, the misuse of alcohol can cause health- and work-related problems (Hendriks, 2020).

The aim of this meta-analysis was to generalize health-related effects of primary prevention programmes in companies regarding alcohol consumption. For this purpose, research of the last 25 years was systematically examined and meta-analytically summarized.

## Methods

Seven relevant primary studies (N=2.467) were extracted from the meta-analytic study pool from Fellbaum et al., in prep. A total of 26 effect sizes could be integrated into the meta-analysis.

## Findings

The results revealed a significant overall effect in favor of the effectiveness of the analyzed prevention programs ( $d=.15$ ). Moderator analyses showed an additional increase in effects (e.g., age of participants  $d=.30$ ).

## Discussion

Due to the specific nature of research question and the fact that the present meta-analysis is considered a subproject, only  $k=7$  studies could be included. Alteration of search or selection criteria could lead to a more extensive study pool and stronger probative value.

Even though only small effects on selected health-related outcomes could be found, the meta-analytic results indicate that programs conducted at the workplace to prevent alcohol consumption have positive health-related side-effects on the participants.

15:57 - 16:05

## Investigating Sedentary Office Workers Movement in Varied Workplaces: A Qualitative Exploration

K. Jenkins<sup>1</sup>, J. Buchan<sup>1</sup>, R. Rhodes<sup>2</sup>, K. Hamilton<sup>1</sup>

<sup>1</sup>Griffith University, Australia

<sup>2</sup>University of Victoria, Canada

**Background:** Sitting has been phrased as the new smoking. Increasing the amount of general movement in ones workday can help to reduce the health consequences caused by prolonged sitting in an office population. The aim of this study was to understand the beliefs and attitudes office workers hold and the barriers and challenges they face toward moving more during the workday and unpack potential acceptable and feasible intervention strategies to improve workplace physical activity.

**Method:** Semi-structured interviews were conducted to elicit data. Participants (N=30) were full time office workers who either worked from a commercial office, home office, or a combination of both. Data were analysed using thematic analysis.

**Findings:** Preliminary findings suggest a general acceptance and understanding of the importance to engaging in movement during the workday. Across all three groups, participants identified constraints such as perceived expectations, both internal and external, hindering their ability to take breaks from their desks. The home and combination groups described an increase in positive affect resulting from a more flexible and relaxed work environment. Other nuances between the groups were observed.

**Discussion:** Present findings provide a rich understanding of the influences on sedentary workers in varied workplaces moving more during the workday, and potential intervention strategies to target to increase workplace physical activity. Increasing general movement in the workplace has important implications on workers' productivity and health; thus, it is important to further current knowledge on the factors that may facilitate increased physical activity and reduced prolonged sitting in various workplace settings.

16:05 - 16:13

## An exploration of COVID-19 related psychological distress among frontline healthcare workers in Ireland and Italy

L. O'Connor<sup>1</sup>, G. Bellani<sup>2</sup>, M. Contreras<sup>3</sup>, A. Doherty<sup>4</sup>, H. Durand<sup>5</sup>, E. Fallon<sup>6</sup>, C. Ffrench<sup>5</sup>, J. Flynn<sup>5</sup>, C. Gormley<sup>7</sup>, M. Hanlon<sup>8</sup>, M. O'Reilly<sup>5</sup>, S. Russo<sup>2</sup>, K. Sarma<sup>1</sup>, M.G. Strepparava<sup>2</sup>, J. Walsh<sup>1</sup>, B. McGuire<sup>5</sup>

<sup>1</sup>NUI Galway, Ireland

<sup>2</sup>School of Medicine and Surgery, University of Milano-Bicocca, Italy

<sup>3</sup>University Hospital Galway, Ireland

<sup>4</sup>Mater Misericordiae University Hospital, Ireland

<sup>5</sup>National University of Ireland, Galway, Ireland

<sup>6</sup>Saolta University Healthcare Group, Galway, Ireland

<sup>7</sup>Health Service Executive West, Ireland

<sup>8</sup>National University of Ireland Galway, Ireland

**Background:** The COVID-19 pandemic poses challenges for frontline healthcare workers (FLWs) across the world. As part of a mixed-methods project, this study investigated the mental wellbeing of FLWs in an in-depth exploration of their experiences working during the pandemic. Video interviews focused on sources of stress and resilience, and barriers and facilitators to seeking support.

**Methods:** Interviews were carried out with FLWs across Ireland and Italy using a semi-structured topic guide, to allow flexibility while still minimising variability between interviews. Thematic framework analysis was used, due to the consistency the structure offers, the ability to compare data across and within cases, and to allow the inclusion of a priori and emerging themes.

**Findings:** 42 interviews were carried out, 20 in Ireland and 22 in Italy, with good variation in job roles, years of experience and levels of responsibility represented. Interviewees reported many sources of stress both within the work setting (e.g. new responsibilities, disorganised management, lack of resources) and more broadly (e.g. balancing home life, fear of transmitting COVID to loved ones, lack of usual social supports). Peer support was highlighted as important, although many noted that physical distancing created barriers to access. Organisational encouragement of peer support and other psychological care was noted as a potential facilitator of support-seeking.

**Discussion:** Sources of stress for FLWs are not limited to the work setting and current supports are still lacking in terms of access and scope. Support availability and acceptability varies hugely across settings. A need for long-term support is evident.

## Beyond the physical risk: Psychosocial impact and coping in healthcare professionals during the COVID-19 pandemic

T. Fteropoulli<sup>1,2</sup>, T.V. Kalavana<sup>3</sup>, Y. Anneza<sup>1,4</sup>, M. Karaiskakis<sup>5</sup>, M. Koliou-Mazeri<sup>1,6</sup>, S. Vryonides<sup>7</sup>, A. Hadjioannou<sup>8</sup>, G. Nikolopoulos<sup>1</sup>

<sup>1</sup>University of Cyprus, Cyprus

<sup>2</sup>City, University of London, United Kingdom

<sup>3</sup>MindThreading, Cyprus

<sup>4</sup>Nicosia General Hospital, Cyprus

<sup>5</sup>Ygia Polyclinic, Limassol, Cyprus

<sup>6</sup>Archbishop Makarios Hospital, Nicosia, Cyprus

<sup>7</sup>Limassol General Hospital, Cyprus

<sup>8</sup>State Health Services Organization, Cyprus

**Background:** The burden of the COVID-19 pandemic on healthcare professionals, who are in the forefront, is unprecedented. This study aimed to examine the psychosocial impact and identify risk factors for poor psychosocial outcomes in healthcare professionals during the COVID-19 pandemic in Cyprus.

**Methods:** A total of 1071 healthcare professionals participated in this cross-sectional study, completing online questionnaires concerning sociodemographics, COVID-19-related characteristics, quality of life (WHOQOL-Bref), anxiety (GAD-7), depression (PHQ-8), occupational burnout (CBI), and coping (Brief COPE). Data were analysed using multiple linear regressions, independent samples t-tests, and ANOVA.

**Results:** The prevalence of moderate to severe anxiety and clinically significant depression was 27.6% and 26.8%, respectively. Significant risk factors for poor psychological outcomes included being female (beta= -.07 to .07,  $p < .05$ ), being a medical professional (vs non-medical; beta= -.09 to .10,  $p < .05$ ), working in frontline units (inpatient, intensive care; beta= .07 to .16,  $p < .05$ ), perceptions of inadequate workplace preparation against the pandemic (beta= -.06 to -.22,  $p < .05$ ), and using avoidance coping (beta= -.07 to .48,  $p < .001$ ). Depression and occupational burnout were risk factors for poor quality of life (beta= -.11 to -.52,  $p < .001$ ).

**Discussion:** This study highlights the urgent need for screening for anxiety and depression and the design of psychosocial interventions to combat an imminent mental health crisis in healthcare professionals during the COVID-19 pandemic. Pandemic response protocols and public health initiatives aiming to improve and prevent mental health problems in healthcare professionals during the current and future health crises, need to account for the various factors at play.



# Doctor-patient and public health communication

15:25 - 16:25

Wendy Hardeman

15:25 - 15:33

## Physiological linkage during doctor-patient interactions in oncology

M. Vigier<sup>1,2</sup>, K. Thorson<sup>3</sup>, E. Andritsch<sup>1</sup>, C. Farkas<sup>1</sup>, A. Schwerdtfeger<sup>2</sup>

<sup>1</sup>Medical University of Graz, Austria

<sup>2</sup>University of Graz, Austria

<sup>3</sup>Barnard College Columbia University, United States

### Objective:

Doctors and patients influence each other when interacting and can become similar to each other in affect and behavior. We investigated whether their physiological responses could also become similar. Precisely, we examined whether physiological linkage occurred and whether it varied by role (doctor vs. patient), by relationship length, and by interactions between role and length.

### Methods:

We focused on the autonomic nervous system activity (ANS) of oncologists and their patients during a follow-up consultation. We predicted doctors' and patients' physiological responses during one minute from their partner responses during the prior minute to yield an estimate of physiological linkage. We also adjusted for participants' own prior physiological responses. We obtained complete data from consultations between 102 unique doctor-patient dyads.

### Results:

We found that, physiological linkage between doctors and patients varied by an interaction between role and relationship length (in a non-linear, quadratic fashion):  $b = -0.01$ ,  $p = .005$ ,  $R^2 = .07$ . Patients were significantly linked to their doctors if they had medium-length relationships:  $p_s < .05$ . Patients were not linked to their doctors in shorter or longer relationships. Doctors were never significantly linked to their patients:  $p_s > .13$ .

### Conclusion:

Physiological responses of doctors predicted patients' responses differently depending on relationship length. Importantly by influencing patients' physiological responses on a moment-to-moment basis, doctors may have even more influence over patients' physiology and health than previously known.

# Measurement of person-centred consultation skills in practitioners: a systematic review of reviews of validated studies

A. van Dongen<sup>1</sup>, D. Stewart<sup>2</sup>, J. Garry<sup>1</sup>, J. McCambridge<sup>1</sup>

<sup>1</sup>University of York, United Kingdom

<sup>2</sup>London Metropolitan University, United Kingdom

**Background** Person-centred care has been widely acknowledged as an essential element of high-quality health services provision. To evaluate the efficacy of healthcare practitioner training programmes designed to enhance person-centred consultations, validated instruments that measure skills and behaviour are needed. Several systematic reviews aim to identify validated instruments for this purpose. We aim to provide a high-level synthesis of this literature by undertaking a systematic review of reviews of instruments that can be used in training and assessment of person-centred consultation skill deployment among healthcare practitioners.

**Methods** A systematic review was conducted using an extensive search in PubMed, EMBASE, PsycINFO and CINAHL. The databases were searched up to September 2020. Systematic review articles describing validation studies of instruments measuring individual practitioner person-centred consultation skills or behaviour, which reported measurement properties, were included. The methodological quality of the reviews was evaluated using the JBI checklist.

**Findings** Out of 2,215 potential review articles, four were included. Despite meeting all our inclusion criteria, the four articles used different conceptualisations of person-centred care and included different, sometimes mutually exclusive populations and settings. This is reflected in the lack of overlapping included studies and instruments across the articles. In total, the four review articles included 71 (68 unique) validation studies and described 47 (45 unique) instruments.

**Discussion** A multitude of review articles claim to provide an overview of instruments measuring person-centred care. However, selection criteria on the conceptualisation of person-centred care, the health care setting, and patient and practitioner populations can result in vastly different findings.

## Pediatric oncologists' difficulties related to context when announcing resistance to anti-tumor treatments: A qualitative study

J. Terrasson<sup>1</sup>, A. Rault<sup>1</sup>, E. Seigneur<sup>1,2</sup>, S. Dolbeault<sup>1,3</sup>, A. Brédart<sup>1,4</sup>

<sup>1</sup>Institut Curie, Psycho-Oncology Unit, France

<sup>2</sup>Institut Curie, SIREDO Oncology Center, France

<sup>3</sup>Paris-Saclay University, Research Center in Epidemiology and Health Population, INSERM, France

<sup>4</sup>University of Paris, Psychopathology and Health Process Laboratory, France

**Background:** Breaking bad news is a stressful part of pediatric oncologists' daily practice. This study aims to highlight aspects of the clinical context that can exacerbate difficulties perceived by pediatric oncologists when informing parents about the child's disease resistance to anti-tumor treatments.

**Method:** Semi-structured interviews were conducted in two pediatric oncology departments in France with 15 pediatric oncologists (66.7% women; aged 44.7 years on average). Interviews were audio recorded, transcribed and a thematic content analysis was conducted.

**Findings:** Pediatric oncologists mention that the disease history (i.e., the time lapse since the initial treatment, treatment side effects, the child health status when resistance is discovered) are important elements in understanding and anticipating the parents' state of mind at the time of the announcement. On this basis, pediatricians adapt their communication, especially taking into account the potential gap between what parents could expect to hear and what pediatricians have to say when informing about cancer resistance. According to pediatricians, other elements can influence the announcement and the communication such as the context of the consultation (e.g. level of acquaintance of the family), or the risk of anticipated resistance by pediatrician at the time of initial diagnosis.

**Discussion:** The elements of the clinical context participate to the pediatrician's difficulties in finding the "right balance" in communicating with each family, contributing to the emotional difficulties they experience. Encouraging exchanges among the medical team in order to prepare the communication with parents could be a first step along with for a debriefing after this announcement.

# Factors Influencing the General Public's SDM Involvement, Perceived Patient-Centered Communication Style, and Medical Treatment Satisfaction

J. Chien<sup>1</sup>, M. Lee<sup>2</sup>, C. Wu<sup>2</sup>, J. Liu<sup>2</sup>

<sup>1</sup>Oriental Institute of Technology, Taiwan

<sup>2</sup>Morrison Academy, Taiwan

## Background:

The main purpose was to examine the effects of whether people had multiple options for medical treatment (MOFMT) and their preferred role in medical decision-making on shared decision-making involvement (SDMI), perceived patient-centered communication style (PPCCS), and/or treatment satisfaction (TS).

## Methods:

A total of 1647 participants were surveyed; 40.3% of participants failed the attention check and were excluded. After conducting EFA and reliability analysis with the valid participants ( $n = 984$ ), the self-developed 7-point Likert scale questionnaires were proven as valid and reliable instruments for measuring the general public's SDMI, PPCCS, and TS, respectively. Descriptive statistics, ANOVA, MANOVA, contingency table analysis, correlation analysis, and stepwise multiple regression analysis were used for data analysis.

## Findings:

Most participants preferred SDM (788, 80.1%). Nearly 70% of all valid participants ( $n = 672$ ) had MOFMT. People who haven't had MOFMT had significantly higher expectations of SDMI and PPCCS. Those with greater physician satisfaction (573, 85.3%) also revealed significantly higher levels of SDMI and PPCCS. The predictors that accounted for 66% of the variance in TS were PPCCS ( $\beta = .61$ ), SDMI ( $\beta = .24$ ), and age ( $\beta = .08$ ). The SDMI sub-scale Physician's SDM Facilitating Behavior was the best predictor of PPCCS.

## Discussion:

SDM was the preferred decision model in the general public; additionally, treatment satisfaction ratings increased when the physician demonstrated a strong emphasis on SDM facilitating behavior and patient-centered communication styles. The three factors of SDMI—Patient's Willingness, Patient's Ability, and Physician's Facilitating Behavior—were the best indicators of people's SDM involvement.

## Healthcare providers' views on medication adherence across chronic health conditions: A Qualitative Study

A.P. Kassianos<sup>1,2</sup>, O. Kasinopoulos<sup>1</sup>, P. Konstantinou<sup>1</sup>, I. Kadianaki<sup>1</sup>, C. Michael<sup>3</sup>, A. Papageorgiou<sup>3</sup>, C. Karashiali<sup>1</sup>, M. Karekla<sup>1</sup>

<sup>1</sup>Department of Psychology, University of Cyprus, Cyprus

<sup>2</sup>Department of Applied Health Research, UCL, United Kingdom

<sup>3</sup>Medical School, University of Nicosia, Cyprus

**Background:** Medication non-adherence (MNA) tends to be one of the most important challenges faced by healthcare providers in terms of managing patients with chronic health conditions. The aim of this study was to explore healthcare providers' perceptions on MNA and strategies used to manage MNA with patients with chronic health conditions.

**Method:** A qualitative research study using semi-structured interviews with healthcare providers with an expertise across the range of five chronic conditions (asthma, hypertension, epilepsy, diabetes and cancer). Interviews were audio recorded, transcribed verbatim and analysed using thematic content analysis.

**Results:** Ten (N = 10) healthcare providers participated in the study. Six themes emerged: 1) beliefs and perceptions of responsibility assignment regarding MNA (e.g., patient vs provider responsibility), 2) reactions when a patient reports MNA, 3) perceived barriers to MA (e.g., demographics, fear of stigma, complexity of treatment) 4) facilitators of MA (e.g., higher health literacy), 5) strategies to address MNA (e.g., providing relevant education on MA and its consequences) and 6) methods of assessing MA (e.g., from significant others).

**Discussion:** Despite numerous evidence on factors related to MNA, a number of providers' beliefs (educating or assigning responsibilities) seem to lie outside the patient-centred care context. Providing healthcare providers with tools on how to engage patients with their medication may be of value. Future interventions may improve proximity (e.g. digital) and facilitate shared medication decision-making and understanding between patients and providers.

## Using routinely-collected health data to investigate automatic cognitive processes in clinical behaviour: a scoping review

N. McCleary<sup>1,2</sup>, J. Pesseau<sup>1,2</sup>, C. McCudden<sup>3,4</sup>, S. Semchishen<sup>2</sup>, S. Potthoff<sup>5</sup>, K. Carroll<sup>1</sup>, N. Hudek<sup>1</sup>, H. Colquhoun<sup>6</sup>, J. Brehaut<sup>1,2</sup>

<sup>1</sup>Ottawa Hospital Research Institute, Canada

<sup>2</sup>University of Ottawa, Canada

<sup>3</sup>Eastern Ontario Regional Laboratory Association, Canada

<sup>4</sup>The Ottawa Hospital, Canada

<sup>5</sup>Northumbria University, United Kingdom

<sup>6</sup>University of Toronto, Canada

**Background:** Implementation interventions often focus on reflective determinants of clinical behaviour, with less attention paid to automatic processes. Routinely-collected health data may provide opportunities to explore the impact of these processes on real-world behaviour in large numbers of clinicians. We are conducting a scoping review to map how routine data has been used to investigate the impact of automatic processes on clinical behaviour.

**Methods:** MEDLINE, EMBASE, CINAHL, and PsycINFO were searched. Records are being screened by two independent reviewers. Extracted data will cover clinical contexts (setting, provider and patient group, clinical behaviours investigated), methods (data sources, analysis procedure), automatic processes investigated, outcomes, and results. We will compile a narrative summary of included studies, informed by qualitative content analysis techniques.

**Findings :** Searches identified 17,696 unique records. Title/abstract screening is nearing completion. Relevant studies identified so far demonstrate the impact of the availability heuristic (lower likelihood of appropriate prescribing after a patient has a rare adverse event); decision fatigue (increasing likelihood of inappropriate prescribing as the work day progresses); and the representativeness heuristic (patients without typical symptoms being less likely to be appropriately transferred/referred). These effects were found across large samples using real-world data, suggesting that automatic processes substantially impact clinical behaviour.

**Conclusions:** This review will demonstrate how routine data has been used to test hypotheses related to automatic processes, which will guide the prioritization of next steps for future research. Further work may ultimately support the development of interventions targeting automatic processes to achieve clinical behaviour change.

# Individual differences in health behaviour

11:05 - 12:35

Anne Marie Plass



11:05 - 11:17

## Barriers and Facilitators to Physical Activity at Midlife: A Systematic Review

S. Bracken<sup>1,2</sup>, G. Molloy<sup>1</sup>, M. Byrne<sup>1</sup>, M. Carvalho<sup>1</sup>

<sup>1</sup>School of Psychology, NUI Galway, Ireland

<sup>2</sup>Dept. of Nursing and Healthcare, Athlone Institute of Technology, Ireland

**Background:** Midlife is characterised by multiple work and family roles and many physical and psychological changes. Physical activity (PA) is essential for maintaining health and crucial to successful ageing and maintenance of psychological wellbeing from midlife onwards. The aim of this systematic review was to establish the specific barriers and facilitators to physical activity in the general population, age 35 - 65 years.

**Methods:** This systematic review comprised of published quantitative and qualitative research on barriers and facilitators to midlife PA, published 2009 – 2019, searching Web of Science, MEDLINE, PsycINFO, CINAHL and SPORTDiscus. Twenty papers were identified for inclusion from 5959 studies (seventeen quantitative, three qualitative). Thematic synthesis was used for identifying barriers and facilitators.

**Findings:** The analysis revealed that while time was frequently cited as a barrier, psychological, social and lifestyle factors were identified as key themes in explaining PA participation. Psychological factors was also identified as a strong theme in facilitating PA participation, including social and emotional aspects. The review identified that most studies on midlife comprised of female populations. The majority used large cohort datasets with relatively narrow scope of measurement. A dearth of evidence on male populations was revealed.

**Discussion:** The need for qualitative research on barriers and facilitators to PA during midlife for both men and women was identified. Early midlife may merit separation, as midlife currently spans a timeframe with significantly different physical, psychological and social changes at each end. Accurate identification of PA barriers and facilitators is crucial to designing effective interventions.

11:17 - 11:29

## OBJECTIVE and Subjective Impulsivity Differentially Moderate Within- and Between-Person Associations between Exercise and Drinking

L. Najjar<sup>1</sup>, L. Leasure<sup>2</sup>, C. Henderson<sup>3</sup>, D. Francis<sup>2</sup>, C. Neighbors<sup>2</sup>

<sup>1</sup>Coventry University, United Kingdom

<sup>2</sup>University of Houston, United States

<sup>3</sup>Sam Houston State University, United States

**Background:** Evidence suggests that there is a positive between-person association between alcohol use and physical activity. However, the few studies examining the nature of this relationship at the within-person level have yielded mixed findings and only a handful have incorporated the potential moderating role of impulsivity. Therefore, the current study assessed the effects of both subjective and objective impulsivity on the within- and between-person relationships between alcohol use and physical activity among young adults.

**Methods:** In this longitudinal design, we recruited 250 university students (18 - 25 years) from two universities in the United States. Participants were asked to self-report their daily drinking and physical activity over three weeks. In addition, physical activity was recorded objectively through a smartphone app. Subjective impulsivity was evaluated using the UPPS-P scale and objective impulsivity was measured using the Balloon Analogue Risk Task. Data was analysed in SAS using multilevel modeling approaches. **Findings:** Results revealed that within- and between-subject physical activity-drinking associations were differentially moderated by objective impulsivity and by the various facets of subjective impulsivity. While positive urgency significantly moderated the within-person association between drinking and self-reported moderate physical activity, lack of perseverance moderated the within-person association between drinking and objective physical activity time, and negative urgency moderated the between-person association between drinking and physical activity intensity. **Discussion:** Impulsivity, whether measured objectively or subjectively, significantly moderates the physical activity-drinking relationship. Notably, this effect operates differently when predicting variation in behavior within participants as compared to predicting variation in behavior between participants.

## Identification of psychological profiles among overweight patients: what links with depression and well-being?

N. Plasonja<sup>1</sup>, M. Dubourdeaux<sup>2</sup>, G. Décamps<sup>1</sup>

<sup>1</sup>University of Bordeaux, France

<sup>2</sup>PiLeJe, France

**Objective:** Obesity is associated with numerous physical and psychological complications. Even though some studies have shown that specific perceptions and cognitions (stress, body satisfaction, self-esteem and self-efficacy) can predict depression and well-being in overweight individuals, a few explored the existence of certain psychological profiles among these individuals. Therefore, the aim of this study was to identify profiles of psychological functioning in overweight patients.

**Methods:** Cross-sectional data were collected from the ESTEAM cohort which includes assessments of eating self-efficacy, well-being, depression, physical hunger, self-esteem, body satisfaction and perceived stress in overweight patients. Due to the small size of the male sample (18%), hierarchical cluster analysis (Ward method), k-means and analysis of variance (ANOVA) were performed on an all-female sample (N=1427, mean age=44.4, SD=11.26; mean BMI=32.26 kg/m<sup>2</sup>, SD=5.63).

**Findings:** Cluster analysis highlighted the existence of three profiles. Cluster 1 (n=311): healthy psychological profile &#40;low physical hunger and perceived stress, high self-esteem, body satisfaction and eating self-efficacy&#41;; Cluster 2 (n=629): appearance dissatisfaction profile &#40;low appearance self-esteem, intermediate scores on other scales&#41;; and Cluster 3 (n=487): psychological difficulties profile &#40;opposite to Cluster 1&#41;. ANOVAs showed that Cluster 1 had the lowest depression scores and the highest well-being scores, conversely to Cluster 3 ( $p < 0.001$ ). Cluster 2 reported intermediate scores of depression and well-being.

**Discussion:** Results suggest that levels of depression and well-being are linked to the three identified profiles. Nevertheless, their longitudinal assessment and evolution should be taken into account in future research and in larger male samples.

11:41 - 11:53

## Emotion regulation and perfectionism: The mediating role of different eating patterns on eating disorder symptoms

T. Mohoric<sup>1</sup>, A. Pokrajac-Bulian<sup>1</sup>, P. Anic<sup>1</sup>, M. Kucic<sup>1</sup>, N. Damjanic<sup>1</sup>, P. Mohovic<sup>1</sup>

<sup>1</sup>University of Rijeka, Faculty of Humanities and Social Sciences, Department of Psychology, Rijeka, Croatia

**Background:** Perfectionism and emotion regulation are significantly associated with eating disorder symptoms in adolescents and are implicated as risk and maintaining factors. In our research we tested the mediating role of cognitive eating patterns in the relationship between emotion regulation, perfectionism and eating disorder symptoms.

**Methods:** A total of 482 adolescents (246 girls and 236 boys; mean age: 15.00) participated in this study. Participants completed questionnaires assessing difficulties in emotion regulation, perfectionism, cognitive eating patterns, and disordered eating, along with the data about weight, height, and other demographic variables. BMI was calculated and expressed as a percentile (2.8% were underweight, 74% normal weight, 12.9 % overweight and 10.3% obese).

**Findings:** The results indicated that cognitive restraint, emotional and uncontrolled eating mediated the relationship between emotion (dis)regulation and perfectionism with eating disorder symptoms, with cognitive restraint having the strongest path coefficients. Adolescents with emotion regulation difficulties reported more emotional and uncontrolled eating. Furthermore, emotional regulation was also directly related to eating disorder symptoms. On the other hand, perfectionism showed weaker relations with cognitive eating patterns.

**Discussion:** Elevated self-reported perfectionism is frequently found in individuals with eating disorders (Egan et al., 2011) but our results suggest that emotional regulation may be more important in the explanation of eating disorders. When adolescents experience both poor emotion regulation and emotional or uncontrolled eating, risk for experiencing concerns about weight and a range of disordered eating symptoms may be higher. Treatment and preventive interventions in adolescents should focus on emotional regulation.

**Funding:** UNIRI project (uniri-drustv-18-63)

11:53 - 12:05

## Trait vs. state sensitivity to physiological signals of satiation and hunger: Two construct validity studies

A. Palascha<sup>1</sup>, E. van Kleef<sup>1</sup>, E. de Vet<sup>1</sup>, H.C. van Trijp<sup>1</sup>

<sup>1</sup>Wageningen University & Research, Netherlands

**Background:** The ability to perceive bodily signals of satiation and hunger is key for the self-regulation of food intake. Measuring these competences in large and diverse populations or under naturalistic settings requires reliance on valid self-reports. In this research we tested the construct validity of two newly developed self-report measures of Sensitivity to physiological signals of Satiation (SS) and Sensitivity to physiological signals of Hunger (SH). **Methods:** In two pre-registered cross-sectional studies, we examined the association of SS, as measured under ecologically valid conditions, with the incidental ability to perceive the outset of satiation (satiation threshold), as measured with the water load test in the laboratory (Study 1) and the association of SH with the incidental ability to perceive the outset of hunger (hunger threshold), as measured with the preload test in a semi-controlled setting (Study 2). Correlations with a generic self-report of interoceptive awareness were also examined. Males and females 19-68y (n = 113) participated in Study 1, while in Study 2 we recruited females between 18-29y (n = 107). Data were analysed with multiple linear regression. **Findings:** SS was not associated with satiation threshold (Study 1) and SH was not associated with hunger threshold (Study 2). MAIA was not associated with the thresholds either, but was positively associated with SS and SH, providing only preliminary evidence for their construct validity. **Discussion:** We conclude that in the domain of eating-related interoceptive abilities, caution is needed when using self-reported competences to make inferences about incidental, momentary behaviours and vice versa.

12:05 - 12:17

## Compliance to ecological momentary assessment as behavioural indicator of psychopathology: Results from a representative sample

H. Reich<sup>1,2</sup>, J. Meurer<sup>2</sup>, C. Voss<sup>2</sup>, K. Beesdo-Baum<sup>2</sup>, L. Pieper<sup>2</sup>

<sup>1</sup>German Depression Foundation, Germany

<sup>2</sup>Technical University Dresden, Germany

**Background:** Ecological momentary assessment (EMA) provides micro-level insights into psychopathology and participants' daily experiences. Whilst low compliance with assessments or systematically missing data can bias results and inferences drawn from analyses, the extent of compliance with assessments also represents a behavioural indicator of psychopathology. We aimed for 1) examining psychopathology-related variables as predictors of compliance in adolescents and young adults, and 2) understanding the effect of excluding participants from analyses due to low compliance.

**Methods:** A random community-based sample from the BeMIND study (N=1,180, age=14-21 years) completed a standardized diagnostic interview (DIA-X-5/D-CIDI) and four consecutive days of EMA with up to eight assessments per day (mean compliance: 81.4%). Person-level and assessment-level compliance served as outcomes for the present analysis.

**Results:** Psychopathology predicted compliance on the person and assessment level. E.g., person-level Substance Use Disorder ( $p=.001$ ) and EMA mean alcohol consumption ( $p=.001$ ) predicted compliance negatively. Persons with higher EMA mean depressiveness were less compliant ( $p<.001$ ), but feeling momentarily more depressed predicted higher compliance with the following assessment ( $p=.004$ ). Time effects were estimated to introduce random error rather than bias.

**Discussion:** To our knowledge, this is the first epidemiological study investigating clinical predictors of compliance to EMA. The compliance behaviour corresponded to clinical characteristics (e.g. giving up or missing out on activities). Participants with low compliance differed significantly from persons with high compliance and person-level predictors were likely to introduce bias. Rather than excluding participants with low compliance, influential predictors of compliance need to be measured and included in analyses.

12:17 - 12:29

## Who practices mindfulness after an intervention? Latent profile analyses of social cognitive responses

M. Beattie<sup>1</sup>, H. Konttinen<sup>1</sup>, S. Volanen<sup>1,2</sup>, N. Hankonen<sup>1</sup>

<sup>1</sup>University of Helsinki, Finland

<sup>2</sup>Folkhälsan Research Center, Finland

**Background:** As group averages mask variance in the responses to health interventions, exploring different types of responses may complement intervention process evaluations. This study aims to explore different subgroups in terms of social cognitive responses according to The Reasoned Action Approach and trajectories of health behavior change, i.e., mindfulness practice frequencies.

**Method:** We used data from a school-based mindfulness intervention (N=1646) within the Healthy Learning Mind cluster-randomized trial to investigate profiles of social cognition, i.e., outcome expectations, perceived norms, self-efficacy, and intention, after the intervention at 10 weeks and mindfulness practice at 0, 10, and 26 weeks. Latent profile analyses were performed with Mplus Version 7.

**Results:** Analyses indicated a solution of five latent groups for both social cognition and practice. The five social cognition profiles included groups more uniformly inclined or disinclined towards mindfulness practice, but also groups varying in between. For example, the largest group (40.2%) were otherwise positively inclined towards mindfulness practice, but were uncertain about practicing in the future. The strongest differentiating theoretical construct in the groups was perceived friends' behavior. The five practice profiles included various increasing, stable, and decreasing profiles, with the largest (52.1%) being those with low practice from start to finish. Some demographic differences were found among the profiles.

**Discussion:** Looking for patterns in intervention responses is potentially useful for better understanding different responses evoked by the intervention. This knowledge is important as it could suggest ways to tailor universal interventions for subgroups with different receipt profiles.

# Interventions in Chronic Disease

11:05 - 12:35

Jenny Groarke



11:05 - 11:17

## A psychosocial intervention for individuals with chronic kidney disease: a pilot randomised controlled trial

Z. Jenkins<sup>1,2</sup>, E. Tan<sup>3</sup>, E. O'Flaherty<sup>1</sup>, S. Knowles<sup>3</sup>, D. Thompson<sup>4</sup>, C. Ski<sup>5</sup>, S. Rossell<sup>3</sup>, C. Coco<sup>1</sup>, F. Ierino<sup>1</sup>, H. Gock<sup>1</sup>, D. Castle<sup>1,2</sup>

<sup>1</sup>St. Vincent's Hospital, Melbourne, Australia

<sup>2</sup>University of Melbourne, Australia

<sup>3</sup>Swinburne University of Technology, Australia

<sup>4</sup>Queens University, United Kingdom

<sup>5</sup>Queen's University, United Kingdom

**Background:** The aim of the current study was to evaluate the efficacy of a pilot psychosocial intervention, the Kidney Optimal Health Program (KOHP), in reducing symptoms of depression and anxiety in individuals with End Stage Kidney Disease (ESKD).

**Methods:** 57 patients with stage 4 or 5 Chronic Kidney Disease (CKD) were randomised to either an eight-session (plus booster) psychosocial intervention program (held weekly) or to usual care. All participants completed assessments of depression, anxiety, and other measures of psychosocial health at baseline and at 3-month, 6-month and 12-month follow-up. A two-way repeated-measures ANOVA was used to compare the control and intervention group on outcomes over time.

**Findings:** The patients who completed the KOHP intervention demonstrated significantly decreased depression over the 12-month follow-up compared to the usual care group [significant group by time interaction ( $F_{2,07}, 58.05 = 4.74, p = 0.012$ ) and a significant main effect of time ( $F_{2,03}, 58.05 = 4.52, p = 0.014$ )].

**Discussion:** The observed results of this pilot evaluation provide preliminary support for the efficacy of the KOHP intervention in significantly improving depressive symptoms in patients with ESKD. Further investigation through a fully powered randomised controlled trial is warranted.

## Pilot of an intensive community-based intervention for people with type 2 diabetes in Kupang, Indonesia

J. Green<sup>1,2</sup>, A.W. Widayanti<sup>3,4</sup>, P. Norris<sup>4</sup>, S. Heydon<sup>4</sup>

<sup>1</sup>Health Research Institute, University of Limerick, Ireland

<sup>2</sup>School of Allied Health, University of Limerick, Ireland

<sup>3</sup>Gadjah Mada University, Indonesia

<sup>4</sup>University of Otago, New Zealand

**Background:** This pilot study aimed to assess the acceptability of an intensive community-based intervention, and to get a preliminary estimate of the effect size for the intervention compared to usual care for people with type 2 diabetes in Kupang, Indonesia.

**Methods:** Pilot of a cluster randomised trial involving sixty-seven participants. Participants were recruited from four Primary Health Centres (PHCs), and were allocated into groups (intervention: 36; control: 31) based on the PHCs they were registered in. The 3-month intervention was developed based on our previous qualitative work and consisted of weekly group activities including physical activity, cooking classes and education. Control was usual care from the PHC. The outcomes measured were change in HbA1c, medication adherence, and self-management behaviours.

**Results:** Participants were 60% female, mean age 57, and had diabetes for an average of 4.5 years. Groups did not differ at baseline. Unexpectedly, both intervention and control groups made statistically and clinically significant improvements in HbA1c (intervention from 8.26%±1.89 to 7.84%±1.82; control from 8.35%±2.60 to 7.95%±2.53). Little change was observed in medication adherence and self-management behaviours. Participants positively engaged in the intervention.

**Conclusions:** The effect of the intensive community-based intervention did not differ from usual care. However, both groups made clear improvements in HbA1c, and some anecdotal evidence suggested that the project triggered changes in usual care. The intervention itself was well liked, but further work in a larger sample, monitoring of the control clusters, and work to understand the mechanism that lead to the HbA1c improvement will be required.

## Personalised adherence intervention improves photoprotection amongst adults with Xeroderma Pigmentosum: results from the XPAND trial

J. Walburn<sup>1</sup>, S. Norton<sup>1</sup>, R. Sarkany<sup>2</sup>, K. Sainsbury<sup>3</sup>, V. Araujo Soares<sup>3</sup>, M. Morgan<sup>1</sup>, M. Canfield<sup>1</sup>, L. Foster<sup>4</sup>, J. Heydenreich<sup>5</sup>, P. McCrone<sup>6</sup>, A. Mander<sup>7</sup>, F. Sniehotta<sup>3</sup>, H.C. Wulf<sup>8</sup>, J. Weinman<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

<sup>2</sup>Guy's and St. Thomas' NHS Foundation Trust, United Kingdom

<sup>3</sup>Newcastle University, United Kingdom

<sup>4</sup>GSTT, United Kingdom

<sup>5</sup>Bispebjerg Hospital, United Kingdom

<sup>6</sup>University of Greenwich, United Kingdom

<sup>7</sup>Cardiff University, United Kingdom

<sup>8</sup>Bispebjerg Hospital, University of Copenhagen, Denmark

**Background:** Poor adherence to photoprotection for people with the rare condition of Xeroderma Pigmentosum (XP) can be fatal. This study tested the efficacy of a personalised adherence intervention (XPAND) to reduce the level of ultraviolet radiation (UVR) reaching the face, by improving photoprotection activities in adults with XP.

**Methods:** A two-armed parallel groups RCT, where 16 patients with sub-optimal adherence were randomised to receive XPAND either in 2018 or 2019 (the delayed-intervention control group). XPAND, designed using Intervention Mapping, involved seven sessions 1-to-1 with a facilitator, using behaviour change techniques and materials to target individual barriers to photoprotection. The primary outcome (average daily UVR dose to the face (D-to-F)) was calculated by combining objective UVR exposure with photoprotection activities recorded on a daily diary, measured between groups across 21 consecutive days in June-July 2018 and within group in 2019.

**Findings :** XPAND group (n=6) had significantly lower UVR reaching the face [0.04 (SE 0.01) Standard Erythmal Dose (SED)] compared to control (n=7) [0.44 SED (SE 0.07)] (SMD=-0.279, p<0.001). Pre-post intervention difference in D-to-F within the delayed-intervention group (2018/19) was not statistically significant [0.44 SED (SE 0.07); 0.42 SED (SE 0.11) (SMD=-0.047, p=0.48), however the percentage of time outdoors better protected, increased from 47% (SE 14) to 75% (SE 11) (SMD=0.28, p<0.05).

**Discussion:** XPAND improves photoprotection and lowers UVR D-to-F, demonstrating that a personalised behavioural intervention can have tangible effects on a clinically relevant outcome. This has implications for skin cancer prevention in XP and other, more common, at-risk groups.

## Let's not reinvent the wheel– adapting the Adherence improvement self-management Strategy (AIMS) to Heart Failure

J. Dam<sup>1</sup>, A. Janssen<sup>1</sup>, T. Eijsvogels<sup>2</sup>, G. Westert<sup>1</sup>, M. de Bruin<sup>1</sup>

<sup>1</sup>Radboud Institute for Health Sciences, Department of IQ Healthcare, Radboud University Medical Center., Netherlands

<sup>2</sup>Radboud Institute for Health Sciences, Department of Physiology, Radboud University Medical Center., Netherlands

**Background:** The theory-based Adherence Improvement self-Management Strategy (AIMS) is feasible, effective and cost-effective in supporting medication adherence for patients with HIV. AIMS-HIV is comprised of 1-to-1 nurse-patient conversation during routine clinical visits, with electronic medication monitoring and feedback as core components. The aim of this study was to adapt AIMS to Chronic Heart Failure (AIMS-CHF) for supporting treatment adherence and explore its acceptability.

**Methods:** AIMS was adapted using Intervention Mapping, by systematically identifying elements that require adaptation, with the preservation of core programme components. A literature review was conducted and four advisory board sessions (2-4 hours per session) with four patients and six nurses were organized to inform the adaptation process.

**Results:** AIMS-CHF became a multiple behaviour intervention, including adherence to medication, physical activity and symptom monitoring. The key determinants were largely similar to those already targeted in AIMS-HIV (e.g., illness perceptions, attitude, self-efficacy, habits, and self-regulatory skills), so intervention methods and strategies could be retained. Findings from the literature review and advisory boards allowed making informed decisions about the modification and translation of the AIMS-materials to CHF (e.g., modifying specific beliefs, barriers/solutions, visuals, and monitoring devices).

**Conclusion:** The building blocks of AIMS were generally appropriate for supporting the self-management of CHF, although additional behaviours, content modifications, and other monitoring devices were required. The Intervention Mapping approach, complemented with the literature (in particular review and qualitative studies) and advisory boards, allowed systematic adaptation of AIMS to CHF and assess its acceptability to patients and nurses.

11:53 - 12:05

## Does self-compassion facilitate change in psychological functioning and well-being 12 months after bariatric surgery?

J. Pyykkö<sup>1,2</sup>, Ö. Aydin<sup>3</sup>, V. Gerdes<sup>3</sup>, Y. Acherman<sup>4</sup>, A. Groen<sup>3</sup>, A. van de Laar<sup>4</sup>, M. Nieuwdorp<sup>3</sup>, R. Sanderman<sup>1,2</sup>, M. Hagedoorn<sup>1,2</sup>

<sup>1</sup>University of Groningen, Netherlands

<sup>2</sup>University Medical Center Groningen, Netherlands

<sup>3</sup>Amsterdam University Medical Center, Netherlands

<sup>4</sup>Spaarne Gasthuis, Netherlands

**Background:** Despite being an effective treatment for severe obesity, bariatric surgery (BS) does not lead to similar outcomes for all patients. Self-compassion, being kind and forgiving towards the self, might help BS patients to adhere to their treatment recommendations and thus facilitate weight loss. This longitudinal study investigated whether patients' psychological well-being and functioning (depression, quality of life, body image satisfaction, self-efficacy in eating and exercising and food cravings) improved 12 months after BS and whether high self-compassionate patients improved more on the psychological outcomes and weight.

**Methods:** Bariatric patients (n= 126, 77.8% female, 46.4±10.8 years) completed the Self-compassion Scale, Center for Epidemiology Studies Depression Scale, Impact of Weight on Quality-of-Life questionnaire, among other questionnaires, and weight assessment preoperatively and 12 months postoperatively. Repeated measures t-tests and multivariate regression analyses were used to test the hypotheses.

**Results:** Patients BMI, depression and food cravings decreased significantly after surgery while quality of life, body image satisfaction and self-efficacy to exercise improved. Higher self-compassion was associated with lower postoperative depression, greater quality of life, body image satisfaction and better self-efficacy for eating behaviours (p-values <.05) but not with postoperative BMI, self-efficacy to exercise or food cravings.

**Discussion:** Even though self-compassion was not directly associated with lower postoperative BMI, it had a positive relationship with patients' postoperative wellbeing and functioning, which could, in turn, impact long-term psychological and physical health by helping patients to adopt healthier lifestyles. Further work regarding the role of self-compassion on long-term health outcomes would be worthwhile.

12:05 - 12:17

## Does acceptance of disability help improving psychological well-being among mobility impaired individuals?

L. Alčiauskaitė<sup>1</sup>, L. Šinkariova<sup>1</sup>

<sup>1</sup>Vytautas Magnus University, Lithuania

**Introduction:** Psychological well-being is a construct that subsumes other constructs such as satisfaction with life and happiness. Having a mobility disability might negatively affect individual's subjective outcomes of psychological well-being, so it becomes important to identify the role of acceptance of disability.

This study aimed to investigate the importance of acceptance of disability on happiness and satisfaction with life, perceived by mobility impaired individuals.

**Methods:** The sample consisted 321 mobility impaired individuals (132 men and 189 women), aged between 18 and 80. Their adjustment was measured using Acceptance of Disability scale – Revised (Groomes & Linkowski, 2007), which contains four subscales measuring four aspects of acceptance: 1) transformation, 2) containment, 3) enlargement, 4) subordination. Satisfaction with life was measured using Satisfaction with Life Scale (Diener et al., 1985) and happiness was assessed with Subjective Happiness Scale (Lyubomirsky, Lepper, 1999).

**Results:** Acceptance of disability and its aspects were significantly related to individual's happiness. Implemented regression analysis identified enlargement, subordination and containment as main significant predictors of individual's subjective happiness ( $R^2=.57$ ,  $p<.001$ ). Similar results were received for satisfaction with life – another regression analysis revealed enlargement, subordination and containment as significant predictors of satisfaction with life ( $R^2=.58$ ,  $p<.001$ ).

**Conclusions and implications:** These results confirm acceptance of disability being very important to psychological well-being – it is significantly related to subjective happiness and satisfaction with life for people with mobility disabilities. Interventions and activities focused on improving acceptance might improve the outcomes of psychological well-being for mobility impaired individuals during and post-rehabilitation period.

12:17 - 12:29

## Factors associated with uptake and adherence to a VLCD in non-alcoholic fatty liver disease patients

L. Avery<sup>1,2</sup>, J. Scragg<sup>3,4</sup>, S. Cassidy<sup>3,5</sup>, L. Haigh<sup>6</sup>, M. Boyle<sup>3</sup>, Q. Anstee<sup>2,6</sup>, S. McPherson<sup>2,6</sup>, K. Hallsworth<sup>2,6</sup>

<sup>1</sup>Teesside University, United Kingdom

<sup>2</sup>Translational and Clinical Research Institute, Faculty of Medical Sciences, Newcastle University, United Kingdom

<sup>3</sup>Newcastle University, United Kingdom

<sup>4</sup>Newcastle NIHR Biomedical Research Centre, Newcastle Upon Tyne Hospitals NHS Foundation Trust, Afghanistan

<sup>5</sup>Faculty of Medicine and Health, University of Sydney, Australia

<sup>6</sup>Newcastle NIHR Biomedical Research Centre, Newcastle Upon Tyne Hospitals NHS Foundation Trust, Newcastle Upon Tyne, United Kingdom

**Background:** Clinical guidelines recommend weight loss to successfully manage non-alcoholic fatty liver disease (NAFLD). However, the majority of patients find dietary behaviour change to initiate and sustain weight loss a significant challenge. We identified factors associated with uptake and adherence to a very low calorie diet (VLCD) to manage NAFLD.

**Methods:** 23 patients with advanced NAFLD who were enrolled in a VLCD (~800 kcal/day) took part in a qualitative interview. Interviews were audio recorded, transcribed verbatim and thematically analysed.

**Findings:** Five main themes were identified from the data. A desire to achieve rapid weight loss to improve liver health and prevent disease progression was the most salient facilitator to uptake. Early and significant weight loss; accountability to clinicians providing support; personalised feedback and the desire to receive positive reinforcement from a consultant were facilitators to adherence. Practical and emotional support from friends and family members were important for self-regulation. Irregular working patterns that prevented attendance at appointments were barriers to adherence and completion of the intervention.

**Discussion:** Uptake and adherence to a VLCD in patients with advanced NAFLD relies on early and rapid weight loss. Personalised feedback and positive reinforcement in the clinical setting combined with ongoing social and practical support from friends and family members is important for self-regulation. Findings support those identified in patients with type 2 diabetes using a VLCD to achieve diabetes remission and highlight the importance of intensive behavioural support during the early stages of dietary behaviour change using a VLCD approach.

# Caregivers' outcomes and well-being

11:05 - 12:35

Evangelis Karademas



11:05 - 11:17

## Do informal caregivers expect to die earlier?: Findings from a population-based, longitudinal study from Germany

L. Zwar<sup>1</sup>, H. König<sup>1</sup>, A. Hajek<sup>1</sup>

<sup>1</sup>University Medical Center Hamburg-Eppendorf, Germany

**Background.** Subjective life expectancy reveals an individual's subjective expectations of survival and is predictive of health and wellbeing. It could give insight into an informal caregiver's perception of care provision and be an early indicator of the impact informal care can have on aforementioned outcomes. Therefore, this study analyzes informal caregivers' subjective life expectancy when transitioning into and out of informal caregiving.

**Methods.** A longitudinal study was conducted with data from the German Ageing Survey (waves 2008, 2011, 2014, and 2017). Informal caregiving was assessed as providing care for individuals in poor health. Subjective life expectancy was measured by asking participants to give the maximum age they expect to reach. Asymmetric fixed effects regression analysis was used, thus, only participants with a transition in the analyzed variables were included. In total, 1,219 transitions into, and 1,198 transitions out of informal caregiving were observed. Sociodemographic information, health and lifestyle factors were controlled for. Differences based on gender and employment status were analyzed.

**Results.** Main findings of adjusted FE regression analyses indicated a significant decrease of subjective life expectancy when transitioning into informal caregiving ( $b=-.63$ ,  $p<.001$ ). No significant change was found when transitioning out of informal caregiving ( $b=.07$ ,  $p=.67$ ).

**Conclusion.** The study's findings suggest that caregivers expect to die earlier when transitioning into informal caregiving. This perception of reduced life expectancy could be an early indicator for needing more support especially at the beginning of caregiving. Knowledge of a caregiver's expected life expectancy could thus help to prevent further negative consequences.

11:17 - 11:29

## Quality of life among lymphoma patients' natural caregivers

D. Muccia<sup>1</sup>, N. Cantisano<sup>1</sup>, G. Compaci<sup>1,2</sup>, G. Laurent<sup>2,3</sup>, F. Sordes<sup>1</sup>

<sup>1</sup>Centre d'Études et de Recherches en Psychopathologie et Psychologie de la Santé, Université Toulouse Jean Jaurès, France

<sup>2</sup>Service d'hématologie, Institut Universitaire du Cancer de Toulouse-Oncopole, France

<sup>3</sup>INSERM UMR 1027, Équipe 5 "Equity", France

Patients are not the only ones affected by cancer, families are also concerned. The family member taking care of the patient, known as the natural caregiver, is in 70% of cases, the patient's spouse. The challenge when facing cancer (e.g., treatments, symptoms, consequences) is potentially experienced as a burden and has an impact on the couple's quality of life.

We examined caregivers' burden and quality of life and their psychosocial determinants using a mixed methodology. 50 lymphoma patients' caregivers, aged 59.98 (+ 13.31) completed the HADS, SF-36, IPQ-R, UCLA, FDCT-N and Zarit questionnaires. Furthermore, 6 semi-structured interviews were conducted. Patients were in remission for at least 6 months

First, linear regressions indicate representations about the treatment are strong predictors of the mental quality of life, explaining 27.8% of the variance. Secondly, depression symptomatology and representations about the consequences of the lymphoma are strong predictors of caregiver burden, explaining 41.3% of the variance. Semi-structured interviews substantiated these results.

Results highlight the impact of psychosocial factors, such as depression and illness representations upon caregivers' quality of life and burden. Further research will study the link between psychosocial factors and couples' dyadic coping over caregivers' quality of life with a final sample of 180 participants.

11:29 - 11:41

## Emotio-spatial distances in informal care: Evidence from a cross-sectional study in Israel

E. Bei<sup>1</sup>, K. Mashevich<sup>1</sup>, N. Vilchinsky<sup>1</sup>

<sup>1</sup>Bar-Ilan University, Israel

**Background:** As societal dependence on informal care continues to grow, it is becoming increasingly important to identify the determinants of willingness to care and caregiver outcomes, to support caregivers in sustainable ways. In this presentation we will shed light into how attachment to the care recipient as well as environmental contextual factors such as the geographic setting, could shape the caregiving experience and affect willingness to care and caregiver burden.

**Methods:** A cross-sectional survey was conducted among caregivers who provide unpaid care to a relative or friend with a chronic illness (N = 164). Attachment to the care recipient was assessed using the Experiences in Close Relationships Scale. A self-report questionnaire constructed to assess geographical barriers to informal care provision. Outcome measures were assessed using the Willingness to Care Expectations Scale and Caregiver Burden Inventory.

**Findings:** Preliminary findings revealed that the higher caregivers' avoidant attachment to the care recipient was, the higher were their levels of burden. Caregivers who lived a great distance from their care recipients were less willing to provide care in the future. In addition, geographic proximity to support services was associated with carers' willingness to receive these services. Despite reporting their need of counselling services, carers living in peripheral areas often felt discouraged from using them, due to the travel distance.

**Discussion:** This study provides a unique insight into personal dispositional and environmental characteristics that could shape caregiving. Study findings will provide evidence for the development of tailored interventions, to promote the sustainability of informal care.

11:41 - 11:53

## Sleep characteristics among informal caregivers of stroke survivors: duration, satisfaction and quality

F. Teixeira<sup>1</sup>, A. Moura<sup>1,2</sup>, E. Alves<sup>1</sup>

<sup>1</sup>EPIUnit – Institute of Public Health, University of Porto, Portugal

<sup>2</sup>Centre for Research and Intervention in Education (CIIE), Faculty of Psychology and Education Sciences, University of Porto, Portugal

**Background:** Sleep disturbances are common among informal caregivers, being associated with poor health outcomes. We aimed to assess changes in duration, satisfaction and sleep quality of informal caregivers of stroke survivors, according to age, sex and socioeconomic factors.

**Methods:** Informal caregivers (n=126) of stroke survivors hospitalized between September 2018 and August 2019 in all Stroke Units of the North of Portugal were invited to participate in the study, 18 months post-stroke. Sociodemographic and sleep characteristics (duration, satisfaction and quality) were collected through structured questionnaires. Odds ratios and 95% confidence intervals (95%CI) were estimated through logistic regression, adjusted for age and sex. Answers to open-ended questions were synthesized using content analysis.

**Findings:** Informal caregivers reported sleeping, on average (SD), significantly less hours than before providing care to stroke survivors (7.0 (1.7) vs. 6.4 (1.8);  $p < 0.001$ ). Since the beginning of care, caregivers' satisfaction with their sleep decreased from 71.2% to 43.9%. Changes in sleep quality were reported by 67.5% of participants being mainly related to difficulties in falling asleep and constant interruptions during sleep. Although 31.9% of caregivers reported taking medication to sleep, only 6.4% were prescribed after beginning care provision. After adjustment, changes in sleep quality were less frequently reported by participants who returned to work (OR=0.34; 95%CI:0.16-0.76) and with a monthly income above 1000€ (OR=0.29; 95%CI:0.13-0.66).

**Conclusions:** A decline in sleep characteristics of informal stroke caregivers, 18 months post-stroke, was observed. More research is needed to improve evidence-based data supporting the development and implementation of health promotion strategies.

## The use of intensive longitudinal methods in informal dementia care: a scoping review

P. Gérardin<sup>1</sup>, E. Wawrziczny<sup>1</sup>, P. Antoine<sup>2</sup>

<sup>1</sup>SCALAB, University of Lille, France, France

<sup>2</sup>Lille 3, France

**Background.** The daily life of informal caregivers supporting individuals with dementia widely varies throughout the day and week, but most of our work relies on retrospective questionnaires. As an answer, an increasing number of studies have used intensive longitudinal methods (ILMs, e.g., ecological momentary assessment) to get closer to their daily experience and investigate the individual variability in informal care. The objective of this review was to synthesize the literature on the use of ILMs in the context of informal caregiving for dementia patients.

**Methods.** The present work consisted of a scoping review. PsycInfo, Pubmed, WebOfScience, and Scopus databases were searched. PRISMA-ScR guidelines were followed.

**Findings.** Following the screening process of more than 800 studies, we highlighted different uses of ILMs in 32 studies. The majority of studies ( $k = 17$ ) used ILMs to explore associations between variables, mainly the tasks and difficulties faced when providing care, positive and negative affect, and subjective burden. Other studies focused on intervention effectiveness (i.e., respite care,  $k = 7$ ), feasibility and methodology ( $k = 4$ ), or used ILMs as intervention tools ( $k = 4$ ).

**Discussion.** ILMs represent a promising opportunity for informal caregiving research by getting closer to the intra-individual variability. For now, this field of research remains at its infancy and does not seem to have reach its full potential as it has in other fields. Nevertheless, it already helps in the understanding of dynamic processes of informal care, such as daily variability and interplay between burden, affect, and care-related challenges.

12:05 - 12:17

## Interventions in Europe to support healthcare professionals after the occurrence of adverse events

J.J. Mira<sup>1</sup>, S. Tella<sup>2</sup>, R. Strametz<sup>3</sup>

<sup>1</sup>Universidad Miguel Hernández, Spain

<sup>2</sup>Faculty of Health and Social Care, Finland

<sup>3</sup>RheinMain University of Applied Sciences, Germany

**Background.** Patient safety is a priority for healthcare systems across the world. Unfortunately, adverse events (AE) occur initiating a domino effect with professionals (second victims, SV) also suffering emotional disturbance from the knowledge of having harmed their patients. Over the past decade, various interventions have been implemented to support the SVs, most of them outside Europe. This study aimed to describe what is being done in Europe to support SVs.

**Methods:** A cross-sectional study was conducted in September 2020. Partners (N=67) from 28 European countries were invited to answer. All them integrated into the ERNST Consortium, funded by COST Association (CA19113) aimed for promoting the study of the SV phenomenon.

**Findings:** A total of 23 (34%) participants conducted studies on SVs, and 21 (31%) were being involved in the design of interventions to support SVs. They were representing 16 countries (55%). 17 (25%) participants were involved in the implementation of interventions based on a peer-support approach. Open disclosure, legal reforms and psychological first-aid support to the SVs were the topics analyzed. There are relevant differences across Europe in the implementation of interventions to support SVs due to taboo surrounding mistakes and the blame culture. The role of the health psychologist in addressing this issue may be relevant, not only providing first-aid support, but also designing institutional programs and planning communications with the patient after suffering an AE.

# Impact of social support on hospitalisation risks, unplanned readmission and post-discharge mortality in chronic diseases

L. Bayer-Oglesby<sup>1</sup>, A. Zumbrunn<sup>1</sup>, N. Bachmann<sup>1</sup>, M. Widmer<sup>2</sup>, D. Zahnd<sup>3</sup>, C. Quinto<sup>4</sup>

<sup>1</sup>FHNW School of Social Work, Switzerland

<sup>2</sup>Swiss Health Observatory, Switzerland

<sup>3</sup>Bern University of Applied Sciences, Switzerland

<sup>4</sup>Swiss Tropical and Public Health Institute, Switzerland

## Background.

The impact of social status and social resources on health is well established. Social factors are also predictors of hospital admission, readmission and post-discharge mortality risks. We combined for the first time in Switzerland in anonymised form existing national inpatient and census data by record linkage to analyse associations between social situations, hospitalizations and outcomes for chronic diseases, including mental disorders.

**Methods.** Hospitalization risks were analysed with a population sample (N=1.2 million), unplanned readmissions and post-discharge mortality with an inpatient sample (N=987'552). Multivariate logistic regression models included indicators for social gradient (education), lack of social support (living alone) and financial resources (insurance class; inpatient sample only). All models controlled for sex, age, nationality and survey year, the inpatient models additionally for illness severity.

## Findings.

The risk for hospitalization for e.g. cardiovascular diseases was significantly higher for secondary 2 (OR 1.23, 95% CI: 1.19-1.27) or mandatory (1.29, 1.24-1.35) education compared to tertiary education. Also living alone increased the hospitalization risk (1.08, 1.05-1.11) compared to living with others. 30-day unplanned readmissions and 30-day post-discharge mortality showed similar patterns. Semi-private (0.83, 0.71-0.99) and private (0.89, 0.72-1.11) insurance status was associated with (significantly) lower risks for 30-day unplanned readmissions and 30-day post-discharge mortality (0.64, 0.51-0.80; 0.62, 0.45-0.85).

## Discussion.

When returning home after hospitalization, living alone may imply less immediate social support while private insurance probably indicates more resources to obtain support. Our findings suggest that the health system should provide adequate support for vulnerable patients with limited resources, thus increasing health equity.

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# COVID-19 related perceptions and behaviour

11:05 - 12:35

Marijn de Bruin



## Health Anxiety, Coping Strategies, and Psychological Well-being of Covid-19 patients and inpatients: A Longitudinal Study

S. Karaköse<sup>1</sup>, B. Akcinar<sup>1</sup>

<sup>1</sup>FMV Isik University, Turkey

The present study investigated how health anxiety, coping strategies, and psychological well-being changes over time among Covid-19 patients and inpatients. The Socio-Demographic and Health Information Form, Health Anxiety Inventory (HAI), Ways of Coping Strategies (WCQ), and Depression, Anxiety, and Stress Scale (DASS-42) were given to participants online. After the first wave, the survey link was again sent to the participants within 2 months. Participants consisted of 372 Covid-19 patients (48,8%) and 375 (50,2%) inpatients for first phase, and 264 (51,3%) Covid-19 patients and 251 (48,7%) inpatients for second phase between the ages of 18-87 from Turkey. Results demonstrated that even though both fear of illness ( $t(143)=2.22, p<.05$ ) and fear of negative consequences of an illness ( $t(143)=2.18, p<.05$ ) decreased over time among Covid-19 patients, there was no significant changes found for fear of illness ( $t(143)=2.22, p<.05$ ), and negative consequences of an illness among inpatients. Seeking refuge in fate ( $t(138)=5.84, p<.05$ ) and supernatural forces ( $t(138)=2.49, p<.05$ ) decreased over time among Covid-19 patients whereas an increase in seeking refuge in fate ( $t(364)=-3.58, p<.05$ ) and supernatural forces ( $t(364)=-3.45, p<.05$ ) was found among inpatients. The level of the depression ( $t(134)=-2.65, p<.05$ ), anxiety ( $t(134)=-4.10, p<.05$ ), and stress ( $t(135)=-2.00, p<.05$ ) decreased over time among Covid-19 patients whereas the level of depression ( $t(358)=0.87, p>.05$ ), anxiety ( $t(358)=1.53, p>.05$ ), and stress ( $t(358)=0.73, p>.05$ ) did not change among the inpatients. The findings highlighted the importance of prioritizing intervention program immediately after diagnosis for Covid-19 patients to minimize the psychosocial impact of Covid-19.

## News media framing of vaccination uptake and herd immunity: a content analysis

A. Lazic<sup>1</sup>, I. Zezelj<sup>1</sup>

<sup>1</sup>University of Belgrade, Serbia

**Background:** The media can frame vaccination uptake negatively (e.g., as “low” or “poor”), appealing to fear to motivate people to get vaccinated. However, according to the descriptive norms theory, this could backfire. Public communication should instead highlight positive static (“most people are vaccinated”) or dynamic norms (“more and more people are getting vaccinated”). Additionally, communicating herd immunity (if enough people have immunity through vaccination, the virus is contained) could signal the importance of high vaccination uptake.

**Methods:** We conducted a quantitative content analysis of all articles on vaccines and vaccination (N=160) published between July 1 and December 31, 2017 (during the measles outbreak) by nine highest-trafficked news websites in Serbia.

**Findings:** Half of the articles (53.75%) included vaccination rates, mentioning them 339 times. Vaccination rates were usually on a country- (41.30%) or city-level (31.56%) and sourced from national/local health experts and organizations (64.31%). Rates communicated both static (71.09%) and dynamic (28.91%) norms, which were negatively framed 72.61% and 68.37% of the time, respectively. The numerical value of the vaccination rate was not provided in 42.18% of the cases. Out of the 32 articles mentioning the term “herd/collective immunity”, 11 gave the full definition of this effect. The critical immunity threshold (e.g., 90-95% for measles) was provided in 37 articles.

**Discussion:** To report effectively and ethically, the Serbian online news media should focus readers’ attention on positive trends in vaccination and provide precise vaccination rate values. Information on vaccination uptake should be accompanied with an explanation of herd immunity through vaccination.

11:29 - 11:41

## Exploring the barriers and facilitators of physical distancing in the context of the COVID-19 pandemic

K. Farrell<sup>1</sup>, H. Durand<sup>1</sup>, J. McSharry<sup>1</sup>, O. Meade<sup>1</sup>, E. Kenny<sup>1</sup>, C. Noone<sup>1</sup>, G. Molloy<sup>1</sup>

<sup>1</sup>School of Psychology, National University of Ireland, Galway, Ireland

**Background** Physical distancing (keeping 2m between yourself and other people, avoiding crowded areas, and avoiding close contact with others) continues to be one of the most important preventative measures used to curb the transmission of the SARS-Cov-2 virus that causes Covid-19. Therefore, it is important to explore barriers and facilitators to physical distancing to help inform future public health campaigns. This study aimed to qualitatively explore barriers and facilitators of physical distancing in the context of the COVID-19 pandemic.

**Method** A qualitative interpretative design was employed. Semi-structured phone/web-based interviews were conducted with (n=25) participants aged 18+, living in the Republic of Ireland in September and October 2020. Sampling was purposive in terms of maximizing diversity along age, gender and socioeconomic status. Interviews were transcribed verbatim and analysed using an inductive thematic analysis.

**Results** Qualitative analysis identified seven main themes that related to barriers and facilitators of physical distancing: 1) Habituation to risk 2) Maintaining and negotiating close relationships 3) Loss of social interaction 4) Safety in retail and recreational settings 5) Being in control of the controllables 6) Confusion and uncertainty around government guidelines, and 7) Risk compensation to maintain well-being.

**Conclusion** Our study found that physical distancing can be made easy or more difficult by many internal and external psychosocial factors. Given the diversity in our sample, it is clear that the identified barriers and facilitators change depending on context and lifespan stage. Messaging targeting sub-groups of the population may benefit from considering the identified themes in this analysis.

## Adherence to physical distancing guidance in Ireland: A nationally representative analysis from the iCARE study

H. Durand<sup>1</sup>, S. Bacon<sup>2</sup>, M. Byrne<sup>1</sup>, K. Farrell<sup>1</sup>, E. Kenny<sup>1</sup>, K. Lavoie<sup>3</sup>, B. McGuire<sup>1</sup>, J. Mc Sharry<sup>1</sup>, O. Meade<sup>1</sup>, R. Mooney<sup>4</sup>, C. Noone<sup>1</sup>, L. O'Connor<sup>1</sup>, K. O'Flaherty<sup>4</sup>, G. Molloy<sup>1</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>Concordia University & CIUSSS-NIM, Canada

<sup>3</sup>UQAM/Hopital du Sacre-Coeur de Montreal, Canada

<sup>4</sup>Department of Health, Government of Ireland, Ireland

**Background:** Physical distancing measures (i.e., limiting physical contact with others, maintaining a 2-metre distance, avoiding non-essential travel, etc.) are among the primary strategies to prevent transmission of Coronavirus disease (COVID-19). These measures will remain crucial during the rollout of newly developed vaccines to limit the spread of COVID-19 in the community. Therefore, it is essential to understand determinants of public adherence to physical distancing measures to inform public health communications.

**Methods:** As part of the iCARE study, a cross-sectional survey was conducted to evaluate behavioural responses to physical distancing measures in Ireland. A nationally representative sample of 1000 adults completed the survey in June 2020. Participants completed measures assessing socio-demographic characteristics, theory-based psychological predictors, and physical distancing behaviours.

**Findings:** Awareness of restrictions at the time of data collection was high (M=79.3%), as was adherence to most physical distancing measures (M=69.1%). Participants aged 25–34 years reported the poorest adherence to maintaining a 2-metre distance from others (71.2%, versus 79–90% for all other age groups), avoiding social gatherings (42.4%, versus 52–62%) and avoiding non-essential travel (63.9%, versus 69–79%). Women were slightly more adherent than were men. Adherence varied according to participant beliefs and risk category.

**Discussion:** Results indicate adherence to physical distancing guidelines varies depending on the behaviour in question as well as socio-demographic and psychological factors. Although some non-adherence was seen for all physical distancing behaviours, adherence was generally high. Future interventions to improve adherence to physical distancing should target individual-level determinants of adherence in tandem with effective public health interventions.

11:53 - 12:05

# Exploring factors associated with COVID-19 vaccine intention to inform public health interventions in England

V. Antonopoulou<sup>1</sup>, L. Goffe<sup>2</sup>, C. Meyer<sup>1</sup>, F. Graham<sup>2</sup>, M.Y. Tang<sup>2</sup>, F. Sniehotta<sup>2,3</sup>

<sup>1</sup>UCL, United Kingdom

<sup>2</sup>Newcastle University, United Kingdom

<sup>3</sup>University of Twente, Netherlands

## Background

There is high international consensus that a COVID-19 vaccine is the most effective approach to sustainably controlling the COVID-19 pandemic. This study identifies factors likely to drive intention to vaccinate which could inform the design of interventions for the successful delivery of mass immunisation programmes.

## Methods

We surveyed online 1,660 respondents who were either undecided or resistant to having a COVID-19 vaccine. The survey was informed by an extended version of the Theory of Planned Behaviour with additional constructs including anticipated regret, vaccine knowledge, past vaccine behaviour and COVID-19 pandemic-specific beliefs. Hierarchical linear regression modelling was used to analyse data on pandemic and health beliefs and vaccine intention along with socio-demographic characteristics and personal health information.

## Findings

Factors significantly associated with increased intention were: vaccine attitudes ( $\beta = 0.227$ ), trust in institutions approving COVID-19 vaccines ( $\beta = 0.205$ ), subjective norms ( $\beta = 0.193$ ), anticipated regret ( $\beta = 0.170$ ), perceived benefits of a mass immunisation programme ( $\beta = 0.149$ ), perceived safety knowledge sufficiency ( $\beta = 0.050$ ), and historical influenza vaccine behaviour ( $\beta = 0.043$ ). Factors significantly associated with decreased intention were: holding pandemic anti-lockdown views ( $\beta = -0.051$ ), and being a health or social care worker ( $\beta = -0.036$ ).

## Discussion

Our findings suggest vaccine promotion focusing on the anticipated regret of not having a vaccine, the benefits of a mass-immunisation programme, and the safety of a vaccine whilst ensuring trust in those bodies that are associated with COVID-19 vaccine rollout may be the most beneficial strategies in increasing vaccine uptake.

12:05 - 12:17

## Implementing the 'Germ Defence' digital behaviour-change intervention using rapid person-based optimisation methods

B. Ainsworth<sup>1</sup>, K. Morton<sup>2</sup>, S. Miller<sup>2</sup>, C. Rice<sup>3</sup>, J. Denison-Day<sup>2</sup>, J. Bostock<sup>3</sup>, J. Groot<sup>1</sup>, M. Moore<sup>2</sup>, M. Willcox<sup>2</sup>, N. Francis<sup>2</sup>, T. Chadborn<sup>4</sup>, R. Amlot<sup>4</sup>, N. Gold<sup>4</sup>, P. Little<sup>2</sup>, L. Yardley<sup>5</sup>

<sup>1</sup>University of Bath, United Kingdom

<sup>2</sup>University of Southampton, United Kingdom

<sup>3</sup>Public Contributor, United Kingdom

<sup>4</sup>Public Health England, United Kingdom

<sup>5</sup>University of Bristol, United Kingdom

Germ Defence ([www.germdefence.org](http://www.germdefence.org)) is a digital behavioural intervention that provides theory and evidence-based advice using behaviour change techniques to improve infection control behaviour in the home, in order to reduce the spread of COVID-19. In this study we used person-based iterative methods to rapidly adapt and optimise an intervention during the implementation of Germ Defence, to ensure it remained grounded in theory, evidence, and user needs, to best support behaviour change.

Three revised versions of the intervention were rapidly optimised and launched at the start of the pandemic. Optimisations were informed by: regular stakeholder engagement; emerging scientific evidence and guidance; rapid qualitative research (semi-structured interviews and open-text surveys) and website usage data. All feedback was rapidly collated and analysed using the Table of Changes method from the Person-Based Approach to prioritise optimisations according to their likely impact on behaviour change.

Germ Defence was disseminated and implemented in a variety of public and individual health contexts, in 25 languages. It was used 500,000+ times in 170 countries. Working closely with clinical and public stakeholders ensured that the intervention was clinically accurate and engaging for target users. Qualitative survey and interview research provided insights into the barriers to engaging with the intervention and target behaviours. Website usage data guided decisions about optimisations.

Rapid optimisation methods of this kind may in future be used to help improve the speed and efficiency of adaptation, optimisation and implementation of interventions, in line with calls for more rapid, pragmatic health research methods.

12:17 - 12:29

## What does it mean to choose health? A photo elicitation study

I. Palacz-Poborczyk<sup>1</sup>, P. Idziak<sup>1</sup>, D. Kwasnicka<sup>1</sup>, A. Luszczynska<sup>2</sup>, F. Naughton<sup>3</sup>, M.S. Hagger<sup>4</sup>, E. Quested<sup>5</sup>, S. Pagoto<sup>6</sup>, K. Chamberlain<sup>7</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>2</sup>University of Social Sciences and Humanities, Poland

<sup>3</sup>University of East Anglia, United Kingdom

<sup>4</sup>University of California, Merced, United States

<sup>5</sup>Curtin University, Australia

<sup>6</sup>The UConn Center for mHealth and Social Media, University of Connecticut, United States

<sup>7</sup>Massey University, New Zealand

**Background:** Photo elicitation is an open and multidimensional way to conduct qualitative research. The aim of this study was to explore the perceptions of health construct and arrive at a common understanding of health-related priorities within a Polish sample during the COVID-19 pandemic.

**Methods:** The photographs were collected via emails and social media of the 'Choosing Health' program, which promotes healthy lifestyles and aims to motivate people to change health behaviours. Study participants (N=50) were asked the question: 'What does it mean to choose health?'. They were asked to respond with their interpretation in the form of an original photograph (or set of photographs), accompanied by an obligatory caption. Qualitative data were analysed using the framework method and polytextual thematic analysis.

**Findings:** Three main themes were generated relating to healthiness perceptions: health as a 'long journey' with multiple choices/directions that can be taken; health as keeping balance; and health as acceptance of life circumstances. The analysis of health-related priorities revealed four additional themes: need for contact with nature; supportive relationships with others; finding time for rest; and enjoyment of everyday activities. The associations between COVID-19 and health behaviours were mixed – the pandemic prevented some participants from their previous, healthy habits, but motivated them to take care of the health of others.

**Discussion:** The results present a holistic perception of health and emphasize the value participants placed on mental well-being. Findings may inform approaches to meaningfully engage participants in health promotion programs by emphasizing common attitudes and understanding of health.

# Risk communication and health behaviour

11:05 - 12:35

Miroslav Sirota



11:05 - 11:17

## Evidence-based vs. promoting vaccination information material: Does it matter for risk appraisals?

L. Otten<sup>1,2</sup>, L. Felgendreiff<sup>1,3</sup>, C. Betsch<sup>1,3</sup>

<sup>1</sup>University of Erfurt, Germany

<sup>2</sup>CEREB - Center of Empirical Research in Economics and Behavioral Sciences, University of Erfurt, Germany

<sup>3</sup>CEREB - Center of Empirical Research in Economics and Behavioral Sciences, Germany

Facing immunization decisions, people deal with uncertainties about vaccine effectiveness and side effects. Evidence-based information helps laypeople to evaluate risks and benefits in a balanced way. Yet, little is known about how evidence-based information affects the perception of vaccination. Therefore, this preregistered study examined whether promoting (vs. evidence-based) information material in a loss (vs. gain) frame increases risk perceptions, anticipated regret of vaccination omission and vaccination intention. Furthermore, we expected anticipated regret and risk perception to mediate the relationship between the information materials and intention. N = 517 participants from MTurk randomly saw one of four leaflets about a vaccination against a fictitious disease (2 [framing: loss vs. gain] x 2 [information type: vaccination-promoting text vs. evidence-based fact box] between-subject design). 2x2 ANOVAs showed only significant main effects of information type on perceived riskiness of vaccination and anticipated regret ( $F_s > 7.41$ ;  $p_s < .007$ ). A parallel mediation analyses showed that participants of the vaccination-promoting conditions anticipated more regret ( $b = 7.11$ ,  $p = .006$ ), and more anticipated regret was related to higher vaccination intention ( $b = 0.48$ ,  $p = < .001$ ). Participants of the evidence-based conditions reported a higher perceived risk of vaccination ( $b = -10.79$ ;  $p < .001$ ), and a higher perceived risk of vaccination was subsequently related to less intention to vaccinate ( $b = -0.14$ ,  $p = .013$ ). Unexpectedly, framing of the material did not influence judgments. In designing vaccination information material, the communication aim should be considered as the information type impacts risk appraisals and intentions.

11:17 - 11:29

# Faking Self-Reports: A Serious Threat in the Assessment of Health Behavior

V. Egele<sup>1</sup>, R. Stark<sup>1</sup>

<sup>1</sup>Saarland University, Germany

**Background:** This experimental study examines people's ability to fake their reported health behavior and explores the magnitude of such response distortion both concerning faking good as well as faking bad of preventive health behavior and health risk behavior. As health behavior is a sensible topic, people usually prefer privacy about this delicate information or they wish to create a better image of themselves. Nevertheless, health behavior is often assessed by self-reports although self-report-measures are prone to response distortion. Therefore, it is important to examine the possible impact of such faking.

**Method:** In order to secure the findings and test their robustness, two study designs were conducted. In the within-subjects-design, 142 participants repeatedly filled out a health behavior questionnaire with an instruction to answer honestly, fake good and fake bad. In the between-subjects-design, 128 participants were randomly assigned to one of three groups that filled out the health behavior questionnaire with only one of the three instructions.

**Findings:** Both studies showed that successful faking of preventive and health risk behavior was possible. The magnitude of such faking effects in a self-report questionnaire of health behavior was very large in the within-subjects design and somewhat smaller in the between-subjects-design.

**Discussion:** Each design has its inherent merits and problems, but regardless of the research design, the apparent simplicity and the resulting effects of faking should not be underestimated, neither in research nor in practice.

11:29 - 11:41

## Optimising the delivery of breast cancer risk estimates to women aged 30-39 years

S. Bellhouse<sup>1</sup>, R. Hawkes<sup>1</sup>, S. Howell<sup>1</sup>, L. Gorman<sup>1</sup>, D. French<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

### Background:

Identifying women aged 30-39 years at increased risk of developing breast cancer would allow them to receive the benefits of enhanced screening and preventative strategies. However, it is unclear how best to communicate breast cancer risk estimates to these women, to avoid potential harms such as undue anxiety and increase benefits such as informed decision-making. This qualitative study aimed to investigate views on the optimal delivery of this service.

### Methods:

Seven focus groups (n=29 women, including n=5 from ethnic minority backgrounds) and eight interviews (total n=37) were conducted with women aged 30-39 years with no family history or personal experience of breast cancer. Data were audio-recorded and analysed thematically using a framework approach.

### Findings:

Participants favoured a one-stop shop delivery model whereby all components of the risk assessment are completed at a single appointment. Availability of appointments outside of normal working hours and ability to book a convenient appointment were considered essential requirements of the service. Participants expected a high risk result to be communicated face-to-face or via phone whereas a letter was considered acceptable for low risk. Irrespective of risk level, access to an individual with appropriate expertise and information about what would happen next were considered paramount.

### Discussion:

This research suggests several measures to promote successful engagement of young women in breast cancer risk assessment. Provision of sufficient information and support will be necessary to mitigate any potential distress. Informed by these insights, a trial of breast cancer risk prediction in this population is being set up.

11:41 - 11:53

## Effect of antibiotic resistance messages and their framing on the reduction of inappropriate antibiotic expectations

M. Sirota<sup>1</sup>, M. Juanchich<sup>1</sup>

<sup>1</sup>University of Essex, United Kingdom

**Background:** To encourage the judicious use of antibiotics, public health campaigns communicate to the public about the issue of antibiotic resistance using different message frames. The current health psychology and decision-making literature offer competing hypotheses about how to optimally communicate this information. We tested whether (i) health messaging can reduce inappropriate antibiotic expectations and (ii) framing health messages in terms of gains (vs. losses) affecting people themselves (vs. others) will affect the expectations to a different extent.

**Methods:** We used text-based interventions presented in a 2 (object frame: self vs. others) × 2 (gain-loss frame: benefit vs. risk) between-subjects design accompanied by a baseline condition. Participants (n = 879) sampled online from the general adult UK population expressed their antibiotic expectations for a hypothetical viral ear infection.

**Findings:** The public health messages (vs. no message) significantly reduced inappropriate antibiotic expectations,  $F(4, 874) = 5.67, p < .001$ . The object frame as well as the gain-loss frame reduced the expectations to a similar extent,  $F(1, 699) = 1.66, p = .198$  and  $F(1, 699) = 1.20, p = .274$ , respectively; the frames did not interact,  $F(1, 699) = 0.65, p = .422$ .

**Discussion:** Providing information about the issue of antibiotic resistance reduced inappropriate antibiotic expectations but how the message was framed did not yield a measurable difference in the effect. Future research should focus on possible individual and cross-cultural differences in sensitivity to these frames.

11:53 - 12:05

## The effect of risk knowledge and risky behaviours on cervical screening attendance

S. Sherman<sup>1</sup>, C. Ball<sup>1</sup>

<sup>1</sup>Keele University, United Kingdom

**Background:** 99.7% of cervical cancers are caused by human papillomavirus (HPV) and are preventable. Risk factors for cervical cancer include having sex at a young age, having multiple sexual partners, smoking, and taking the contraceptive pill. Previous research has considered the impact of knowledge about risk on attendance, but there has been no research to our knowledge which has additionally looked at risky behaviours. This study explored the impact of both knowledge about risk factors associated with cervical cancer and risky behaviours on women's reported uptake of cervical screening.

**Methods:** A cross sectional survey was conducted in January 2021, consisting of demographic questions cervical screening status, questions about risk factors and questions about risky behaviours. 338 women were recruited through social media and snowball sampling (age range 24-64, mean=45.6, SD=11.4). Analyses included chi-square, Mann Whitney tests and correlations.

**Findings:** Participants had a mean score of 5.9 correct answers out of 13 risk factor questions (SD=2.2, range 0-11) and a mean score of 3.7 risky behaviours out of 10 (SD=1.6, range 0-7.5). 11% (N=37) reported not attending their most recent screening invitation. Screening attendance was not related to the scores associated with risk knowledge or engaging in risky behaviours ( $p>.05$ ).

**Discussion:** Although engagement in risky behaviours associated with cervical cancer was relatively low in our sample and self-reported screening attendance was higher than the national level, knowledge of risk factors was low. More education is needed to ensure that all women are able to make informed choices about their lives.

12:05 - 12:17

## Development of a PtDA integrating risk information supporting SDM about personalised surveillance after breast cancer

J.W. Ankersmid<sup>1,2</sup>, C.H.C. Drossaert<sup>2</sup>, C.F. van Uden - Kraan<sup>1</sup>, I.R. The<sup>3</sup>, L.J.A. Strobbe<sup>4</sup>, D.S. Siesling<sup>2,5</sup>

<sup>1</sup>Santeon, Netherlands

<sup>2</sup>University of Twente, Netherlands

<sup>3</sup>ZorgKeuzeLab, Netherlands

<sup>4</sup>Canisius Wilhelmina Hospital, Netherlands

<sup>5</sup>Netherlands comprehensive cancer organisation (IKNL), Netherlands

**Background** - The use of personalised outcome information can enrich the process of SDM. We have developed a patient decision aid (PtDA) for breast cancer patients integrating the personal risk for recurrences to support shared SDM about post-treatment surveillance.

**Methods** - The PtDA was developed in 5 co-creation sessions with a team of stakeholders based on input from qualitative needs assessment studies with patients (N = 22) and health care professionals (HCPs) (N = 21). Emphasis was put on integrating the personal risk for recurrences.

**Findings** - The PtDA consists of three parts:

- 1) The HCP explains why the patient can (co-)decide about surveillance and what the options are (e.g. frequency, imaging and duration) using a printed or digital handout sheet. The HCP enters the required patient-, tumor- and treatment characteristics in the online INFLUENCE-nomogram, which calculates the personalised risk for recurrences. This risk is then visualised on the handout sheet.
- 2) An online information and deliberation tool for patients containing information about SDM, post-treatment surveillance, available options, a clarification of the risk estimation, value-clarification exercises, and a Patient Reported Outcome Measure (PROM) on fear of recurrence.
- 3) A summary (printed or digital) containing women's preferences, considerations, and the PROM results on fear of recurrence. The sheet is used by the patient and HCP in the consultation to support the final step of SDM.

**Discussion** - A user evaluation revealed that both patients and HCPs appreciated the PtDA. The PtDA is currently under implementation and investigation in a clinical trial.

12:17 - 12:29

## Experiences of medication reviewing in Primary Care – Lessons for optimization of a multimorbidity intervention

L. Hynes<sup>1</sup>, C. Kirwan<sup>2</sup>, E. Carr<sup>3</sup>, A.W. Murphy<sup>2</sup>, N. Hart<sup>4</sup>, L. McQuillan<sup>4</sup>, S. Mulligan<sup>2</sup>, C. Leathem<sup>5</sup>, C. Hughes<sup>4</sup>, C. Sinnott<sup>6</sup>

<sup>1</sup>Croí Heart & Stroke Centre, Ireland

<sup>2</sup>National University of Ireland, Galway, Ireland

<sup>3</sup>University of Limerick, Ireland

<sup>4</sup>Queen's University, Belfast, United Kingdom

<sup>5</sup>NICRN (Primary Care), United Kingdom

<sup>6</sup>University of Cambridge, United Kingdom

**Background:** Regular medication review is a core component of primary care for patients with two or more long-term conditions, also known as multimorbidity. Evidence shows such reviews frequently do not occur due to a range of barriers. The MyComrade study aimed to evaluate the feasibility of an intervention to support medication review for patients with multimorbidity in primary care.

**Methods:** Semi-structured qualitative interviews were conducted with 20 patients who had participated in the MyComrade pilot study. Interviews were conducted by telephone and audio-recorded. Verbatim transcripts were analysed using thematic analysis.

**Results:** Many participants described instances of having a medication reviewed and changed, but it was rare to experience a review of all of their medications. Interviewees felt confident to raise any medication concerns with their GP, for example if they were having side effects. Otherwise, it was seen as the role of the GP to make contact with them if there was anything to be concerned about. Medications were often not the central concern for interviewees, with the impact of their health on work and access to health services being more pressing.

**Discussion:** The findings suggest that people living with multimorbidity are interested in discussing their medications with a GP, but that they may not query their medications unless they are experiencing a problem. However, issues related to medications are only one of the many considerations facing this group. A definitive trial of the MyComrade intervention will be designed based on the findings of this study.

# COVID-19

11:05 - 12:35

Jennifer Inauen



11:05 - 11:17

## Socioeconomic differences in COVID-protective behaviours: Differential effects of Reasoned Action Approach constructs for multiple behaviours

B. Schüz<sup>1,2</sup>, M. Conner<sup>3</sup>, A. Prestwich<sup>3</sup>, P. Norman<sup>4</sup>

<sup>1</sup>Universität Bremen, Germany

<sup>2</sup>Leibniz ScienceCampus Digital Public Health Bremen, Germany

<sup>3</sup>School of Psychology, University of Leeds, United Kingdom

<sup>4</sup>Department of Psychology, University of Sheffield, United Kingdom

**Background:** Adherence to behaviours protecting against the SARS-CoV-2 virus that causes COVID-19 remains a key tool in pandemic control. Substantial socioeconomic differences in the adherence to COVID-protective behaviours have been observed. Currently, we do not know enough about the role of potentially modifiable psychosocial predictors of health behaviours in explaining such differences. Thus, the current study examined whether the effects of constructs from the Reasoned Action Approach (RAA) on multiple protective behaviours differed as a function of individual socioeconomic status, and whether these constructs mediated socioeconomic differences in behaviour.

**Methods:** Multi-behaviour study with protective behaviours nested within persons. Participants (UK representative sample of 477 adults) completed questionnaires assessing RAA constructs for eight protective behaviours, socioeconomic status, and adherence at baseline and 7-day follow-up. We used random-effects models with cross-level interactions to test whether socioeconomic status moderated RAA constructs – behaviour relationships, and 2-1-1-mediation models to test mediated relationships.

**Findings:** Effects of RAA constructs on behaviour were moderated by sex, ethnicity and deprivation. Intention was a stronger predictor in less compared to more deprived individuals. In addition, RAA constructs mediated effects of socioeconomic status such that less deprivation was associated with more favourable levels of RAA constructs, which in turn predicted behaviour.

**Discussion:** Socioeconomic status affects the relationships between RAA variables and protective behaviours, and RAA constructs at least partially mediate socioeconomic differences. This implies both that interventions targeting RAA variables are likely effective overall, but also that interventions based on such variables might be differentially effective according to socioeconomic status.

11:17 - 11:29

## Physical distancing intervention: Increasing intentions through a self-efficacy manipulation in the CHARIS project

C. den Daas<sup>1</sup>, G. Hubbard<sup>2</sup>, M. Johnston<sup>1</sup>, D. Dixon<sup>1</sup>

<sup>1</sup>University of Aberdeen, United Kingdom

<sup>2</sup>University of the Highlands and Islands, United Kingdom

### Background:

The CHARIS (Covid Health and Adherence Research in Scotland) project shows that self-efficacy is important in adherence to transmission-reducing behaviours (i.e., physical distancing). We assess whether we can increase self-efficacy and intention through a short message.

### Methods:

CHARIS data collected 8-21 October through structured telephone surveys with a randomly selected nationally representative sample of adults (N = 497). Participants were randomly assigned to the manipulation (short message increasing self-efficacy via vicarious experiences, verbal persuasion, and emotional arousal) or control condition (no message). Mediation analyses assess the effect of a self-efficacy manipulation on intention with self-efficacy as mediator. We tested the significance of this indirect effect using bootstrapping procedures, with a 95% confidence interval (CI). Self-efficacy and intention for physical distancing were assessed on 4-point scales. Adherence to physical distancing was assessed on a 5-point frequency scale (never – always).

### Findings:

We successfully manipulated self-efficacy; participants receiving the manipulation (M = 4.23, SD = 0.80) self-reported higher self-efficacy compared to participants in the control condition (M = 4.08, SD = 0.77). The manipulation increased self-efficacy (standardised regression coefficient = .19,  $p < .05$ ), self-efficacy affected intention (.48,  $p < .001$ ). There was a significant indirect effect of the manipulation on intention via self-efficacy (bootstrapped unstandardized indirect effect .07, CI 0.01-0.14).

### Discussion:

Increasing self-efficacy with a short message can successfully increase intention to physical distance via increased self-efficacy. As both self-efficacy and intentions are important factors in adherence to transmission-reducing behaviour this finding can be used to limit the spread of Covid-19.

11:29 - 11:41

# Lifestyles and sociodemographic predictors of adherence to COVID-19 restrictions in fragile patients

R. Capelli<sup>1</sup>, A. Greco<sup>1</sup>, F. Zanatta<sup>2</sup>, M. D'Addario<sup>2</sup>, P. Steca<sup>2</sup>

<sup>1</sup>University of Bergamo, Italy

<sup>2</sup>University of Milano-Bicocca, Italy

## Background:

In order to reduce the spreading of the virus, restriction measures have been employed by the majority of governments during the COVID-19 pandemic. This study aimed to explore the predictors of adherence to COVID-19 related restrictions in a sample of fragile people. Moreover, behavioral changes during the pandemic period were investigated.

## Methods:

A sample of 105 Italian older adults (M\_age=69 years; 60% male) affected by hypertension from a more extensive longitudinal study were telephonically interviewed between May and August, 2020. Sociodemographic information was collected, together with the ones related to the perceived social support and lifestyles. Adherence behaviors were investigated through several questions (regarding, for example, whether participants left home during the lockdown or if they wore masks) and an overall score was assigned. A logistic regression analysis was performed to define which predictors influenced the adherence to restrictions promoted by Italian government.

## Findings:

Only 33.3% of the sample abided by all the national restrictions and was therefore considered as adherent. During the pandemic period, considerable changes in lifestyles occurred within the sample. The logistic regression analysis explained 46.2% (Nagelkerke's R<sup>2</sup>) of the total variance and showed that females, unemployed/retired people and individuals who decreased the amount of physical activity, reported higher level of adherence to rules.

## Discussion:

This study showed how COVID-19 outbreak influenced people's lifestyles. Moreover, it shed light on which factors played a role in adherence behaviors, and therefore should be taken into account in communication strategies as well as intervention planning during the pandemic.

11:41 - 11:53

## Prevalence of psychological distress among healthcare workers in Ireland and Italy during the COVID-19 pandemic

J. Flynn<sup>1</sup>, G. Bellani<sup>2</sup>, M. Contreras<sup>3</sup>, A. Doherty<sup>4</sup>, H. Durand<sup>1</sup>, E. Fallon<sup>5</sup>, C. Ffrench<sup>1</sup>, C. Gormley<sup>6</sup>, M. Hanlon<sup>1</sup>, J. Laffey<sup>1</sup>, G. Molloy<sup>1</sup>, L. O'Connor<sup>1</sup>, M. O'Reilly<sup>1</sup>, S. Russo<sup>2</sup>, K. Sarma<sup>1</sup>, M.G. Strepparava<sup>2</sup>, J. Walsh<sup>1</sup>, B. McGuire<sup>1</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>University of Milano-Bicocca, Milan, Italy

<sup>3</sup>University Hospital Galway, Galway, Ireland

<sup>4</sup>Mater Misericordiae University Hospital, Dublin, Ireland

<sup>5</sup>Saolta University Health Care Group, Galway, Ireland

<sup>6</sup>Health Service Executive West, Galway, Ireland

**Background:** The COVID-19 pandemic has posed unprecedented challenges for frontline healthcare workers (FLWs) across the world with indications that the mental health of this group has been adversely affected. This study sought to examine the prevalence of psychological distress in FLWs in Ireland and Italy during the pandemic, and the determinants of these symptoms.

**Methods:** As part of the FLoWs project, this study employed a cross-sectional design, whereby a sample of 2,000 FLWs from Ireland and Italy completed online questionnaires assessing their demographic and occupational information. A series of psychological distress symptoms were also assessed, including depression, anxiety, insomnia, posttraumatic stress, and adjustment disorder. Prevalence estimates were calculated based on the proportion of participants meeting the diagnostic threshold score of each respective measure, and logistic regressions were used to assess the determinants of these symptoms.

**Findings:** The study identified a high prevalence of elevated symptoms of depression (39.80%), anxiety (36.73%), insomnia (30.61%), posttraumatic stress (34.69%), and adjustment disorder (43.88%) in Irish FLWs. Within the broader sample, subgroups who reported being Irish, female, single, and with less years of professional experience generally yielded a higher prevalence of these symptoms.

**Discussion:** This study highlights the high proportion of Irish and Italian FLWs experiencing psychological distress. This study also highlights the types of psychological distress symptoms being experienced by FLWs, with depression and adjustment disorder symptoms being the most common. By highlighting the occupational and demographic predictors of these symptoms, this study also outlines the FLWs most at-risk of experiencing psychological distress.

11:53 - 12:05

## Occupational stress and health during the Covid-19 pandemic: mediating effects of work-related rumination

L. Pavéy<sup>1</sup>

<sup>1</sup>Kingston University, United Kingdom

**Background:** The research aimed to investigate the associations between workplace stressors, financial concern, perceived stress and psychiatric morbidity during the Covid-19 pandemic. The mediating and moderating effects of intolerance of uncertainty and work-related rumination were assessed. We hypothesised that workplace stressors and financial concern due to Covid-19 would be associated with higher levels of perceived stress and psychiatric morbidity, and that affective rumination styles would mediate, and intolerance of uncertainty moderate these relationships.

**Methods:** We used an online cross-sectional survey to measure our variables of interest. Participants (N=275) who had been employed during the pandemic completed the questionnaire. Measures included demographic and occupational characteristics, an adapted version of the Workplace Stress Scale, the Intolerance of Uncertainty Inventory, the Workplace Rumination Scale, the Perceived Stress Scale, and the General Health Questionnaire. Data were analysed using regression, mediation, and moderation analyses.

**Findings:** Workplace stressors, financial concern, and intolerance of uncertainty predicted perceived stress and psychiatric morbidity. Affective rumination, but not distraction-detachment or problem-solving pondering, mediated the effect of workplace stressors on our outcome measures. Intolerance of uncertainty also predicted workplace stress, moderated by key-worker status: intolerance of uncertainty was a stronger predictor of workplace stress for key-worker than for non-key worker participants.

**Discussion:** Affective rumination is an important mechanism by which Covid-19 related workplace stressors predict negative health outcomes. The research suggests workplace health initiatives are required to negate the negative impact of workplace stressors during the COVID-19 pandemic.

12:05 - 12:17

## Quality of working life during COVID-19: a test of the Job Demands Resource model

R. Pisanti<sup>1</sup>

<sup>1</sup>Niccolò Cusano University of Rome, Italy

**Background.** The main aim of the present study was to examine how job demands and resources were associated to indexes of job strain and well being during the first months of virus pandemics. Moreover we tried to expand the Job Demands-Resources (JD-R) model by examining the moderating role of recovery self efficacy (RSE) in the association between psychosocial job characteristics, and psychological distress and job-related well-being.

**Methods.** Questionnaire data from 544 employees (71% female, with a mean age of 40.6 years, SD=10.2) were analyzed. Participants completed the following measures: the Demand-Induced Strain Compensation Questionnaire, the Recovery Self efficacy Scale, the Burnout Assessment Tool, the Utrecht Work Engagement Scale, and the Need for Recovery Scale. A cross-sectional study design was applied. Hierarchical multiple regression analyses were conducted.

**Findings:** Our findings indicated that high demands, low job control, and low social support additively predicted the distress/well being outcomes (need for recovery, emotional exhaustion, cognitive impairment, emotional impairment, psychological complaints, psychosomatic complaints, engagement and job satisfaction). Beyond the main effects, three significant interactive effects between demands and social support on cognitive impairment (Beta =  $-.11$ ;  $p < .05$ ), emotional impairment (Beta =  $-.10$ ;  $p < .05$ ) and on mental distance (Beta =  $-.10$ ;  $p < .05$ ) were found. Recovery self efficacy accounted for an additional 1-2% of the variance on some outcomes (e.g. psychological complaints).

**Discussion:** Our results suggested of expanding the JD-R model incorporating individual characteristics, such as RSE beliefs, for predicting psychological distress and well-being. Directions for future research are discussed.

12:17 - 12:29

## Understanding COVID-19 vaccination intention: the role of anticipated affective reactions

M. Capasso<sup>1</sup>, D. Caso<sup>1</sup>, M. Conner<sup>2</sup>

<sup>1</sup>University of Naples Federico II, Italy

<sup>2</sup>University of Leeds, United Kingdom

**Background.** The COVID-19 vaccine represents an essential resource to stop the pandemic, therefore it is crucial to identify the psychological factors that can promote the intention to get vaccinated. The present study aimed to evaluate the effect of exposure to messages targeting cognitive attitude plus anticipated positive or negative affective reactions on the intention to get vaccinated against COVID-19.

**Methods.** Between November and December 2020, before the official approval of a vaccine against COVID-19, 484 Italian adults ( $F = 60.3\%$ ;  $Mage = 36.4$  years) took part in an experimental study in which they were randomly allocated to one of the following conditions: 1) exposure to a message focused on cognitive attitude; 2) exposure to a message focused on cognitive attitude plus anticipated positive affect; 3) exposure to a message focused on cognitive attitude plus anticipated negative affect; 4) control group (no message exposure).

**Findings.** MANOVA showed that participants exposed to a message focused on cognitive attitude plus anticipated positive affect reported greater intention to get vaccinated against COVID-19 compared with those in the control group. In addition, a parallel mediation analysis indicated that the effect of the experimental condition on intention was significantly mediated by both cognitive attitude and anticipated positive affect, even if the effect was stronger for attitude.

**Discussion.** These findings suggest that future COVID-19 vaccination campaigns could take great advantage of implementing persuasive messages targeting both cognitive and affective factors.

# Roundtables

14:15 - 15:15



14:15 - 15:15

## Paving the Way for Health Climate Action: The role of Health Psychology

M. Adriaanse<sup>1</sup>, V. Araujo Soares<sup>2</sup>, S. Michie<sup>3</sup>, P. Bernard<sup>4</sup>, R. Ruiter<sup>5</sup>

<sup>1</sup>Utrecht University, Netherlands

<sup>2</sup>University of Twente, Netherlands

<sup>3</sup>University College London, United Kingdom

<sup>4</sup>University of Quebec at Montreal, Canada

<sup>5</sup>Maastricht University, Netherlands

**Purpose:** Climate change is a major threat to population health. In this roundtable we will discuss whether and how Health Psychology should and can take part in addressing this threat by promoting climate action. Recent years have seen an increasing call for applying insights from psychology to help individuals cope with the consequences of climate change on their health and well-being. However, the relevance of psychology extends well beyond helping individuals cope with consequences of climate change. That is, theories, methodologies and interventions from health psychology could play an essential role in informing efforts to increase public awareness about climate change and promoting action at the individual and higher ecological levels.

**Objectives:** With this roundtable we aim to discuss how we can strengthen the contribution of health psychology to promote climate action. Our first objective is to underscore the relevance of climate action to population health. The second objective is to explore the opportunities and challenges for integrating and applying theories and methodology from our field to promote climate action. Our final objective is to set up a research agenda for the future.

**Rationale:** The theme of this year conference is “Health Psychology Approaches to Tackle Global Challenges”. Planet earth is living through a climate emergency that has clear impact on the health and wellbeing of its inhabitants. This roundtable will contribute to the discussion on how theories of understanding and changing behavior within the scientific field of health psychology can support climate mitigation and adaptation efforts.

**Summary:** Paquito Bernard will start by presenting how the climate change forces health psychology community to rethink health, and to accelerate the mitigation and adaptation strategies implementation. Susan Michie will discuss a project involving the UK, Sweden and the Netherlands developing a systems approach to understanding and maintaining post-Covid changes in transport/mobility behaviours. Rob Ruiter will address the need for a systematic approach in intervention design and the involvement of key decision makers at higher ecological levels including the organisational and community level in moving forward. Marieke Adriaanse will then highlight some key challenges specific to promoting climate action that warrant careful consideration and future research. Finally, building on the individual contributions, we will host an interactive structured discussion about the field’s research agenda on the topic of climate action. We hope to reach the end of the roundtable with a key outcome: a priority list on future research in the area.

14:15 - 15:15

## Using app stores and innovative trial designs to evaluate and optimise health behaviour change apps

C. McCallum<sup>1</sup>, S. Potthoff<sup>2</sup>, L. Bührmann<sup>3</sup>, O. Perski<sup>4</sup>, A. Baumel<sup>5</sup>, D. Kwasnicka<sup>6</sup>, G. ten Hoor<sup>7</sup>

<sup>1</sup>University of Bristol, United Kingdom

<sup>2</sup>Northumbria University, United Kingdom

<sup>3</sup>Vrije Universiteit Amsterdam, Netherlands

<sup>4</sup>University College London, United Kingdom

<sup>5</sup>University of Haifa, Israel

<sup>6</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>7</sup>Maastricht University, Netherlands

**Purpose:** To discuss challenges in using app stores and innovative trial designs to evaluate the effectiveness of health apps

**Objectives:**

1. Present emerging findings from our scoping review of app store trials
2. Develop a shared understanding of challenges researchers experience when using app stores and novel trial designs within pragmatic app evaluations
3. Discuss possible solutions with the health psychology community.

**Rationale:**

Many health behaviour change apps that are publicly available on app stores (e.g. Apple Store and Google Play) have not been evaluated for their effectiveness. To increase the efficiency and usefulness of behaviour change app trials, a growing number are being conducted using app stores. These pragmatic “app store trials” involve embedding experimental procedures within the app-based intervention (i.e. programming the app to automatically guide users through screening, informed consent, data collection, and randomisation to different app versions), then releasing the app on app stores to facilitate recruitment with real world users.

Using app stores to evaluate apps can speed up the dissemination of evaluated apps to the public, through improved real-world representativeness of trial findings. In response to the pandemic, an increasing number of behaviour change interventions are being digitalised: app store trials can evaluate apps remotely and potentially with thousands of global participants. App stores can also facilitate innovative experimental designs beyond Randomised Controlled Trials (RCTs), such as the Multiphase Optimisation Strategy and N-of-1s, to optimise apps and understand which components work and for who.

Currently, no methodological guidance is available to support researchers in using app stores to conduct scientifically rigorous trials. In this roundtable contributors will present their

extensive experience in conducting trials of digital health interventions. This will include a discussion of challenges and potential ways forward in conducting these trials.

Summary: Claire McCallum will open the roundtable by describing app store trials of health behaviour change apps and key emerging scoping review findings. Contributors will then share challenges they have experienced when conducting app store trials: Olga Perski will discuss engagement, including attrition and factors influencing app downloads; Leah Bührmann will discuss recruitment and marketing an app; Amit Baumel will discuss outcomes and measurement, and Sebastian Potthoff will chair an interactive audience Q&A. Next, Dominika Kwasnicka will share experiences using innovative trial designs, and Gill ten Hoor will discuss Lean Startup methods. Finally, collaborators and the audience will be invited to share potential solutions to some of the challenges identified.

# Lab Series

14:15 - 15:15

14:15 - 15:15

## Benefits and Risks of Optimizing Reproducibility and Transparency of Data and Analyses in Qualitative Research

J. Green<sup>1,2</sup>, T. Epton<sup>3</sup>, K. Newman<sup>4</sup>, S. Zorgo<sup>5</sup>, G. Peters<sup>6</sup>, J. Mc Sharry<sup>7</sup>, K. Matvienko-Sikar<sup>8</sup>

<sup>1</sup>School of Allied Health, University of Limerick, Ireland

<sup>2</sup>Health Research Institute, University of Limerick, Ireland

<sup>3</sup>University of Manchester, United Kingdom

<sup>4</sup>Nottingham Trent University, United Kingdom

<sup>5</sup>Semmelweis University, Hungary

<sup>6</sup>Open University of the Netherlands, Netherlands

<sup>7</sup>National University of Ireland, Galway, Ireland

<sup>8</sup>University College Cork, Ireland

**Purpose:** Open Science (OS) promotes sharing of datasets and detailed documentation of analysis in order to re-use data, learn from others' analyses, explore biases, and facilitate meta-science. Could/should OS be extended to qualitative research in health psychology? Fitting with the conference theme "Chartering New Territories in Health Psychology", this seems an excellent occasion to compare notes and establish guidelines for researchers. This session is organised in association with the EHPS Open Science Special Interest Group.

**Objectives:**

- 1) Discuss considerations, advantages, disadvantages, risks and benefits of an Open Science approach to qualitative data and detailed analysis documentation;
- 2) Collaboratively compile differing opinions, summarise emerging consensus, and draft best practice guidelines.

**Rationale:**

Open Science is less implemented for qualitative research, though some guidelines are emerging (eg, Qualitative Data Repository, <https://qdr.org>). However OS may not yield the same benefits as for quantitative research, with issues around anonymity/GDPR, epistemological stance and perceived scientific merit.

Qualitative data can be anonymised (transcription + removal of personally identifiable information), but this may not always be desirable (some methods need video/photo/audio) or possible. Participants may not want even anonymous data shared, and risks need to be managed for sensitive issues, and vulnerable/minority populations.

Qualitative research can also be understood as meaning in context; thus the mere availability of transcripts or data without an understanding of the process/context of data collection, and characteristics/background of the researcher, could lead to loss of meaning.

This lab series session is convened by researchers with diverse perspectives from already applying the OS principles, redesigning OS principles specifically for qualitative research, to not striving for OS in qualitative research.

**Timetable:**

0:00 – 0:05 Introduction

0:05 – 0:45 Parallel discussion groups, each led by an organizers, based on interest, to address key questions from below (or generated from the floor).

- Desirability: Should qualitative data be open and shared? Should open science principles be applied to qualitative research?
- Transparency/standardization: Is transparency possible and if so, should it be a standard? Are there types of data where anonymity is not desirable/useful?
- Anonymisation/GDPR: How can anonymization be achieved and how can qualitative data-sharing be GDPR-compliant? Can (hermeneutic) analyses be made transparent, if so, how?
- Insight in analyses: how feasible is it to make the analysis process more transparent? Are there situations where this might not be desirable?

0:45 – 1:00 Compilation of small-group discussions and more wide ranging discussion.

14:15 - 15:15

## Evaluation and Population Health Impact of Digital Health Interventions

J. Wienert<sup>1,2</sup>, T. Jahnel<sup>3,4</sup>, B. Schüz<sup>3,4</sup>

<sup>1</sup>IUBH University of Applied Sciences, Germany

<sup>2</sup>Leibniz Institute for Prevention Research and Epidemiology – BIPS, Germany

<sup>3</sup>University of Bremen, Germany

<sup>4</sup>Leibniz ScienceCampus Digital Public Health Bremen, Germany

**Purpose:** Digital health interventions (DHIs) offer potential to deliver prevention and health promotion content to entire populations. However, comprehensive evaluations of DHIs on a public health scale are rare and appropriate evaluation approaches are yet to be developed. Key issues revolve around individualization of intervention content, sustainability of short-term effects, and a potential antagonism between increasing participatory co-design and evidence-based practice, both in the development and evaluation of DHIs. Furthermore, current DHI developments appear driven by technological progress rather than evidence-based needs analyses. Thus, the main purpose of this lab will be discussing and proposing new development and evaluation approaches of DHIs for population health impact. The main target group of the lab are Health Psychologists involved in all steps of the design, implementation, maintenance, and evaluation of DHIs.

**Objective:** The objective of this lab is to initiate collaboration, collect insights, and initiate a white paper on recommendations regarding the evaluation of DHIs and their population health impact from a health psychology perspective. We propose an interactive approach which fosters exchange between participants. The approach develops from small groups to larger groups and finally results in a moderated plenum, structuring and discussing the results provided by the previous two steps. To provide input, the key elements of the development and evaluation process of complex interventions by Craig et al. (2008) and the Evidence Standards Framework for Digital Health Technologies by the National Institute for Health and Care Excellence (2019) will be introduced. Small groups will then discuss the question: “What are current challenges in the evaluation of DHIs, especially regarding their population health impact?” Larger groups will discuss the question: “What are possible solutions for these problems and how to address them best from your perspective?” Results will be summarized and structured following the conference, and a first draft of a white paper will be provided to the participants of the lab.

**Rationale:** DHIs play an increasing role in shaping our personal health and health care systems alike. At the same time, numerous challenges in particular with regards to the evaluation of DHIs remain. These challenges may complicate the creation of an evidence base from which to develop more effective DHIs. This lab aims at initiating a collaborative process resulting in a conceptual white paper outlining key issues and recommendations for the evaluation of DHIs.

**Note:** Participation is limited to 20 persons. Please send an e-mail to [j.wienert@iubh-fernstudium.de](mailto:j.wienert@iubh-fernstudium.de) to register.

# Health behaviours in time

15:25 - 16:55

Dominika Kwasnicka



# Donor career development – how past behaviour influences future blood donation intention

K. Greffin<sup>1</sup>, L. Schönborn<sup>2</sup>, S. Schmidt<sup>3</sup>, H. Muehlan<sup>4</sup>

<sup>1</sup>Universität Greifswald, Germany

<sup>2</sup>University Medicine Greifswald, Germany

<sup>3</sup>University of Greifswald, Germany

<sup>4</sup>University of Greifswald, Germany

## Background

Voluntary whole-blood donations remain essential to sustain a functional healthcare system. However, demographic change reduces the pool of eligible donors. Therefore, it is necessary to update knowledge about motives and barriers for future donation behaviour. The aim of the study was to map past donation behaviour and future donation intentions on the transtheoretical model and analyse the respective motives and barriers per career phase.

## Methods

A face-to-face cross-sectional survey was conducted with 2531 participants who are representative of the German population in terms of age, gender, and residency. Open questions were coded with qualitative content analysis. Descriptive statistics were conducted to address our research questions.

## Findings

The donation patterns were mapped on the transtheoretical model. Surprisingly, 76.1% of past donors and 22.2% of non-donors intend to donate blood in the future, whereas only 1.8% of deferred donors do. Some reasons for a future blood donation (e.g. altruism) or against it (e.g. health issues) could be found in all career phases while others were specific for career groups. Expected physical impact was crucial within the group of initially deferred donors, as positive expectations led to donation intention whereas negative expectations seem to hinder future donation behaviour.

## Discussion

Past donation experiences influence future donation intentions. In order to reach all potential donors, it seems beneficial to not only advertise general motives, but extend education within initial career groups to overcome barriers and strengthen motivation. Especially temporarily deferred donors seem to have great potential to apply further reactivation strategies in the future.

15:37 - 15:49

# The Temporal Dynamics of Sitting Behavior

P. ten Broeke<sup>1</sup>, D. Beckers<sup>1</sup>, S. Geurts<sup>1</sup>, D. Thijssen<sup>2</sup>, E. Bijleveld<sup>1</sup>

<sup>1</sup>Radboud University, Netherlands

<sup>2</sup>Radboud University Medical Center, Netherlands

## Background.

Sitting for prolonged periods of time impairs people's health. To develop effective interventions, we need a detailed understanding of when and why people sit. We propose a dynamic approach to study sitting behavior: We analyzed predictors of the timing of sit-to-stand and stand-to-sit transitions.

## Methods.

For Study A, we analyzed ~30,000 posture transitions (i.e., sit-to-stand; stand-to-sit) from 156 adults during work. For Study B, we analyzed ~70,000 posture transitions from 131 cardiovascular disease (CVD) patients before, after, and 2-months after a cardiac rehabilitation program, as well as ~70,000 posture transitions from 117 healthy controls. Posture transitions were assessed with an activPAL, and analyzed using multilevel time-to-event analysis.

## Findings.

In Study A, office workers were quicker to switch postures later on the workday, and quicker to stand up after they were more active. We found no associations with physical fitness. In Study B, both CVD patients and healthy controls, but especially patients, were quicker to sit down and remained seated longer later on the day. CVD patients were slower to switch postures after they were more active. After cardiac rehabilitation, CVD patients were quicker to stand up and stood longer.

## Discussion.

We gained preliminary insights in people's daily sitting patterns: Office workers show long, unhealthy sitting in mornings and after less activity; CVD patients show long, unhealthy sitting in evenings and after more activity. A dynamic approach is valuable in studying the origins of people's healthy versus unhealthy sitting behavior, which will aid the development of effective interventions.

15:49 - 16:01

## The change-readiness model: A grounded behaviour change theory

M.T.S. Holter<sup>1</sup>, O. Ness<sup>2</sup>, H. Brendryen<sup>1</sup>

<sup>1</sup>University of Oslo, Norway

<sup>2</sup>NTNU, Norway

**Background:** Human behaviour change is complex with facets still unaccounted for. Specifically, little attention has been given to internal change-processes and whether there may be conditions of readiness that makes some change attempts fail while others last. Theorizing these knowledge gaps might provide new perspectives to explain and inform behaviour change. Therefore, we asked: How do people prepare for lasting change?

**Methods:** A constructivist Grounded Theory study was conducted with people using an eHealth program to quit smoking. The analysis was primarily based on 16 interviewed participants – supplemented with written short answers from additionally 41 participants.

**Findings:** The findings are presented in the change-readiness model (CRM) which proposes that people become more change-ready over time. Change-readiness in mind is proposed developed through people knowing their needs and preferences and finding matching, suitable approaches. Change-readiness in heart is proposed developed through feeling good about change (positive feelings overshadowing negative ones) and through feeling ready to endure the inevitable, but transitory, hardships of changing. Finally, change-readiness in practice is proposed developed by finding the moment for change through evaluating or mobilizing change-supporting life-assets and by staying committed through routine activities.

**Discussion:** Supporting behaviour change is a central endeavour in health psychology, to which the currently proposed, empirically grounded theory may provide fresh perspectives – for example, that while some change attempts seemingly fail, they may nevertheless prepare the person for lasting change through making him/her more change-ready in mind, heart, and/or practice.

16:01 - 16:13

## Practice makes perfect: Repeatedly dealing with self-control conflict facilitates its resolution

M. Gillebaart<sup>1</sup>, J. Benjamins<sup>1</sup>, A. van der Weiden<sup>2</sup>, J.F. Ybema<sup>1</sup>, D. de Ridder<sup>1</sup>

<sup>1</sup>Utrecht University, Netherlands

<sup>2</sup>Leiden University, Netherlands

People repeatedly encounter self-control dilemmas between long-term and short-term goals. For example, many desirable behaviours in the health domain require a focus on long-term benefits over short-term gratification. It is unclear how repeated exposure to these kinds of dilemmas affects how people resolve these so-called 'response conflicts'. Therefore, a longitudinal study (N=180) was conducted to investigate how resolution of response conflict develops over time. Participants pursued an idiosyncratic long-term goal in the domain of health, interpersonal, financial, or environmental behavior. The design entailed pre- and post-measurements of trait self-control and conflict resolution, as well as daily/weekly measures using a mobile application for mouse-tracking to measure conflict resolution over a range of 10-110 days. Of the N=180 people participating in the pre-measurement, N=90 also completed the post-measurement. Over time, people became faster at successfully resolving response conflicts related to their chosen long-term goals. The same response conflicts also became bigger over time, which may have benefitted identification of these conflicts. These results may suggest that repeatedly being confronted with similar self-control dilemmas facilitates resolution of these conflicts, by improving the identification of these conflicts. This field study provides insight into how people deal with self-control dilemmas when pursuing their real-life long-term goals and contributes to further understanding how health behaviour can be promoted.

## Daily associations of intrinsic reward, anticipated regret, and self-efficacy with automaticity across 12 weeks

S. Di Maio<sup>1</sup>, J. Keller<sup>1</sup>, D. Kwasnicka<sup>2,3</sup>, N. Knoll<sup>1</sup>, L. Fleig<sup>4</sup>

<sup>1</sup>Department of Education and Psychology, Freie Universität Berlin, Germany

<sup>2</sup>SWPS University of Social Sciences and Humanities, Wroclaw, Poland

<sup>3</sup>Melbourne School of Population and Global Health, University of Melbourne, Australia

<sup>4</sup>Department of Psychology, MSB Medical School Berlin, Hochschule für Gesundheit und Medizin, Berlin, Germany

**Background.** High levels of automaticity of healthy nutrition behaviors are related to long-term maintenance of these behaviors. Cognitive factors such as intrinsic reward, anticipated regret, and self-efficacy are important correlates of automaticity, but not much is known about their day-by-day relationships with automaticity. Drawing upon theoretical frameworks of habit formation, this study tested daily links of intrinsic reward, anticipated regret, and self-efficacy with automaticity of a nutrition behavior, for which persons attempt to form a new habit.

**Methods.** As a secondary analysis of a randomized controlled trial to model automaticity of an everyday nutrition behavior, N = 135 recipients of a planning intervention (age: M = 24.82 years; SD = 7.27) were followed up daily for 12 weeks. Prospective lagged multilevel models with study days nested in participants estimated between-level relationships as well as within-level relationships of intrinsic reward, anticipated regret, and self-efficacy from the previous and concurrent day with behavioral automaticity.

**Findings.** Higher within-levels of the concurrent day, but not of the previous day, of intrinsic reward, anticipated regret, and self-efficacy were associated with automaticity of the concurrent day. That is, on days when participants reported higher-than-usual intrinsic reward, anticipated regret, and self-efficacy, they also reported higher levels of automaticity. Moreover, higher between-levels (i.e., higher mean levels across study period) of intrinsic reward, anticipated regret, and self-efficacy were linked with higher automaticity levels.

**Discussion.** Findings highlight the potential to intervene on intrinsic reward, anticipated regret, and self-efficacy when aiming to promote a new healthy nutrition habit.

## Association between self-esteem and weight change depends on initial weight status in a general population

S. Peneau<sup>1</sup>, M. Robert<sup>1</sup>, B. Allès<sup>1</sup>, R. Shankland<sup>2</sup>, U.A. Gisch<sup>3</sup>, M. Touvier<sup>1</sup>, C. Leys<sup>4</sup>

<sup>1</sup>Sorbonne Paris Nord University, Inserm U1153, Inrae U1125, Cnam, Nutritional Epidemiology Research Team (EREN), Epidemiology and Statistics Research Center-University of Paris (CRESS), Bobigny, France, France

<sup>2</sup>DIPHE Laboratory (Development, Individual, Personality, Handicap, Education), University Lumière Lyon 2, France

<sup>3</sup>Department of Psychology, Counseling Psychology, University of Potsdam, Karl-Liebknecht-Str. 24-25, 14476 Potsdam, Germany, France

<sup>4</sup>Université Libre de Bruxelles, Service of Analysis of the Data (SAD), Bruxelles, Belgium, Belgium

**Background:** Various psychological characteristics have been associated with overweight. In particular, some studies have reported associations between self-esteem and weight status, but longitudinal data on adults remain scarce. The aim of this population-based study was therefore to analyze the cross-sectional and longitudinal association between self-esteem and body mass index (BMI).

**Methods:** In 2016, 29,735 participants aged  $\geq 18$  years in the NutriNet-Santé cohort completed the French version of the Rosenberg Self-Esteem Scale (R-SES). BMI was self-reported yearly over a 4-year period. Association between self-esteem and BMI was assessed using mixed models (repeated measures of BMI) and logistic regressions (delta BMI). Analyses were stratified by BMI (categorical) at baseline, and adjusted on sociodemographic and lifestyle characteristics.

**Findings:** At baseline, higher self-esteem was associated with higher BMI in normal weight individuals ( $\beta=0.07$ , 95% CI: 0.02, 0.13), and with lower BMI in obese class II and III individuals ( $\beta=-0.52$ , 95% CI: -0.98, -0.05). In addition, higher baseline self-esteem was associated with BMI increase in normal weight individuals ( $\beta=0.0012$ , 95% CI: 0.0003, 0.0022). Among normal weight individuals, those with higher self-esteem were less likely to show a decrease in their BMI (OR=0.88, 95% CI: 0.80, 0.96), while no association was observed with BMI increase (OR=0.99, 95% CI: 0.9, 1.09).

**Discussion:** Our findings suggest contrasting results between self-esteem and weight status depending on the initial category of BMI. Our results do not support a protective impact role of self-esteem on weight status. These results need to be confirmed in a study with a longer follow-up.

# Individual differences in coping with health issues

15:25 - 16:55

Christel Salewski

15:25 - 15:37

## The hoax conspiracy as a soothing but maladaptive escape from the COVID-19 pandemic reality

P. Schmid<sup>1</sup>, L. Felgendreff<sup>1</sup>, C. Betsch<sup>1</sup>

<sup>1</sup>University of Erfurt, Germany

The coronavirus disease (COVID-19) pandemic is a psychological burden for the world population. The belief that corona is a hoax may be a soothing escape because it provides a false sense of security by denying the very existence of the COVID-19 pandemic. Results from six cross-sectional surveys (N = 5,986) reveal that hoax believers report lower levels of pandemic-related fear ( $b = -27.24$ ,  $p < .001$ ), rumination ( $b = -12.51$ ,  $p < .001$ ), and helplessness ( $b = -9.61$ ,  $p = .006$ ), compared to non-believers and believers of the manmade conspiracy. However, explorative analyses suggest that low levels of fear among hoax believers do not apply to all pandemic-related fears. If individuals use the hoax narrative as an escape from the pandemic reality then they run the risk of trading one fearsome proposition (i.e., corona is a serious threat) for another (i.e., officials maintain a large-scaled lie for their own benefit). Moreover, confirmatory analyses show that hoax believers also adhere less often to measures of pandemic preparedness ( $b = -12.26$ ,  $p < .001$ ) and thereby run the risk of reinforcing the pandemic reality. The low adherence to measures of pandemic preparedness among hoax believers can partially be explained by low levels of pandemic-related fear, that is, the false sense of security may lead to maladaptation during a pandemic. Thus, adopting the hoax conspiracy may indeed be a soothing but maladaptive escape from the COVID-19 pandemic reality. Results of individuals that report to believe in contradictory conspiracy theories are explored.



## Positive psychological traits are associated with dietary behavior during the COVID-19 lockdown

M. Robert<sup>1</sup>, M. Deschasaux-Tanguy<sup>1</sup>, R. Shankland<sup>2</sup>, N. Druésne-Pecollo<sup>1</sup>, Y. Esseddik<sup>1</sup>, F. Szabo de Edelenyi<sup>1</sup>, S. Hercberg<sup>1,3</sup>, M. Touvier<sup>1</sup>, S. Study group<sup>4</sup>, S. Péneau<sup>1</sup>

<sup>1</sup>Sorbonne Paris Nord University, Inserm U1153, Inrae U1125, Cnam, Nutritional Epidemiology Research Team (EREN), Epidemiology and Statistics Research Center – University of Paris (CRESS), Bobigny, France, France

<sup>2</sup>DIPHE Laboratory (Development, Individual, Personality, Handicap, Education), University Lumière Lyon 2, France

<sup>3</sup>Public Health Department, Avicenne Hospital, Bobigny, France, France

<sup>4</sup>Sorbonne University, Inserm, Institut Pierre-Louis d'Epidémiologie et de Santé Publique (IPLESP), Public Health Department, Saint-Antoine Hospital, APHP, Paris, France, France

**Background:** The spread of the coronavirus disease (COVID-19) led many countries to implement strict lockdown measures, which resulted in changes in dietary behavior. Psychological traits are well-known determinants of dietary behaviors. Therefore, we aimed to investigate the associations between positive psychological traits and changes in snacking and food group consumption during the COVID-19 lockdown period in a population-based study.

**Methods:** In 2016, levels of optimism, resilience, self-esteem, satisfaction with life, mindfulness and mastery were assessed in 33,766 adults of the NutriNet-Santé cohort. Snacking and food group consumption were assessed in April-May 2020 (lockdown period in France). Association between psychological traits and changes in snacking and food group consumption were assessed using logistic regressions. Multiple correspondence analysis followed by ascending hierarchical classification were used to derive clusters of dietary behaviors. Covariance analyses were used to compare mean scores of psychological traits between clusters. All analyses were adjusted for sociodemographic and lifestyle characteristics, anxiety and depressive symptomatology.

**Findings:** Participants with higher levels of optimism, resilience, self-esteem, satisfaction with life, mindfulness or mastery were less likely to demonstrate a change in their snacking behavior and consumption of various food groups. Overall, individuals showed higher levels of positive psychological traits in the “no change” cluster, followed by the “healthy” cluster and the “unhealthy” cluster.

**Discussion:** Individuals with higher levels of optimism, resilience, self-esteem, satisfaction with life, mindfulness or mastery were less impacted by the lockdown in terms of dietary behavior. Individuals with lower levels demonstrated both favorable and unfavorable changes in their dietary behaviors.

## Risk factors for anxiety and depression: a population-based study

C. Hakelind<sup>1</sup>, C. Nabb<sup>1</sup>, R. Taylor<sup>1</sup>, M. Nordin<sup>1</sup>, S. Nordin<sup>1</sup>

<sup>1</sup>Umeå University, Sweden

**Background:** Anxiety and depression are common health problems in most societies, and their comorbidity with various mental health problems is high and well known. However, longitudinal studies assessing in general populations for these conditions are needed in order to assess potential early risk factors. Therefore, the objective was to assess risk factors among exhaustion, insomnia, stress, depression, anxiety, helplessness, hopelessness and low self-rated health for developing anxiety and depression in a general adult population in northern Sweden.

**Methods:** A population-based longitudinal design was applied, using validated questionnaire instruments. Participants aged 18-79 years without anxiety (n= 1930) or depression (n=2120) at baseline were followed up three years later. Risk factors were compared in participants who had developed anxiety and depression to those who had not, using binary logistic regression analysis.

**Results:** Depression was the strongest risk factor for anxiety (OR=3.78), followed by exhaustion (OR=3.72), helplessness (OR=2.88) and self-rated health (OR=2.37). Stress, insomnia and hopelessness were not significant predictors for anxiety. The strongest risk factor for depression was hopelessness (OR=4.16), followed by exhaustion (OR=4.14), helplessness (OR= 3.43), anxiety (OR=2.62), low self-rated health (2.32), stress (OR=2.15) and insomnia (OR=1.83).

**Discussion:** As expected, depression and anxiety predicted each other. In line with prior studies exhaustion precedes both depression and anxiety. The findings of helplessness, hopelessness, and low self-rated health being predictors suggest that clinicians should be aware of the risks of these conditions leading to anxiety and depression, and thus early pay attention to such signs for preventive measures.

16:01 - 16:13

## Coping with recent COVID-19 deaths: A Qualitative Study with grieving family members in Italy

L. Entilli<sup>1</sup>, S. Cipolletta<sup>1</sup>

<sup>1</sup>University of Padua, Italy

**Background:** Loss maladjustment, often associated with increased psychological and physical health issues, could represent a risk in COVID-19 mourners due to the unexpected and violent conditions characterizing COVID-19 deaths. This is the first study to explore and differentiate among bereavement experiences of family members who have lost a significant other to COVID-19. **Methods:** Twenty individuals bereaved by COVID-19's first wave in Lombardy region, one of the earliest and most serious clusters worldwide, were interviewed between 1 and 3 months after their loss. Thematic analysis was carried out through the software ATLAS.ti8. Participants (15 F, 5 M) were mourning a parent (16), a spouse (1) or a grandparent (3). **Findings:** Five themes were identified: illness trajectories of COVID-19 patients; coping with the loss; resources; COVID-19 impact on mourners' lives; and looking forward. Mourners considering their loved one's departure as premature and unjust experienced a totaling anger: instead of undergoing a sense-making process, they focused all their attention on denouncing institutions and looking for culprits. Administration's mismanagement determined a widespread lack of trust in health professionals, also affecting mourners' search for psychological help. Participants relied mainly on virtual informal support, but the limitations of telematic-only support in the long-term emerged. Acceptance occurred particularly in those able to find alternative ways to share their grief and use it as a turning point. **Discussion:** The peculiar characteristics of COVID-19 deaths can amplify individual differences in the start of a meaning-making process. Results propose new insights for COVID-19 grief support within the meaning-making model.

## Exploring the needs of spousal and adult children informal caregivers: A mixed-method systematic review

S. Dang<sup>1</sup>, M. Hagedoorn<sup>2</sup>, A. Looijmans<sup>3</sup>, G. Ferraris<sup>1</sup>, G. Lamura<sup>4</sup>

<sup>1</sup>University medical center Groningen, Netherlands

<sup>2</sup>University of Groningen, Netherlands

<sup>3</sup>University Medical Center Groningen, Netherlands

<sup>4</sup>National Institute of Health and Science on Ageing (IRCCS INRCA), Ancona, Italy

**Background:** Although informal caregivers (ICGs) express that they provide care out of love, they also experience caregiving burden. eHealth interventions are being developed to support ICGs. However, different ICGs may have different needs as a caregiver, which may result in different needs and expectations towards eHealth interventions. For example, ICGs taking care of their spouse may have different needs from those taking care of their parents. This study explores the needs of different groups of ICGs based on their relationship with the care recipient. **Method:** We conducted a systematic mixed-method review, performing a search in the databases PubMed, CINAHL, and PsycINFO. We included studies describing the needs of different groups of ICGs having qualitative, quantitative, or mixed-method study designs. We analysed the data using a narrative synthesis method. **Findings:** Out of 5241 articles, 19 were included (13 qualitative; 6 quantitative). Articles that reported needs of spousal ICGs and ICG taking care of parents (i.e. adult child ICGs) were only included due to a limited number of articles about other groups of ICGs (e.g. parents, siblings). The most prominent need reported by spousal and adult children ICGs was information need, followed by support need and personal time need. Additionally, financial need and relationship need were reported by spousal ICGs, whereas the need to be seen as more than a carer and the need for acknowledgment were identified in children ICGs. **Discussion:** The findings will help in tailoring the content of eHealth interventions according to the needs of different groups of ICGs.

16:25 - 16:37

## The role of consumption and reward simulations in the motivation for sugar-sweetened beverages

D. Rusz<sup>1</sup>, A. Claassen<sup>1</sup>, M. Best<sup>1</sup>, E. Papies<sup>1</sup>

<sup>1</sup>University of Glasgow, United Kingdom

**Background:** While the motivation for unhealthy food has been researched extensively, the motivation for sugar-sweetened beverages remains understudied, despite their negative health consequences. Our research examines how people cognitively represent sugar-sweetened beverages, and whether these representations explain the motivation to consume them. Based on the grounded cognition theory of desire, we propose that seeing or thinking about a sugary drink spontaneously triggers a simulation (i.e., a re-enactment) of the rewarding experience of drinking it, especially among frequent consumers, which will predict the desire to consume.

**Methods:** In two online and one lab experiment (total N = 457), participants described “which features are typically true of” sugar-sweetened drinks, bottled water, and tap water. They also rated desire and consumption frequency with regard to each drink, and we measured intake in the lab. All listed features were coded according to a hierarchical coding scheme.

**Findings:** In line with pre-registered hypotheses, we found that sugar-sweetened beverages were represented more through sensory features (e.g., “cold”, “fizzy”, “sweet”) than water ( $p < .001$ ), particularly among high consumers, while bottled and tap water was represented more in terms of long-term positive health consequences ( $p < .001$ ). Water was also represented more in terms of immediate bodily consequences (e.g., “refreshing”, “thirst-quenching”) than sugar-sweetened beverages. Consumption and reward simulations predicted desire to consume more strongly for sugar-sweetened beverages than for water, and they predicted consumption in the laboratory ( $\beta = .17$ ).

**Implications:** Healthy hydration interventions should attempt to create representations of water that focus on short-term, rather than long-term reward.

16:37 - 16:49

## Insights into dynamic association between physical symptoms and affect from longitudinal data in inflammatory arthritis

H.Y. Tung<sup>1</sup>, L. Carpenter<sup>1</sup>, H. Chaplin<sup>1</sup>, E. Caton<sup>1</sup>, M. Sweeney<sup>1</sup>, F. Matcham<sup>1</sup>, J. Galloway<sup>1</sup>, S. Norton<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

### Background:

This study looks at the necessity of collecting intensive longitudinal data (symptom assessments multiple times per day) in inflammatory arthritis studies and what extra information can be garnered that cross-sectional data could not.

### Methods:

30 participants were recruited in July 2020 and received 6 surveys per day for 10 days, which involved rating 9 physical and psychological symptoms. Diurnal associations are assessed using mixed-effects models with restricted cubic splines, and dynamic mixed models are used to estimate longitudinal associations.

### Results:

Symptoms were consistent throughout the day, with the exception of joint stiffness being markedly higher in the morning, and positive affect improving throughout the day. All symptoms are strongly auto correlated throughout the day, with physical symptoms being the most stable over time. Dynamic mixed models indicated stronger association between negative affect at one timepoint and physical symptom at the next ( $\beta = 0.034$ ,  $p = 0.020$ ), rather than vice-versa ( $\beta = 0.0078$ ,  $p = 0.89$ ). In contrast, physical symptoms were shown to be more strongly associated with next time period's positive affect ( $\beta = 0.15$ ,  $p = 0.01$ ), than positive affect with the next periods physical symptoms ( $\beta = -0.013$ ,  $p = 0.59$ ).

### Conclusion:

Cross-sectional data only considers between-person effects without interrogating bidirectional associations. Longitudinal data means dynamic components can be evaluated and direction of associations can be inferred. For instance in this study, that negative affect is associated with worsening of physical symptoms in inflammatory arthritis over time, but physical symptoms are associated with reduced positive affect.

# Contextual factors affecting child and adolescent health behaviours

15:25 - 16:55

Marita Hernessy

15:25 - 15:37

## Media Influence Components as Predictors of Children's Body Image and Eating Problems

J. De Coen<sup>1</sup>, S. Verbeken<sup>2</sup>, L. Goossens<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>University Ghent, Belgium

**Objective:** Body image problems are reported during middle childhood and are associated with exposure to appearance-focused media. This longitudinal study investigated the extent to which three media influence components, Awareness, Pressure and Internalization of media ideals, predict body image and eating problems in children and whether gender moderates this effect. **Methods:** A total sample of n = 688 participants (46% girls, aged 8-11 at T1) was studied. Self-report questionnaires were administered on the media influence components, body image and eating problems at T1 and T2 (1 year later). **Results:** After controlling for age, adjusted body mass index and baseline levels of body image and eating problems, results show that media influence components significantly predicted Restraint and Concerns about Eating, Weight and Shape one year later. Awareness, however, uniquely predicted increases in Eating Concerns in boys, while Pressure predicted increases in Concerns on Eating, Weight and Shape in girls only. **Discussion:** The current results indicate that overall, in middle childhood, media influence components seem to longitudinally affect body image of girls and boys and thus, both boys and girls should be addressed in future research and prevention programs. Yet, gender-specific vulnerabilities were observed, which should be further explored in future research.



15:37 - 15:49

## The role of others – effects of group composition in the treatment of childhood obesity

A. Zumbrunn<sup>1</sup>

<sup>1</sup>School of Social Work, University of Applied Sciences and Arts FHNW, Switzerland

**Background:** Although treatment of childhood obesity is often carried out in groups, the possible influence of group composition on individual treatment outcome has not yet been researched. Previous findings for adults point to positive outcome effects of homogenous groups, since similarities among group members foster group cohesion and strengthen orientation with group norms.

**Methods:** An existing Swiss dataset, the Kidsstep Obesity study, served as the basis for this longitudinal study. 1057 obese children and adolescents from 104 treatment groups participated at up to four measurement points between 2009 and 2013. BMI adjusted for age and gender (zBMI) and physical well-being of the participants were examined as outcome variables. A sequence of multivariate multi-level regression models were calculated.

**Findings:** Group characteristics explained about 14% of the differences in the zBMI change of participants when controlling for individual influencing factors. This was not true for changes in physical well-being. A high percentage of girls ( $\beta=.05$ ) and a low average group age ( $\beta=.07$ ) were found to be significant factors. In addition, effects of social norms were shown: Being treated among group members with high levels of healthy dietary behaviour and physical activity had a positive effect on individual zBMI reduction ( $\beta=.11$ ) as well as significant average zBMI reduction of other group members ( $\beta=.20$ ).

**Discussion:** Plausible explanations for the results are provided by gender- and age-specific interaction patterns in groups. For the treatment of childhood obesity, consideration should be given to how the development and strengthening of salutogenic group norms can be specifically promoted.

15:49 - 16:01

## Behaviour change interventions improve maternal and child nutrition in sub-Saharan Africa: systematic review

D. Watson<sup>1</sup>, P. Mushamiri<sup>2</sup>, P. Beerli<sup>3</sup>, T. Rouamba<sup>4</sup>, S. Jenner<sup>5</sup>, S. Kehoe<sup>5</sup>, K. Ward<sup>5,6</sup>, M. Newell<sup>1,6</sup>, M. Barker<sup>7,8</sup>, W. Lawrence<sup>5</sup>

<sup>1</sup>Global Health Research Institute, Human Development and Health, Faculty of Medicine, University of Southampton, United Kingdom

<sup>2</sup>SAMRC Centre for Health Economics and Decision Science, PRICELESS, University of the Witwatersrand,, South Africa

<sup>3</sup>Navrongo Health Research Centre, Ghana

<sup>4</sup>Clinical Research Unit of Nanoro, Institut de Recherche en Sciences de la Santé, Burkina Faso

<sup>5</sup>Medical Research Council Lifecourse Epidemiology Unit, University of Southampton, United Kingdom

<sup>6</sup>School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, South Africa

<sup>7</sup>MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom

<sup>8</sup>School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, South Africa

**Background:** Sub-Saharan African communities are experiencing a double malnutrition burden, where undernutrition coexists with overweight and obesity. It is established that nutrition-specific and nutrition-sensitive interventions can improve maternal and child nutrition status in sub-Saharan Africa. What is lacking is a systematic review of the effectiveness of such interventions when they incorporate behaviour change principles.

### Methods:

Six medical, social science and African databases were searched systematically, using MeSH and free text terms, for articles published in English until April 2019. One reviewer screened all titles, abstracts and full-text papers; three reviewers from African research teams screened one third each. Data extraction and quality assessments were based on CRD guidelines.

### Findings:

The search yielded 903 articles: 39 from 32 interventions met inclusion criteria, and all had a moderate to high risk of bias. Interventions were coded into at least one of six categories: behaviour change theory (n=6), self-efficacy (n=11), counselling (n=10), behaviour change communication (n=6), empowerment (n=8), and behaviour change concepts (n=5). Those that applied behaviour change theory, communication or counselling resulted in significant maternal and child nutrition improvements. Outcomes included reduced wasting and underweight, increased dietary diversity, fruit and vegetable intake and household food consumption. Most studies found improved behavioural outcomes including nutrition knowledge, attitudes, practice, empowerment and well-being.

## Discussion:

Interventions informed by behaviour change theory, communication or counselling show evidence of effectiveness to improve maternal and child nutrition in sub-Saharan Africa. Health Psychologists can play an important role in supporting global health research, intervention development and fulfilling SDGs.

16:01 - 16:13

## A qualitative investigation of the health behaviours of young children from refugee families: Photo Elicitation

M. Alsubhi<sup>1</sup>, S. Peters<sup>1</sup>, T. Epton<sup>2</sup>, J. Goldthorpe<sup>1</sup>

<sup>1</sup>The university of manchester, United Kingdom

<sup>2</sup>University of Manchester, United Kingdom

### Objectives:

To explore the experiences and perspectives of refugee parents regarding health behaviour changes among their children (i.e. changes in diet, levels of physical activity) and the impact of these changes on the health of their children.

### Methods:

Parents of 2 to 10 years old children which having relocated to the UK within the past three years and more were recruited from two refugee organisations in the UK. Semi-structured face-to-face interviews and photo-elicitation were used. Data analysed using an inductive and latent thematic analysis.

### Results:

Twenty-seven parent refugees were recruited. Participants were primarily mothers (85%) and from Syria (70%). Other countries of origin were Sudan, Eritrea, Iraq, Kuwait, Libya and Tunisia. Twenty-six interviews were conducted in Arabic and one in English. The analysis identified three themes: 1) navigating a new environment, 2) adjusting parenting role and responsibility, and 3) parental beliefs. Participants described facing substantial changes to their lifestyle and personal context, including a restricted living space, restricted neighbourhood/community and inclement weather. These differences in the environment required parents to adjust their roles, and practices around their own and their child's eating habits. These changes influenced refugee children's health behaviours of particular concern to parents were, increased sedentary behaviour and consumption of unhealthy snacks. Parents were found to hold different from normal beliefs about what they consider healthy and unhealthy.

### Conclusions:

Multiple factors relating to changes in family circumstances and environment influence refugee children's health behaviours. Targeting these behaviours in tailored interventions may help improve refugee children's health.

## A meta-analysis of the parental social-cognitive correlates of oral hygiene behavior in preschoolers

S. Smith<sup>1</sup>, K. Hamilton<sup>1</sup>, J. Kroon<sup>1</sup>, R. Schwarzer<sup>2</sup>

<sup>1</sup>Griffith University, Australia

<sup>2</sup>Freie University Berlin, Germany

**Background:** Regular and consistent parental involvement in children's oral hygiene practices is crucial to prevent oral diseases in young children. This emphasizes the need for interventions targeting parental-supervised oral hygiene behavior. To inform the design of future interventions, this meta-analysis aimed to identify the parental social-cognitive factors associated with oral hygiene behavior of preschoolers (12-71 months). **Methods:** Five bibliographic databases were searched. A study was eligible for inclusion when it reported an association between a parental social-cognitive factor and an oral hygiene behavior in the targeted age cohort. Meta-analyses were performed when there were at least four independent effect sizes ( $k > 3$ ). **Findings:** Of the 5945 records identified, 25 studies contained eligible data to be included in four meta-analyses: attitude ( $k = 12$ ); self-efficacy ( $k = 12$ ); intention ( $k = 6$ ), and sense of coherence ( $k = 5$ ). The results showed that greater frequency of preschoolers' oral hygiene behavior is significantly associated with parental attitudes ( $r = .18$ ), self-efficacy ( $r = .34$ ), and intention ( $r = .29$ ), and not significantly associated with parental sense of coherence ( $r = .08$ ). **Discussion:** Self-efficacy, attitudes, and intention were identified as significant correlates of parental-supervised oral hygiene behavior. However, this is a limited evidence base and many social-cognitive factors, such as self-regulatory processes including planning and action control, have yet to be explored in this context. The significant social-cognitive correlates identified in this study, as well as additional self-regulatory factors, should be targeted in future intervention studies aimed at improving this important preventive behavior.

16:25 - 16:37

## The Communities That Care Youth Survey: Unidimensionality and predictive power of risk factors in Germany

M. Reder<sup>1</sup>, R. Runge<sup>2</sup>, H. Schlüter<sup>1</sup>, N. Feierabend<sup>1</sup>, R. Soellner<sup>1</sup>

<sup>1</sup>University of Hildesheim, Germany

<sup>2</sup>University of Hildesheim, Germany

**Background:** Communities That Care (CTC) is an evidence-based community change strategy based on the Social Development Model. One focal element is developing a Community Profile to identify and prioritise risk factors of health and behaviour problems based on the CTC Youth Survey. Originally developed and evaluated in the USA, an adapted version has been used in Germany since 2010. However, the unidimensionality and predictive power of the adapted scales have not been assessed yet.

**Methods:** Using a sample of 1911 adolescents, the 23 risk factors (covering the domains individual, family, school, and community) of the German CTC Youth Survey were evaluated. Unidimensionality could be assessed via confirmatory factor analysis for 15 scales (only for scales with >3 items model fit can be evaluated). CFI, SRMR, RMSEA determined goodness of fit. Scales with confirmed unidimensionality were tested for predictive power via latent regression analysis.

**Findings:** Model fit of 14 of 15 risk factors was acceptable to good; one individual risk factor was not unidimensional. Most risk factors were predictive of the problem behaviours delinquency, violence, depressiveness, and substance use. One community risk factor and one individual risk factor were not predictive of at least one problem behaviour.

**Discussion:** Generally, the CTC Youth Survey scales show unidimensionality and predictive power. Few scales, however, do not work well in the German version – possibly due to cultural differences. These scales should be altered or excluded from the Survey as their results are neither helpful for prevention planning nor for programme evaluation.

16:37 - 16:49

## What groups of measures would promote healthy early childhood development in marginalized Roma communities?

S. Chovan<sup>1</sup>, D. Fiľakovská Bobakova<sup>2</sup>, L. Bosáková<sup>1</sup>, A. Madarasova Geckova<sup>3</sup>, S.A. Reijneveld<sup>4</sup>, M. de Kroon<sup>4</sup>

<sup>1</sup>Faculty of Medicine, Pavol Josef Šafárik University Košice, Slovakia

<sup>2</sup>PJ Safarik University in Kosice, Slovakia

<sup>3</sup>University of Pavol Jozef Safarik in Košice, Slovakia

<sup>4</sup>Department of Community & Occupational Medicine, University of Groningen, Groningen, Netherlands

**Background:** Our aim was to assess the most urgent and most feasible groups of measures that would make healthy early childhood development more likely in marginalized Roma communities.

**Methods:** We used group concept mapping approach (GCM) to structure the interventions increasing the chances for healthy early childhood development proposed by the professionals, who are in their praxis directly or indirectly involved with Roma living in marginalized communities. The interventions were proposed by 54 participants and subsequently 40 participants sorted these interventions into groups and rated their urgency and feasibility. We have used multidimensional scaling and hierarchical cluster analysis in order to map the groups of measures and to assess the urgency and feasibility of each group.

**Findings:** Participants considered Cluster 2, concerning enhancement of living conditions as the most urgent. Cluster 3, concerning quality and accessibility of healthcare was considered to be the least urgent. In terms of feasibility, the results were opposite. Cluster 2, which was considered to be the most urgent cluster was rated as the least feasible one. Feasibility of Cluster 4, related to the community interventions focused on the transfer of cultural capital, was rated as highest, despite being rated as one of the least urgent.

**Discussion:** A 4-cluster solution was identified as the most appropriate. We have found significant discrepancy between urgency and feasibility of the individual groups of measures.

# Quality of life in context

15:25 - 16:55

Karen Matvienko-Sikar



## The impact of unemployment and childbirth on trajectories of life satisfaction in different social contexts

S. Hahm<sup>1</sup>, L. Altweck<sup>1</sup>, H. Muehlan<sup>1</sup>, T. Fleischer<sup>2</sup>, C. Ulke<sup>2</sup>, S. Speerforck<sup>2</sup>, G. Schomerus<sup>2</sup>, M.E. Beutel<sup>3</sup>, E. Brähler<sup>3</sup>, S. Schmidt<sup>1</sup>

<sup>1</sup>University of Greifswald, Germany

<sup>2</sup>Leipzig University Medical Center, Germany

<sup>3</sup>University Medical Center, Johannes Gutenberg-University, Germany

**Background:** The effects of unemployment and childbirth on life satisfaction are well-studied separately, but their interaction less so. Childbirth may constitute an additional burden to women experiencing unemployment or increase resilience to the negative effects of unemployment. This study aimed to investigate this question in two social contexts – East and West Germany – with historically different cultural and structural norms concerning gender roles.

**Methods:** Longitudinal data (1991–2017) of 4538 women from the German Socio-Economic Panel (GSOEP) was used. Piecewise latent growth models were employed to study life satisfaction changes two years before and three years after becoming unemployed for the first time between 1992 and 2017. Concurrent childbirth was included as a predictor, controlling for age, education, marital status, household income, and number of children in the household. Differences regarding social context were analysed using multi-group analyses.

**Findings:** East German women reported lower life satisfaction in the year of becoming unemployed. A significant pre-unemployment decline and post-unemployment increase in life satisfaction was found in both contexts, with the effects being more pronounced in East German women. Childbirth was significantly associated with higher life satisfaction at the time of becoming unemployed, less negative pre-unemployment and less positive post-unemployment slopes in both contexts, attenuating the negative impact of unemployment.

**Discussion:** The stronger negative impact of unemployment in East German women is in line with more egalitarian gender roles and greater importance assigned to employment compared with West German women. Childbirth appears to have increased resilience towards the negative impact of unemployment.

15:37 - 15:49

## Posttraumatic Growth and Quality of Life in Fathers of Children with Special Needs

G. Filazoglu Cokluk<sup>1</sup>, A.O. Mestcioglu<sup>1</sup>

<sup>1</sup>Istanbul Okan University, Turkey

**Background:**The main aim of this study was to investigate the predictive power of posttraumatic growth in explaining Quality of Life among fathers who have children with special needs and compare the post traumatic growth characteristics and how they are related to quality of life variables between fathers who have special needs children and fathers with children who do not need special needs .

**Methods:** A cross-sectional sample of 308 fathers who have children with special needs and 247 fathers with children who do not need special needs in Turkey was invited to participate in a survey study that included the following standardized measures: Post Traumatic Growth Inventory and Family Quality of Life Scale.

**Findings:**

The quality of life varies according to variables such as the education level of the fathers, the child's disability, the number of children, and going to a rehabilitation center. Positive growth after trauma is higher in fathers who have children with special needs. There is a highly positive statistically significant relationship between the quality of life of fathers children with special needs and post-traumatic growth ( $p < .05$ ). There is a highly positive relationship between family life quality and realization of new opportunities, positive change in relationships with others ( $p < .05$ ). However, it was found that there is a negative relationship between quality of life and change in belief system.

**Discussion:** A high level of post-traumatic growth was associated with high levels of quality of life. Interventions to promote quality of life can improve fathers' outcomes.

# Mechanisms behind the association between fear of falling and quality of life in old age

G.M.A. Steckhan<sup>1</sup>, L.M. Warner<sup>1</sup>, R. Schwarzer<sup>2</sup>, L. Fleig<sup>1</sup>

<sup>1</sup>MSB Medical School Berlin, Germany

<sup>2</sup>Freie University Berlin, Germany

## Background

Preserving high levels of quality of life (QoL) is as important, if not more important than the maintenance of objective health parameters in old age. A growing concern in old age – which considerably limits quality of life – is fear of falling (FoF). To understand how FoF translates to QoL, we assessed subjective balance and strength and objective gait indicators as potential mediators.

## Methods

At Time 1 (N=174 participants, aged 51-93 years, M=75.85, SD=7.11, 87% women), we assessed FoF (Falls Efficacy Scale International), self-reported leg strength and balance, QoL (EQ-5D), and objective gait speed as meters per second (m/s, time to complete a 3 meter walk). QoL was reassessed at Time 2 (6 months apart, n=125). A sequential mediation analysis examined whether the relationship between FoF and QoL could be accounted for by self-reported leg strength, balance, and objectively measured gait speed.

## Findings

FoF was directly associated with QoL ( $\beta=-.27$ ; 95% CI[-0.07,-0.001]) as well as indirectly via self-reported leg strength and balance and gait speed (specific indirect effect:  $\beta=-.03$ ; 95% CI[-0.06,-0.001]; 5,000 bootstraps;  $R^2=.40$  in QoL; controlled for age and QoL at Time 1).

## Discussion

FoF may initiate a process of subjectively feeling less capable to move around, which, in turn, is associated with lower gait speed, resulting in decreases in QoL in old age. A promising intervention approach could be to address FoF to enable greater mobility in everyday life and, thus, to maintain quality of life in old age.

16:01 - 16:13

## Quality of life dimensions in clinical care of breast cancer survivors: a Delphi study

U. Smrke<sup>1</sup>, I. Mlakar<sup>1</sup>, S. Tement<sup>1</sup>, S. Lin<sup>2,3</sup>, L. Diéguez<sup>4,5</sup>, M. Chavez<sup>6</sup>, M. Horvat<sup>7</sup>, M. Ravnik<sup>7</sup>, I. Aleksandravica<sup>8</sup>, M. Salgado Fernández<sup>9</sup>

<sup>1</sup>University of Maribor, Slovenia

<sup>2</sup>Medical Department, Symptoma, Austria

<sup>3</sup>First Department of Medicine, Paracelsus Medical University, Austria

<sup>4</sup>RUBYNanomed, Portugal

<sup>5</sup>INL – International Iberian Nanotechnology Laboratory, Portugal

<sup>6</sup>CHU Liège, Département de gestion des systèmes d'informations, Belgium

<sup>7</sup>University Medical Centre Maribor, Slovenia

<sup>8</sup>University of Latvia, Latvia

<sup>9</sup>Servizo Galego de Saúde, Spain

**Background:** Health care of cancer survivors is becoming increasingly more value-based and quality-of-life (QoL) oriented, which can be effectively supported by regular monitoring of the patients. The aim of the present study was to determine the most important QoL domains for monitoring in care of breast cancer survivors from the clinical perspective.

**Methods:** An international Delphi study was conducted in two rounds with health-care professionals (HCPs; oncologists, nurses, physiotherapists, etc.), included in the care of breast cancer patients. In the first phase, participants (n = 57) rated the importance of QoL domains and sub-domains for monitoring breast cancer patients. Items for which the consensus of importance was reached (75 % of the ratings within top three measures of 7-point scale), were included in the second phase for participants (n = 9) to reach final consensus (with a criterion for consensus at 75 % of the ratings within top two measures of 7-point scale). Interrater reliability proved to be good and moderate, respectively.

**Findings:** The study resulted in identification of two domains (i.e., physical and psychological health and well-being) and 13 sub-domains of QoL, deemed most important by the sample of HCPs for breast cancer survivors monitoring.

**Discussion:** The present Delphi study strived to provide an expert-supported foundation for monitoring breast cancer survivors and their QoL. From a practical perspective, it aimed to support and enhance breast cancer survivors' QoL and provide HCPs with the most important information needed for their care.

## Assessing wellbeing in early life using retrospective recall: the example of addicts in recovery

T. Corner<sup>1</sup>, E. Arden-Close<sup>1</sup>, J. McAlaney<sup>1</sup>

<sup>1</sup>Bournemouth University, United Kingdom

**Background:** Assessment of individuals with chronic health conditions in later life provides limited information regarding psychosocial wellbeing in childhood. However, prospective cohort studies on psychosocial wellbeing would be extremely time-consuming and require vast numbers due to dropout. Retrospective recall provides the opportunity to assess wellbeing in early life. While it is subject to bias, the reminiscence bump, whereby events from childhood to young adulthood are recalled more clearly than events in later adulthood, suggests that memories are likely to be fresh in participants' minds. This study compared coping strategies, quality of life (QoL) and affect in addicts in recovery relative to at age 15, a time preceding most recognisable addictions.

**Methods:** In a cross-sectional, retrospective online questionnaire study, addicts in recovery (n = 115; 52.2% male) recruited via social media signposted by an addiction rehabilitation charity completed questionnaires on QoL (WHOQOL-Bref), coping strategies (Brief COPE) and positive and negative affect (PANAS X) about themselves now and at age 15. Data was analysed using Pearson correlations and t-tests.

**Findings:** The main primary addictions were alcohol (21.7%) and drugs (76.5%), with 69.7% reporting multiple addictions including food, sex, internet and gambling. Across all addictions, negative affect decreased and positive affect increased pre to post addiction. QoL improved with time in recovery.

**Discussion:** The use of retrospective recall enabled 1) comparison of affect and coping strategies pre to post addiction and 2) identification of greater similarities than differences between drug addicts and alcoholics. These findings suggest addictions should not be studied in isolation.

16:25 - 16:37

## “Everything was destroyed”: Resilience of older adults with disabilities during hurricane Maria in Puerto Rico

M. Guzzardo<sup>1</sup>, I. Todorova<sup>2</sup>, A. Engelman<sup>1</sup>, R. Guzzardo Tamargo<sup>3</sup>, E. Dean Olmsted<sup>3</sup>

<sup>1</sup>California State University, East Bay, United States

<sup>2</sup>Northeastern University, United States

<sup>3</sup>University of Puerto Rico, United States

In the aftermath of hurricane María in Puerto Rico, people with disabilities and elderly faced challenges in protecting themselves during the hurricane, and harrowing living conditions in the aftermath, leading to additional significant risks to their mental and physical health. This project focused on the perceived experiences of elderly individuals who were directly impacted. Methods: We conducted in-depth interviews with older adults with disabilities in rural and urban areas in Puerto Rico (n = 14, 3 men and 11 women, aged 51 to 88). We explore their experience preparing for Hurricane María, during the storm, and in its aftermath. We use Interpretative Phenomenological Analysis (IPA) to consider how they made sense of their lived experience. Findings: Findings underscore the challenges older adults with disabilities face during and a disaster, their resilience, and how they make sense of their experience with others in their community. The themes we identified include: It was a different world; Resilience through faith and gratitude and Resilience through a collective experience. Participants framed resilience in ways that can be interpreted as stemming from their disability and age, rather than in spite of disability and age. Discussion: The discussion will contextualize the themes within people’s status, local communities, as well as news reports of injustices experienced by Puerto Ricans due to the inadequate government response. There needs to be a continued discussion about older people’s experiences and actions, as well as a call for more government accountability and improved preparations for future disasters.

## Life on a temporary surface; A qualitative study on loneliness among highly skilled migrants

N. Bayat<sup>1</sup>, R. Ruiter<sup>1</sup>, T. Fokkema<sup>2</sup>

<sup>1</sup>Maastricht University, Netherlands

<sup>2</sup>Netherlands Interdisciplinary Demographic Institute, Netherlands

**Background:** Little attention has been given to the mental health of highly skilled migrants who are considered temporary residents in the Netherlands. However, they face multiple challenges, such as cultural adaptation, work related difficulties, and separation from family. The present study aimed at exploring the experience of loneliness and support resources in women from different origins who recently migrated to the Netherlands for higher education/work.

**Method:** A total of 20 participants were invited through snowball sampling, and were individually interviewed in depth after the informed consent was taken. The interviews were audio recorded, transcribed, and analyzed thematically.

**Result:** Four main themes were identified: i) Experience of loneliness: Loneliness was expressed differently among participants: being isolated, not being valued or understood. ii) Appraisal of support resources: The following sub-themes were identified: a) Emotional support: personal resources, partner, and family in the homeland. b) Social support: ethnical and international communities. iii) Coping: Special emphasis was given to the following subthemes: lowering the expectations from social interactions, accepting the depthless social life, and postponing mental health priorities for a more stabilized life. iv) Barriers of adjustment: feeling the walls entering local communities and circles, difficulty in learning Dutch, and cultural differences.

**Conclusion:** We found that most of the participants were not aware of any systematic social support that could offer them help. The findings stress the relevance of loneliness among new immigrants and suggests a comprehensive approach to combat loneliness among highly skilled migrants targeting both personal and structural factors in their environments.

# eHealth and COVID-19

15:25 - 16:55

Jane Walsh



15:25 - 15:37

## #StrongerTogether: Utilizing health behavior and technology acceptance models to predict adoption of COVID-19 tracing apps

S. Tomczyk<sup>1</sup>, S. Barth<sup>1</sup>, S. Schmidt<sup>1</sup>, H. Muehlan<sup>2</sup>

<sup>1</sup>University of Greifswald, Germany

<sup>2</sup>University of Greifswald, Germany

**Background.** Contact tracing apps can help to track infection chains and provide appropriate information during a pandemic. However, multiple studies point to low acceptance of contact tracing apps in most countries, and few studies have examined theory-based predictors of app use in the general population to guide health communication efforts.

**Methods.** Therefore, this study utilizes health behavior change and technology acceptance models to predict adoption intentions and frequency of current app use. We conducted a cross-sectional online survey between May and July 2020 in a German convenience sample (N=349; mean age=35.62; 65% female). To inspect incremental validity of model constructs as well as additional variables (privacy concerns, personalization), hierarchical regression models were applied, controlling for covariates.

**Findings.** The theory of planned behavior and the unified theory of acceptance and use of technology predicted adoption intentions (R<sup>2</sup>=56% to 63%) and frequency of current app use (R<sup>2</sup>=33% to 37%). In the extended models, lower privacy concerns and higher threat appraisals (i.e. anticipatory anxiety) also significantly predicted app use. Moreover, the impact of perceived usefulness was positive for adoption intentions but negative for frequency of current app use.

**Discussion.** This study identified several theory-based predictors of contact tracing app use. However, few constructs, such as social norms, have a consistent positive effect across models and outcomes. For now, the findings suggest that promulgating affirmative social norms, positive emotional effects of app use as well as addressing health concerns might be promising strategies to foster adoption intentions and app use in the general population.

15:37 - 15:49

## Development of an app-based behavior change intervention to promote hand hygiene during a pandemic

M. Amrein<sup>1</sup>, J. Inauen<sup>1</sup>

<sup>1</sup>University of Bern, Switzerland

During a pandemic like the COVID-19 pandemic, the general population needs to change different behaviors. While information about what people need to change is ubiquitous, the general population lacks guidance on how to change behavior most effectively. The aim of our study was to develop an effective behavior change intervention to promote long-term adherence to COVID-19 protective measures.

We used the experimental multiphase optimization strategy (MOST), which comprises three phases of intervention development: Preparation, optimization, and evaluation. We studied correct hand hygiene at key times. In the preparation phase, we conducted a literature review on the psychological mechanisms of hand hygiene guided by the theoretical domains framework. To contextualize the intervention, we conducted two focus group discussions (N = 8). Based on these results, we developed an app-based intervention to promote correct hand hygiene at key times.

The results of the preparation phase revealed three promising behavior change domains: habit, motivation (e.g. self-efficacy), and social norms. Key behavior change techniques to target these domains were derived from theory and evidence, including action planning, goal setting, habit formation and social reward. These were implemented in a smartphone application.

Our study shows how the MOST can be used to develop a theory- and evidence-based behavior change intervention in the context of a pandemic. In the current optimization phase, N=465 participants are randomly assigned to different combinations of intervention components to arrive at the most effective intervention package. Finally, the intervention will be compared to treatment as usual in a randomized controlled trial.

15:49 - 16:01

## Short- and longer-term effects of a brief online intervention on handwashing during the COVID-19 pandemic

N. Lorbeer<sup>1</sup>, J. Keller<sup>1</sup>, D. Kwasnicka<sup>2,3</sup>, L.O. Wilhelm<sup>4</sup>, T. Pauly<sup>5</sup>, A. Domke<sup>1</sup>, N. Knoll<sup>1</sup>, L. Fleig<sup>4</sup>

<sup>1</sup>Freie Universität Berlin, Germany

<sup>2</sup>University of Melbourne, Australia

<sup>3</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>4</sup>MSB Medical School Berlin, Germany

<sup>5</sup>Universität Zürich, Switzerland

**Background:** Handwashing is an important health behavior protecting against SARS-CoV-2 infection. During the COVID-19 pandemic, behavior change interventions supporting frequent handwashing are crucial to prevent infection transmissions. The aim of this research was to test short- and longer-term effects of a brief one-arm online intervention on handwashing during the COVID-19 pandemic. Effects over time on handwashing and handwashing-related self-monitoring as well as their interrelations were investigated.

**Methods:** Following a baseline assessment, a total of N =123 participants (age: M = 23.96 years; SD = 5.82) received a brief online intervention on handwashing. Repeatedly assessed handwashing-related self-monitoring and the frequency of daily handwashing were measured using daily diaries over 86 days and questionnaires at 25, 50, 75, and 100 days following the intervention. Multilevel models were fit.

**Findings:** Self-monitoring and the frequency of daily handwashing increased over 100 days following the intervention. Whereas self-monitoring was not related to handwashing at the within-person level, positive associations between self-monitoring and handwashing at the between-person level emerged.

**Discussion:** As handwashing increased over several weeks following the intervention, this scalable brief online intervention appears promising in promoting an important pandemic-related health behavior. Moreover, participants with higher self-monitoring levels across the study period were more likely to wash hands more frequently. Thus, future studies could target self-monitoring as an active ingredient of handwashing interventions.

16:01 - 16:13

## A pilot randomised controlled trial exploring feasibility of online expressive writing during the COVID-19 pandemic

D. McInnerney<sup>1</sup>, P. Stone<sup>1</sup>, B. Candy<sup>1</sup>, N. Kupeli<sup>1</sup>

<sup>1</sup>UCL, United Kingdom

**Background:** The COVID-19 pandemic has negatively impacted mental wellbeing on a global scale. Opportunities for face-to-face psychological interventions are limited by measures to reduce virus transmission. The development and testing of remote interventions to support mental wellbeing, such as expressive writing, is a research priority. The aims of this study are to assess the feasibility and acceptability of a randomised controlled trial comparing the effects of an online expressive writing intervention (LIO-C) on psychological distress in the general population during the COVID-19 pandemic, to a neutral writing control.

**Methods:** A mixed-methods pilot trial. English-speaking adults recruited via social media were randomised 1:1 to LIO-C or a control group. Feasibility was assessed by analysing recruitment, retention and fidelity. Acceptability was assessed through Likert-scales and a feedback form. Data were triangulated by coding to constructs within the Acceptability of Healthcare Interventions framework.

**Findings:** 81 participants were randomised to LIO-C (n=41) or control (n=40). There was 49% attrition to one-week post-intervention in the LIO-C arm and 65% in the control. Fidelity to writing prompts was good in both arms. The LIO-C intervention was deemed acceptable for most participants, but nine reported some negative effects, with three raising concerns relating to destabilisation and vulnerability. Recruitment did not continue to the definitive trial.

**Discussion:** The design of the definitive study would not be feasible without adapting methods to improve retention and safety. The need for robust development and acceptability testing for unfacilitated interventions, despite time-pressure to find solutions during the pandemic, is highlighted.

16:13 - 16:25

## Engagement with online fitness videos on YouTube and Instagram during COVID-19: a longitudinal study

W. Sui<sup>1</sup>, J. Rush<sup>2</sup>, R.E. Rhodes<sup>1</sup>

<sup>1</sup>University of Victoria, Canada

<sup>2</sup>Pennsylvania State University, United States

**Background:** COVID-19 has reduced opportunities for physical activity, an important determinant of physical and mental health. In turn, popularity of online home fitness videos has risen. However, the ability of these videos to maintain long-term engagement is unknown. Hence, this study explored patterns of engagement for online fitness videos over four months from the beginning of COVID-19.

**Methods.** Ten eligible channels were identified (i.e., freely available on YouTube or Instagram AND (posted a regular series workout OR offered quarantine-specific workout programs)). Engagement metrics (i.e., views, likes, and comments) were collected from channels' videos posted between March 11 to June 26/30, 2020, inclusive. A series of multilevel modeling analyses were conducted to examine longitudinal changes.

**Findings.** Multilevel models revealed that both views and likes significantly decreased across days. Visually, channels displayed the sharpest drop in engagement within the first week. Linear change estimate indicated that the number of views were initially declining by 24,700 per day (95% CI: [-44,400, -11,300],  $p = .010$ ), on average across all the channels; channels with more subscribers declined at a significantly faster rate ( $p \leq .04$ ). The day of the week a video is posted, 'virality', and content of a video all appear to positively influence engagement.

**Discussion.** Independent of engagement, each channel demonstrated peak engagement with the initial video followed by a decline in engagement with subsequent videos. Future research should explore elements of videos that drive engagement and whether integration of behaviour change techniques can further promote engagement.

# Feasibility Randomised Controlled Trial of the Hope Programme for Parents of Autistic Children during COVID-19

K. Bul<sup>1</sup>, H. Wright<sup>1</sup>, F. Martin<sup>1</sup>, G. Cartwright<sup>2</sup>, C. Clark<sup>1</sup>, W. Clyne<sup>3</sup>, G. Matouskova<sup>4</sup>, A. Turner<sup>1</sup>

<sup>1</sup>Coventry University, United Kingdom

<sup>2</sup>Coventry and Warwickshire Partnership Trust, City of Coventry Health Centre, United Kingdom

<sup>3</sup>National Institute for Health Research (NIHR), Research Design Service South West, Peninsula Medical School, United Kingdom

<sup>4</sup>Hope For The Community (H4C) Community Interest Company, United Kingdom

## Background

Parents of autistic children can experience lower levels of psychological well-being, specifically in the context of COVID-19 pandemic. The HOPE Programme (HOPE) is a six-week, digital, group-based, positive psychology self-management programme which provides parents with the knowledge, skills and confidence to manage their psychological wellbeing. This feasibility RCT tested the acceptability and feasibility of HOPE to parents of autistic children during COVID-19.

## Methods

This was an online, questionnaire-based, pre-post test, feasibility RCT. Parents of autistic children (N=136; age M=41.0, SD=7.6; 89.0% female) were randomised to the intervention group (IG; n=62) or a waitlist control group (CG; n=74). Participants completed online pre- and post-test outcome measures of positive mental wellbeing (PMWB), depression, anxiety, hope and gratitude. Data were analysed using a 2 (Group; IG, CG) x 2 (Time; pre, post) ANOVA for each outcome measure. Open text-based responses to questions around specific challenges brought about by the COVID-19 pandemic were summarised using thematic analysis.

## Results

The 2x2 ANOVAs revealed significant Group x Time interactions for positive mental wellbeing ( $p < .001$ ) and hope ( $p = .003$ ). Post-hoc analyses showed improvements in PMWB ( $p < .001$ ) and hope ( $p = .027$ ) for the IG, but not the CG ( $p = .753$  and  $p = .298$ , respectively). Thematic analysis revealed parents' top three concerns during COVID-19 were: i) mental health, ii) social support, iii) school.

## Discussion

Findings show that HOPE has a positive impact on psychological wellbeing for parents of autistic children during COVID-19. A more robust RCT including a long-term follow-up (after 6 months) is needed to determine its overall value and impact.

# Persuasive and informative health communication

15:25 - 16:55

Sebastian Potthoff

15:25 - 15:37

## Ambivalent attitudes and the intention to undergo Whole Genome Sequencing

E. Neter<sup>1</sup>, E. Shpringer<sup>1</sup>, Z. Slama<sup>1</sup>

<sup>1</sup>Ruppin Academic Center, Israel

**Background:** Ambivalent attitudes are a combination of positive and negative attitudes about a particular object and are measured both directly and indirectly. The association between ambivalent attitudes and the intention undergo WGS was examined.

**Method:** Participants (n=200, mean age= 32), were recruited through social media and responded to a self-administered online questionnaire. The design was cross sectional. The dependent variable was the intention to perform WGS and the independent variables were both direct and indirect ambivalent attitudes. Three indicators of indirect ambivalence, based on Kaplan's split semantic differential, were calculated: extremity, valence and complexity.

**Findings:** Complexity levels were found to be low in the range of 0-20 (M = 7.06, SD = 4), extremity was moderate in the range of 0-10 (M = 4.30, SD = 2.6), and valence was moderate considering the range 10 - (-10) (M = 3.30, SD = 3.32). Intention to undergo WGS was significantly positively associated with valence and extremity ( $r = 0.31$ , and  $r = 0.25$ ,  $p$ 's  $<0.001$ , respectively), significantly negatively associated with complexity ( $r = -0.26$ ,  $p <0.001$ ) and insignificant associated with direct ambivalence ( $r = -0.07$ ,  $p = 0.322$ ). In multivariate analysis, valence of attitudes significantly contributed to intentions ( $\beta = 0.12$ ,  $t = 2.88$ ,  $p <0.001$ ).

**Discussion:** The work is innovative in the application of ambivalence towards WGS. The low complexity and moderate valence towards WGS indicate slow penetration of the procedure. Focusing on measuring valence, as in a Likert scale, seems satisfactory and parsimonious.



## Consuming media, consuming food: A time-use diary survey on TV viewing and concurrent food intake

M. Alblas<sup>1</sup>, S. Mollen<sup>1</sup>, A. Wennekers<sup>2</sup>, M. Fransen<sup>3</sup>, B. van den Putte<sup>1</sup>

<sup>1</sup>University of Amsterdam, Netherlands

<sup>2</sup>Netherlands Institute for Social Research (SCP), Netherlands

<sup>3</sup>Radboud University, Netherlands

One explanation for the association between TV viewing and obesity is that people may (over)eat while watching TV. This study investigated TV viewing and concurrent food intake in a naturalistic setting among a general population sample. Preregistered secondary data analyses were performed of a diary survey in which adults in the Netherlands (n = 2292; age 20+, 58.9% female, 18.1% low, 29.8% middle, 51.4% high education) reported their time use in 10-minute blocks for seven days. TV viewing and concurrent food intake was operationalized as all blocks in which TV viewing and food intake occurred simultaneously. Furthermore, the TV content participants watched was coded as food-related (i.e., culinary content) or non-food related. More than half of the participants (51.3%) reported TV viewing and concurrent food intake at least once. The average food intake occasion was longer in duration while watching TV (vs. without media use), and the total time spent on food intake was longer on days of TV viewing and concurrent food intake (vs. days of food intake without media use). Watching food-related (vs. non-food related) TV content was not associated with the time spent on concurrent food intake. Demographic characteristics did not influence the results. Eating while watching TV, but not exposure to food-related TV content, was related to an increased time spent on food intake. Even though calorie intake was not assessed, these findings from a naturalistic setting provide further evidence that TV viewing and concurrent food intake may contribute to overeating, possibly resulting from distraction.

15:49 - 16:01

# Developing an online decision-aid and CenteringPregnancy intervention promoting informed decision making about maternal pertussis vaccination

C. Anraad<sup>1,2</sup>, P. van Empelen<sup>2</sup>, R. Ruiter<sup>1</sup>, M. Rijnders<sup>2</sup>, K. van Groessen<sup>3</sup>, H. van Keulen<sup>2</sup>

<sup>1</sup>Maastricht University, Netherlands

<sup>2</sup>TNO, Netherlands Organization for Applied Scientific Research, Netherlands

<sup>3</sup>Centering Healthcare, Netherlands

## Background

Maintaining and improving sufficient vaccine confidence remains a challenge globally, requiring the development of interventions promoting informed decision making about vaccines. This study describes the systematic development of two interventions aiming to promote acceptability of maternal pertussis vaccination (MPV) and informed decision making about MPV.

## Methods

The 6-step Intervention Mapping (IM) protocol was used for the systematic development of two interventions. We used user-centred design, including four iterations with usability tests.

## Findings

The needs-assessment, including a qualitative study (n=19), showed that pregnant women decided about MPV by searching for information online, talking to other women and their partner about MPV, and talking to their obstetric care provider about MPV. Therefore we created two interventions. We created an online decision aid including theory-based elements such as a decisional balance and a conversation preparation, that will be demonstrated. We applied user-centred design to test the intervention with pregnant women and people with low literacy in four iterations (n=21). Participants evaluated the intervention positively on relevance and usability. In addition to the web-based intervention, a CenteringPregnancy intervention was developed, aiming to reach at-risk populations such as pregnant women with low (health) literacy. Midwives were trained to deliver a CenteringPregnancy session about MPV, embedded in existing CenteringPregnancy care settings.

## Discussion

Using IM led to the creation of a web-based and CenteringPregnancy intervention aiming to promote MPV-acceptability and informed decision making about MPV. This study provides insight in the behavioural methods used in the interventions.

16:01 - 16:13

## The impact of sharing life events and current issues on decision-making for breast reconstructive surgery

K. Swainston<sup>1</sup>, L. Dismore<sup>2</sup>, J. Bonnema<sup>3</sup>, A. van Wersch<sup>1</sup>

<sup>1</sup>Teesside University, United Kingdom

<sup>2</sup>North Tyneside Hospital, United Kingdom

<sup>3</sup>University Hospitals of Morecombe Bay Foundation Trust, United Kingdom

**Background:** To explore healthcare professional's perspectives on the utility and impact of women with newly diagnosed breast cancer sharing influential life events and current issues on the decision-making process for breast reconstructive surgery.

**Methods:** Adopting a qualitative approach, women with newly diagnosed breast cancer engaged in expressive writing to produce an autobiographical account of their life which was shared with their healthcare team. Semi-structured interviews were conducted with seven surgeons and breast care nurses to explore experiences of decision-making for breast reconstructive surgery and the value and effects of sharing autobiographical accounts as part of this process. Interview transcripts were analysed with reflexive thematic analysis.

**Findings:** Three themes were derived from data analysis: Relationship building, time for reflection, and promoting an individualised approach. Healthcare professionals described how receiving the written accounts brought the reality and complexity of women's experiences into focus and highlighted factors associated with decision-making that would have otherwise been unexplored. Reading about women's feelings provided a space for reflection and in turn enabled preparation for dialogue around decision-making. The accounts were reported to open up conversation, facilitated a more individualised approach to discussing reconstructive breast surgery and strengthened relationships between women and the healthcare team.

**Discussion:** The findings indicate that autobiographical accounts can be a useful tool to support discussions between women with breast cancer and healthcare professionals during the decision-making process for breast reconstructive surgery. They can be an informational resource, promote open communication, and enhance holistic needs assessment.

# Health behaviour and theory

11:05 - 12:35

Marta Marques

11:05 - 12:35

## Changing social norms are a stronger predictor for health behavior than static social norms

S. Stöckli<sup>1</sup>, B. Höchli<sup>1</sup>, M. Dorn<sup>1</sup>, C. Messner<sup>1</sup>

<sup>1</sup>University of Bern, Switzerland

Social norms are a key determinant of health behavior. This is particularly true for adolescents. So far, research focused on static norms, i.e. the perception of how widespread adolescents currently perceive a behavior or how much they currently think that their peers approve this behavior. Yet, norms change over time, emphasizing the need to investigate how changing norms affect behavior.

To test whether changing (vs. static) norms are a stronger determinant of behavior, we conducted a correlational study with 522 adolescents in Switzerland (Mage = 16.75, SDage = 1.49, 60% f). As expected, we found that the more increasing adolescents perceive the norm of healthy behaviors, the stronger they report to behave healthy (B = 0.56, SE = 0.04,  $p < .001$ ). Further, the more increasing adolescents perceive the norm of healthy behaviors, the stronger they intend to behave healthier in the future (B = 0.22, SE = 0.06,  $p < .001$ ) and that this is partially mediated by the extent that adolescents perceive health behavior as important (B = 0.08, SE = 0.03,  $p < .001$ ). Overall, this research improves the understanding of social influence and the spread of health behaviors, by showing that changing (vs. static) norms are a stronger determinant of behavior. Implications of this research such as for the application of changing norm messages to foster healthy behaviors are discussed.

11:05 - 12:35

# Differences in exercise motives of University of Zagreb students with regarding leisure-time physical activity level

J. Babic<sup>1</sup>

<sup>1</sup>University of Applied Health Sciences, Croatia

## Background

Influencing physical activity (PA) level should be public health system priority and by identifying and understanding individual variables, together with social, cultural and environmental factors that are potentially connected to PA level, is basis for developing successful interventions. Aim of this research is to determine whether there are differences in exercise motives of University of Zagreb students with regard to leisure-time physical activity level.

## Methods

Participants were 1304 University of Zagreb students (857 female, 447 male), average age 20,72 years. Croatian version of IPAQ (Pedisic et al., 2011), which measures adult PA, and Croatian version of EMI-2 (Vlasic et al., 2002), which measure 14 exercise motives, were used. Participants were divided in high and low physical activity group based on achieving minimal physical activity level required to gain health benefits, which is 10 MET hours per week, or 30 minutes of moderate-intensity physical activity for five days in a week.

## Findings

Physically more active students were more motivated by revitalisation, social recognition, stress management, enjoyment, affiliation, competition, agility and challenge motives, while there were no differences in weight management, ill-health avoidance, appearance, positive health, strength/endurance and health pressures motives. Largest differences were found in enjoyment and competition motives, which physically more active students more motivated by them.

## Discussion

Understanding students motivation differences with regard to their leisure-time PA level is really important when it comes to planning and creating intervention programs that aim to increase student population PA.

11:05 - 12:35

# Identity mechanisms and interventions in the context of smoking and physical-activity: a scoping review protocol

K.M. Penfornis<sup>1</sup>, M.H. van Vliet<sup>1</sup>, E. Meijer<sup>2</sup>, W.A. Gebhardt<sup>1</sup>

<sup>1</sup>Research Institute of Psychology, Unit Health, Medical and Neuropsychology, Leiden University, Netherlands

<sup>2</sup>Department of Public Health and Primary Care, Leiden University Medical Center, Netherlands

**Background:** As people prefer to act in identity-congruent ways (i.e., matching how they view themselves), behavior change is unlikely unless the new (health) behavior matches one's identity. Previous studies have shown identity-behavior congruence to be influential in both smoking cessation and physical activity (PA) enhancement, however, there exists no aggregation of the evidence for both health behaviors jointly. This article outlines the protocol for a scoping review aiming to synthesize the evidence on identity mechanisms and existing identity-related interventions, in the context of smoking and PA.

**Methods:** The review will include published literature discussing identity (processes) and/or identity-related intervention(s) (components) in the context of smoking and/or PA, in individuals aged 12 and over. A three-step search strategy will be employed to retrieve literature from multiple databases (e.g., PubMed, PsycINFO, Web of Science). The eligibility criteria will be piloted on a random selection of references. Records will be independently screened by several reviewers, aided by state-of-the-art (machine-learning) technologies (i.e., ASReview, Rayyan QCRI). A pre-piloted charting table will be used to extract data from included full-texts. Findings will be reported according to the PRISMA-ScR guidelines, and include study quality assessment and conceptual map of the evidence.

**Expected findings:** To gain insight into the mechanisms of identity in a health-compromising behavior (smoking) and a health-enhancing behavior (PA).

**Discussion:** This review will be the first in the field to aggregate evidence on both health behaviors using a systematic approach. Findings are expected to aid the development of future identity-related interventions targeting smoking and PA.

11:05 - 12:35

## Beliefs about Healthy Sleep Habits in Adults With and Without Diabetes: A Reasoned Action Approach

L. Vézina-Im<sup>1</sup>, C. Morin<sup>1</sup>, A. Lapointe<sup>1</sup>, S. Desroches<sup>1</sup>

<sup>1</sup>Université Laval, Canada

**Background:** Few studies have examined the psychosocial correlates of healthy sleep habits (HSH), particularly in specific populations, such as adults with diabetes. The study's objective was to identify the beliefs about HSH in adults with and without diabetes based on the Reasoned Action Approach.

**Methods:** A total of 154 adults (18-64 years; 79.2% women), including 56 with diabetes answered open-ended questions regarding their beliefs about a HSH selected among the following: avoiding screen use in bed; avoiding caffeine, alcohol, and cigarettes before bedtime; and having a regular sleep schedule. A qualitative content analysis was performed by an expert and validated by two other experts to identify the most important beliefs using a 75% cumulative frequency of mention.

**Findings:** Participants reported that adopting HSH would improve different components of sleep, such as latency, quality, duration, disturbances, and daytime functioning. Negative consequences of adopting HSH were specific to each HSH. Adopting HSH was associated with negative emotions, such as being perceived as unpleasant and restrictive. Participants' partner, friends and parents were considered the most important individuals who would approve of adopting HSH, but they were also perceived as unlikely to adopt HSH themselves. Several barriers precluding the adoption of HSH were identified, such as having social activities and working in the evening. Facilitating factors included removing prompts of unhealthy sleep habits, behaviour substitution, using reminders, time management and social support.

**Discussion:** The beliefs identified in this study can help select appropriate behaviour change techniques to guide the development of behavioural sleep interventions.



11:05 - 12:35

## Snack consumption among young people. Eating style and the theory of planned behavior

L. Canova<sup>1</sup>, A. Bobbio<sup>1</sup>, A.M. Manganelli<sup>1</sup>

<sup>1</sup>University of Padua, Department FISPPA, Italy

This study aims to test the validity of an extended model of the Theory of Planned Behavior (TPB; Ajzen, 1991) for the prediction of both intentions and behaviors to eat fresh fruit as a 'snack'. 'Eating style', as measured by a short Italian version of the Dutch Eating Behavior Questionnaire (DEBQ, Baily et al., 2012) which provides individual scores for three eating behavior patterns (restrained, emotional, and external eating; van Strien et al., 1986), was added to the TPB constructs as an additional predictor. Data was collected thanks to online questionnaires and with a two-wave design, with a time lag of fifteen days. At T1, TPB constructs, the DEBQ and socio-demographic variables were assessed. At T2, only self-reported consumption behavior was measured. A group of 202 students from the University of Padua took part in the research (88% women). Data were analyzed via Confirmatory Factor Analysis (CFA) and hierarchical multiple regression. Results of CFA confirmed the factorial structure of the DEBQ. The introduction of eating style dimensions in the regression models improved the percentage of explained variance of both intention (6%) and behavior (7%). Overall, the TPB-extended model explained 57% of intention variance and 53% of behavior variance. Affective attitude, perceived behavioral control, and restrained eating were significantly related to intention, and behavior was predicted only by intention. In conclusion, the results support the efficacy of TPB in predicting snacking behavior but also highlighted the weight of eating style on intention formation and, indirectly, on behavior.

11:05 - 12:35

## Scoping review of theories and classification systems of multiple behaviours and goals in behavioural science

C.C. Silva<sup>1</sup>, Z. van Allen<sup>2</sup>, J. Pesseau<sup>3</sup>, J. Dinsmore<sup>1</sup>, M. Marques<sup>1</sup>

<sup>1</sup>Trinity College Dublin, Ireland

<sup>2</sup>University of Ottawa, Canada

<sup>3</sup>Ottawa Hospital Research Institute, Canada

**Background:** Even though individuals are constantly faced with multiple behaviours and goals (MBGs), most behaviour change models tend to isolate the target behaviour from the wider context of MBGs. This scoping review aims to obtain comprehensive knowledge about how constructs of MBGs have been conceptualised, described and operationalised in the context of behavioural science.

**Methods:** A search strategy has been defined to identify theories and classification systems, which includes: i) performing systematic searches in core electronic bibliographic databases, ii) consultation of key ontology repositories, iii) consultation of behaviour change theories identified on a pre-existent review and key handbooks from relevant fields, and iv) conducting an expert consultation. For each theory and classification system, descriptive characteristics will be extracted, and their quality will be critically appraised according to pre-defined criteria.

**Expected results:** It is expected that most theories will focus on single goals or on the dynamics between only two goals, without clear specifications of the constructs and their relationships. Very few classification systems are expected to be found.

**Current stage of work:** A protocol has been developed and will soon be pre-registered in OSF. Data extraction has been initiated on theories from the pre-existent review. Systematic searches in electronic bibliographic databases will commence in March 2021 and data extraction is expected to be completed by June 2021.

**Discussion:** The findings from this review can contribute to the development of more effective theory-based multiple health behaviour change interventions and to potentially inform theory refinement.

11:05 - 12:35

# The need for support in engaging in physical activity among patients with cancer in Japan

T. Matsui<sup>1</sup>

<sup>1</sup>Waseda University, Japan

## Background:

Although there are many reported benefits of physical activity for cancer patients (e.g., improving quality of life), many cancer patients do not meet the recommendations of physical activity guidelines for cancer patients (e.g., Crawford et al., 2016), and the amount of physical activity declines after a cancer diagnosis. In the Health Action Process Approach (Schwarzer, 2008), for example, resources such as social support are taken into account, so this study aimed to clarify the support needed to engage in moderate-or-higher-level intensity of physical activity among patients with cancer in Japan.

**Methods:** We conducted an Internet survey among cancer outpatients and asked them to respond to a questionnaire through an Internet research company. We asked participants for their demographic information, physical activity information, barriers and need for support for physical activity, and psychological distress. Content analysis and  $\chi^2$  tests were performed.

**Findings:** Data from a total of 303 patients with cancer were analyzed. One hundred and forty-one respondents regularly engaged in moderate-or-higher-level intensity physical activity. Nine categories were obtained for the support they considered necessary to regularly engage in such activity (e.g., environmental maintenance, support for the implementation of physical activities (interpersonal), and reduction of burden). Cancer patients with high barriers to physical activity provided more statements about interpersonal support, and women provided more statements about reducing their burden among those who did not engage in such physical activity.

**Discussion:** The results suggest that it is necessary to devise support strategies tailored to the characteristics of the participants.

11:05 - 12:35

## The influences of dietary lifestyles and environments on the intention-behavior consistency

S. Ohtomo<sup>1</sup>, I. Hamaguchi<sup>2</sup>

<sup>1</sup>Kanto Gakuin University, Japan

<sup>2</sup>Konan Women's University, Japan

**Background:** The inconsistency between intention and behavior is a big obstacle in predicting eating behaviors. The study examines whether the intention-behavior inconsistency is induced by the within-person process of motivational factors or behavioral contexts. The model of the study hypothesizes the dual motivation processes of intentional motivation, i.e. behavioral intention leads to intended unhealthy snacking, and impulsive motivation, i.e. behavioral willingness leads to unplanned unhealthy snacking.

**Methods:** 254 participated in the 7 days intensive longitudinal study with the diary method. The study measured unhealthy snacking (FFQg), motivations (behavioral intention and willingness), dietary lifestyles (e.g. unhealthy habits, a tendency of savoring foods, self-restraint, the hours of use of the smartphone), and dietary environments (e.g. stored foods, a frequency of visits to fast-food restaurants).

**Findings:** The main results indicated that the correlations between behavioral willingness and snacking for 7 days were higher than the correlations between behavioral intention and snacking. Mediation analyses indicated that habit, the hours of the use of smartphones, and food stock increased snacking through behavioral intention and willingness. Moreover, the tendency of savoring foods ( $b = -.34$ , 95%CI=  $-.68 \sim -.05$ ) and self-restraint ( $b = -.43$ , 95%CI=  $-.71 \sim .21$ ) inhibited behavioral willingness and led to decrease in unhealthy snacking.

**Discussion:** Unhealthy snacking relates to impulsive motivation more than intentional motivation. Although unhealthy habits, daily smartphone use, stored foods determined these motivations, the tendency of savoring foods and self-restraint controlled impulsive motivation. The study discussed that the intention-behavior inconsistency depends on the impulsive process and behavioral contexts.

## Middle school students' attitudes toward the HPV vaccine and psychological antecedents of vaccination

C. Juneau<sup>1</sup>, J. Bros<sup>2</sup>, A. Le Duc-Banaszuk<sup>3</sup>, M. Michel<sup>4</sup>, N. Thilly<sup>5,6</sup>, B. Giraudeau<sup>7</sup>, S. Bruel<sup>8,9</sup>, A. Gagneux-Brunon<sup>10</sup>, F. Jeanleboeuf<sup>10</sup>, L. Marie dit Asse<sup>10</sup>, J. Kalecinski<sup>11</sup>, A. Gauchet<sup>2</sup>

<sup>1</sup>Université Grenoble Alpes, France

<sup>2</sup>Laboratoire Inter-universitaire de Psychologie, Université Grenoble Alpes, Grenoble, France

<sup>3</sup>CRCDC-Pays de la Loire, Angers, France

<sup>4</sup>Inserm UMR 1123, Université de Paris, AP-HP, Paris, France

<sup>5</sup>Université de Lorraine, APEMAC, Nancy, France, France

<sup>6</sup>Université de Lorraine, CHRU-Nancy, Département Méthodologie, Promotion, Investigation, Nancy, France, Afghanistan

<sup>7</sup>Université de Tours, Université de Nantes, INSERM, SPHERE U1246, Tours, France ; INSERM CIC1415, CHRU de Tours, Tours, France, France

<sup>8</sup>Université Claude Bernard Lyon 1, Research on Healthcare Performance (RESHAPE), INSERM U1290, Lyon, France, France

<sup>9</sup>Department of General Practice, Jacques Lisfranc Faculty of Medicine, Saint-Etienne-Lyon University, Saint-Etienne, France, France

<sup>10</sup>Centre International de Recherche en Infectiologie, Team GIMAP, Univ Lyon, Université Jean Monnet, Université Claude Bernard Lyon 1, Inserm, U1111, CNRS, UMR530, France

<sup>11</sup>PRESAGE Institute, Institut de cancérologie Lucien Neuwirth, Saint-Etienne, France, France

**Background:** Human Papillomavirus (HPV) vaccination coverage of 24% in young girls in France is insufficient. Hesitancy toward vaccines may partly explain this low rate. Moreover, young people know little about the HPV vaccine, and lack of knowledge is detrimental to immunization intentions. Based on models in health psychology, we want to test the role of HPV-specific attitudes and psychological antecedents of vaccination in this relationship between knowledge and intentions.

**Methods:** We conducted a cross-sectional study on French middle school students. They have completed online questionnaires about their knowledge and attitudes toward the HPV vaccine, their current vaccination status, their intentions, reasons to vaccinate or not to vaccinate, and psychological antecedents of vaccination (5C scale). We ran a Structural Equation Modeling (SEM) to test our hypothesized model.

**Findings:** We analyzed data from 716 students (398 girls, Mage = 13.77). Descriptive results presented that 61% of students (49% of girls and 53% of boys) do not feel concerned about the vaccine and 34% of non-vaccine students have no opinion about their own intentions to vaccinate. SEM analyses showed that attitudes towards the HPV vaccine mediated the relationship between knowledge and intention to vaccinate and the relationship between psychological antecedent of vaccination and intention to vaccinate.

**Discussion:** These findings reveal the high percentage of vaccine-age students who are undecided. They also highlight the need to consider the psychological antecedents of vaccination in general in addition to the specific attitudes to the vaccine when predicting intentions to vaccinate against HPV in middle school students.

## Weight-related health beliefs in adolescents and young adults

R. Stoyanova<sup>1</sup>, P. Pandurova<sup>1</sup>, S. Karabeliova<sup>2</sup>

<sup>1</sup>Sofia University "St. Kliment Ohridski", Bulgaria

<sup>2</sup>Sofia University "St. Kl. Ohridski", Bulgaria

Overweight and obesity continue to be critical health problems and one of the most serious contemporary public health challenges. Specific attitudes and beliefs related to overweight at a young age are associated with a number of behavioural choices for maintaining a healthy weight and measures to reduce overweight. The study aims to establish associations between weight-related health beliefs and eating behaviour in adolescents and young adults. A questionnaire based on the Health Beliefs Model (Becker & Rosenstock, 1984) was developed to assess health beliefs related to body weight. The Dutch Eating Behavior Questionnaire (Van Strien et al., 1986) was used as a measure of eating behaviour. The sample includes 134 participants (77% women), aged 16-45 years ( $M = 26.96$ ;  $SD = 6.86$ ), divided according to their BMI ( $M = 23.70$ ;  $SD = 6.52$ ) as follows – 69% in norm (BMI below 25) and 31% overweight. The perceived threat, cues to action and health motivation were found to have a predictive effect on restrictions in eating ( $F(3,130) = 27.27$ ;  $p < .05$ ;  $Adj. R^2 = .37$ ). Overweight respondents perceived the threat of gaining body weight ( $F(1,131) = 65.20$ ,  $p < .05$ ) and barriers to taking action ( $F(1,131) = 96.30$ ,  $p < .05$ ) to a higher extent compared to the group with normal weight. Adolescents possess lower levels of perceived threat of being overweight ( $F(1,131) = 10.49$ ;  $p < .05$ ). Research findings offer new ways of conceptualizing weight-related health beliefs in young people and provide suggestions for treatment strategies and promoting health.

11:05 - 12:35

## Sense of coherence and somatic symptoms

I. Marcinko<sup>1</sup>, A. Pacar<sup>2</sup>

<sup>1</sup>Faculty of Humanities and Social Sciences Osijek, Croatia

<sup>2</sup>Elementary school Miroslav Krleža, Croatia

**Background:** Although Antonovsky's salutogenic concept of a sense of coherence (SOC) has proven to have observable strong effects on psychological and behavioral aspects of human functioning, its association with physical health is still ambiguous. The aim of the study was to investigate the relationship between SOC and its components with somatic symptoms.

**Methods:** The research was online. A cross-sectional design was employed. In total 362 subjects of which 296 (81.8%) females and 66 (18.2%) males, ages 18 to 71 took part in this study. SOC and its components were measured with the Orientation to Life Questionnaire while the presence of somatic symptoms was measured with The Pennebaker inventory of limbic languidness. Data have been analyzed with hierarchical regression analysis in which the effects of the subject's sociodemographic background and neuroticism have been controlled.

**Findings:** The results have shown that SOC significantly contributes to the presence of somatic symptoms ( $\beta = -.30$ ,  $p < .0001$ ). Component-level analysis has shown that significant effects on somatic symptoms have two SOC components, manageability ( $\beta = -.19$ ,  $p < .05$ ) and comprehensibility ( $\beta = -.14$ ,  $p < .05$ ).

**Discussion:** The outcome of this study suggests that the way people relate to their lives affects their health. It seems whether people develop and cultivate resistance resources significantly affects the presence of somatic symptoms. Specifically, when people approach life by promoting predictability and structure (i.e. comprehensibility) as well as looking for resources being available to them (i.e. manageability), then it is expected they will stay healthy despite exposure to hardship.

11:05 - 12:35

## Motivational predictors of physical activity in women with fibromyalgia

S. López-Roig<sup>1</sup>, M. Pastor-Mira<sup>2</sup>, F. Martínez-Zaragoza<sup>3</sup>, E. León-Zarceño<sup>4</sup>, E. Toribio<sup>5</sup>, C. Peñacoba<sup>6</sup>

<sup>1</sup>Miguel Hernández University, Spain

<sup>2</sup>Miguel Hernández, Spain

<sup>3</sup>University Miguel Hernandez, Spain

<sup>4</sup>University Miguel Hernández, Spain

<sup>5</sup>Fibromyalgia Unit. San Vicente del Raspeig Hospital, Spain

<sup>6</sup>University Rey Juan Carlos, Spain

**Background:** Increasing physical activity is a therapeutic recommendation to manage fibromyalgia. However, to the best of our knowledge, motivational and other well-established determinants of physical activity behaviours have not been studied in patients with this chronic pain problem.

**Methods:** We assessed 203 women with fibromyalgia who attended the Fibromyalgia Unit of the Valencian Community in Spain. Univariate and multivariate logistic regression analyses were conducted to identify predictors for low/moderate levels of physical activity.

We examined predictors among socio-demographic variables, symptom perception, distress, fibromyalgia impact, duration of problem, time of diagnosis, catastrophism, fear of movement, chronic pain self-efficacy, specific self-efficacy to practice physical activity and the preference for hedonic goals (mood-management or pain-avoidance goals) over achievement goals. Predictors associated with outcome at  $p$  (Wald) values  $<.20$  were included in a multivariate logistic model with the backward step LR method. Odds ratios (OR) and 95 % CI were calculated and we considered the  $p$  of change in model if terms are removed.

**Findings:** Results showed that self-efficacy to practice moderate physical activity (OR =1.222 [1.099–1.359],  $p=.0002$ ) and the preference for achievement goals over pain avoidance goals (OR =.820, [.677–.994],  $p=.040$ ) were significant predictors of moderate versus low physical activity.

**Discussion:** Only motivational variables played a role in physical activity. To increase achievement goal preferences and self-efficacy, taking into account the specific patients' obstacles, should be targets in physical activity programs.

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11:05 - 12:35

## Cultural differences in Physical Activity: The Effect of Goal Orientation and Basic Psychological Needs

D. Gurleyik<sup>1</sup>, C.K. Naivar Sen<sup>2</sup>, J.L. Etnier<sup>3</sup>

<sup>1</sup>Özyeğin University, Turkey

<sup>2</sup>Ozyegin University, Turkey

<sup>3</sup>University of North Carolina at Greensboro, United States

Physical inactivity is a global health problem, and even the awareness of numerous risk factors related to physical inactivity is insufficient to motivate behavior change. With regards to the global nature of physical inactivity, investigating culture and cultural differences may contribute to our understanding of this multidimensional problem. The purpose of this study was to consider the moderating role of culture while examining how basic psychological needs theory (BPNT) and goal orientations are related to physical activity (PA) in two different countries: Turkey (collectivistic) and U.S.A (individualistic). Participants from Turkey (N=92) and the U.S.A (N=76) reported their self-construals in the family (autonomous and related selves), the degree to which their basic needs were satisfied (basic psychological needs in exercise scale, BPNES), their goal orientations (task and ego goal orientation scale, TEOSQ), and their level of physical activity (Godin Leisure Time Exercise Questionnaire, GLTEQ). Cultural differences were expected to moderate the relationship between basic psychological needs and goal orientations on PA. A series of step wise regressions confirmed the moderation ( $R^2=.38$ ) with BPNT autonomy, BPNT competence, and ego orientation all being significant predictors and affected by culture. In further analysis, the relationship of BPNT autonomy on PA was significant showing that Turks surprisingly had a stronger association ( $r=.31$ ) than Americans ( $r=.23$ ). For both BPNT competence and ego orientation on PA, Americans ( $r=.52$ ,  $r=.23$ ) showed a stronger association than Turks ( $r=.32$ ,  $r=.03$ ). For intervention purposes, fostering autonomy and competence in Turks while focusing on competence in Americans may elevate PA levels.

11:05 - 12:35

# FOODLIT-PRO: Conceptual and empirical development of the Food Literacy Wheel

R. Rosas<sup>1</sup>, F. Pimenta<sup>1</sup>, I. Leal<sup>1</sup>, R. Schwarzer<sup>2,3</sup>

<sup>1</sup>William James Center for Research, ISPA - Instituto Universitário, Portugal

<sup>2</sup>Department of Psychology, Freie Universität Berlin, Germany

<sup>3</sup>Department of Clinical, Health, and Rehabilitation Psychology, SWPS University of Social Sciences and Humanities, Poland

**Background:** Population growth, volatile world economy, unstable climate circumstances, and the current global pandemic and its higher risk on cases with overweight highlight the need to shift food-related patterns. Paired with the necessity for sustainable food systems, the demand to enhance nutrition nourishment and quality of life by improving food-related competencies focus the relevance of food literacy research and action. The present study presents the first European empirical and conceptual model integrating food literacy's definition, determinants, and influential factors.

**Methods:** Cross-sectional and exploratory study, with mixed methodologies. Initial qualitative deductive-dominant content analysis of 30 semi-structured interviews with food-related experts (20 women from fields such as policy-making, human and environmental health, sustainability). Inter-rater agreement calculated ( $k=.82$ ). Quantitative analysis (multiple correspondence) explains associations among qualitatively manifested codes.

**Findings:** Food literacy was defined by a four-dimension model: Cooking Skills (seven codes, 15% total variance,  $\alpha=.73$ ), Preserve and Analyse (five codes, 12% total variance,  $\alpha=.64$ ), Choice and Acquisition (five codes, 12% total variance,  $\alpha=.63$ ), Search and Plan (five codes, 9% total variance,  $\alpha=.54$ ). The framework Food Literacy Wheel also comprehends internal and external determinants, and Nutritional, Psychological, Health, Learning Contexts, Policy, Industry, Sustainability, Social and Cultural as influential factors.

**Discussion:** Allowing a broader perspective of food literacy within major global food systems, this study contributes with new insights for future instruments and interventions, paving the way to develop and implement food literacy-related multi-sectorial and multilevel actions.

# Self-regulation and health and interventions in Chronic Illness

11:05 - 12:35

Gabriel Nudelman

11:05 - 12:35

## On the changeability of subjective illness perceptions and stigmatising attitudes towards mental health problems

T. McLaren<sup>1</sup>, L. Peter<sup>2</sup>, S. Tomczyk<sup>3</sup>, H. Muehlan<sup>4</sup>, G. Schomerus<sup>2</sup>, S. Schmidt<sup>3</sup>

<sup>1</sup>Department of Health and Prevention, University Greifswald, Germany

<sup>2</sup>Department of Psychiatry and Psychotherapy, University Leipzig, Germany

<sup>3</sup>Department of Health and Prevention, University of Greifswald, Germany

<sup>4</sup>Department of Health and Prevention, University of Greifswald, Germany

**Background.** Epidemiological studies show that many people with depression do not seek help for their mental health issues. Selective prevention methods and ways to improve health-care utilisation and reduce self-stigma are wanting. A process model was developed and critical points of interest were parallelised with the Common-Sense-Model of Self-Regulation. Aim of the study is to improve health-care utilisation of people with current mental health problems by changing illness perceptions and reducing stigmatising attitudes.

**Methods.** A quasi-experimental online study is used to assess the effects of variables hypothesised to be relevant for the help-seeking process of people with acute mental health problems (PHQ  $\geq 8$ ) who are not currently receiving treatment. The study is conceived as a randomized fractional factorial design with one control group and 23 experimental groups. Relevant outcome measures are administered before and directly after the intervention. In a 3- and 6-month-follow-up help-seeking behaviour and stigmatising attitudes are measured. Gamified elements and avatar-choice techniques are used to heighten study immersion and adherence as well as heighten self-identification with the intervention material. To answer our research questions, several multivariate methods will be used.

**Findings.** Findings will be presented.

**Discussion.** Expected results will provide promising perspectives through a detailed empirical investigation and conceptualisation of the stages of health-care utilisation and illness perception, as well as an examination of theoretical approaches to stigmatisation. These findings will highlight points of interest for an evidence-based design and evaluation of online interventions for mental illnesses.

11:05 - 12:35

## Overcoming goal obstacles in chronic pain: Exploring the role of goal characteristics and obstacle features

M. Hricová<sup>1</sup>

<sup>1</sup>Pavol Jozef Šafárik University in Košice, Slovak Republic, Slovakia

The present research is based on the notion that attending goal can be interrupted with obstacles or difficulties, which are stressful. Especially in persons with chronic illness, goal disturbances can make patient cooperation in treatment more difficult. Brandstätter and Rothermund (2002) noted that perception of obstacle as stressful led to higher risk of interruption in goal achieving process. On the other hand, in recent years, research has challenged that change or disengage from such problematic goal is adaptive form of self-regulation. The objective of the present study was to examine whether selected goal characteristics and obstacle features mediate the relation between subjective perception of stressfulness of obstacle and goal adjustment strategies used in situation of goal disturbance. 120 patients with chronic low back pain reported to questions about health goals and goal disturbance with items assessing motivation, goal difficulty, goal self-efficacy, difficulty of obstacle, obstacle intensity and stressfulness of obstacle. Goal adjustment strategies were measured in two forms goal disengagement and goal reengagement (Goal adjustment scale). Results indicated that subjective goal self-efficacy and goal motivation mediate the relation between perceived stressfulness of obstacle and goal disengagement. Obstacle intensity mediate relation between obstacle stressfulness and goal disengagement strategy. In case of goal disturbance patients were more likely to continue in goal achieving process in self-concordant goals, also in situation when they pursued that they have abilities to reach these goals despite of difficulties. Patients were more likely to disengage from goal achieving process in situation of increasing obstacle intensity.

11:05 - 12:35

## Role and group identity and adjustment to running group disbandment

S. Kullman<sup>1</sup>, B. Semenchuk<sup>1</sup>, S. Strachan<sup>2</sup>

<sup>1</sup>University of Manitoba, Canada

<sup>2</sup>University of Manitoba, Canada

**Background:** Exercise group disbandment during COVID-19 lockdown orders presented barriers to exercise for group members. Previous research found the distinct, yet related constructs of role and group identity associated differently with exercise outcomes in a hypothetical situation of running group disbandment. We examined the relationship of identity relative to the social-cognitive and behavioural outcomes of running group disbandment during COVID-19. We hypothesized runner role identity would associate positively with self-efficacy and running behaviour and negatively with perceived difficulty running alone. Conversely, running group identity would relate negatively with self-efficacy and running, and positively with perceived difficulty.

**Methods:** An observational design was used. Running group members (n = 105) were recruited from across Canada in this observational design. **Measures:** Exercise Identity Questionnaire, Four-Item Social Identification Measure, Godin Leisure Time Exercise Questionnaire, task- and self-regulatory-efficacy questionnaires, and perceived difficulty rating. **Analysis:** Linear regression.

**Findings:** Role identity associated positively with task- ( $p < .001$ ) and self-regulatory ( $p = .026$ ) efficacy and running behaviour ( $p = .001$ ). Group identity was negatively associated with task self-efficacy ( $p = .010$ ) but was unrelated to self-regulatory efficacy and running behaviour. Neither role nor group identity related to perceived difficulty.

**Discussion:** This research is the first to examine identity in relation to a real-life situation of exercise group disbandment. For people who exercise in groups, endorsing a strong role identity may promote self-efficacy and continued exercise behaviour in the face of challenges such as group disbandment. Future research should examine these associations using prospective or experimental methods.

11:05 - 12:35

# Aspirin non-adherence in pregnant women at risk of preeclampsia (ANA): a qualitative study

R. Vinogradov<sup>1,2</sup>, V. Smith<sup>3</sup>, S. Robson<sup>4,5</sup>, V. Araujo Soares<sup>2,6</sup>

<sup>1</sup>Newcastle upon Tyne Hospitals NHS Foundation Trust, United Kingdom

<sup>2</sup>Newcastle University, United Kingdom

<sup>3</sup>Nursing, Midwifery & Health Department, Northumbria University, United Kingdom

<sup>4</sup>Population Health Sciences, Newcastle University, United Kingdom

<sup>5</sup>Newcastle upon Tyne Hospitals Foundation Trust, United Kingdom

<sup>6</sup>BMS Faculty, Health Technology and Services Research (HTSR), University of Twente, Netherlands

## Background

Antenatal adherence to aspirin prophylaxis is key to reducing the occurrence of a major pregnancy complication: pre-eclampsia (PE). Up to 75 % of pregnant women at increased risk of pre-eclampsia do not take aspirin as prescribed. Little research has been done to understand the psychological determinants of aspirin adherence in pregnancy. This qualitative study aimed to explore barriers and facilitators to aspirin adherence in women at increased risk of PE using version 2 of Theoretical Domains Framework (TDF).

## Methods

Fourteen women from the North-East of England who declared various levels of non-adherence to aspirin (0 – 5 of 7 prescribed tablets/week) were interviewed 4 - 18 months after delivery, using the TDF as a guide. Semi-structured interviews were digitally recorded and transcribed verbatim. A thematic framework analysis was used.

## Results

Women exhibited both intentional and unintentional non-adherence and faced multiple barriers at a personal and environmental level. They struggled to initiate, implement and persist in taking medication as prescribed. Women expressed inadequate knowledge about PE and aspirin; they struggled to identify as “medication takers” and relate to the risk factors for PE as identified by the midwife. Significant barriers within the health-care environment were identified; women had difficulties obtaining medication and perceived conflict amongst health care professionals regarding medication safety.

## Conclusion

A combination of inadequate knowledge, lack of identification with the risk factors and beliefs about consequences of taking medication were interlinked with other domains, such as environmental context and resonate with the Necessity-Concerns Framework.

11:05 - 12:35

# Evaluating the influence of symptom-monitoring on menopausal health outcomes: a systematic review and meta-analysis

R. Andrews<sup>1</sup>, G. Hale<sup>1</sup>, B. John<sup>1</sup>, D. Lancaster<sup>1</sup>

<sup>1</sup>University of South Wales, United Kingdom

**Background:** Evidence suggests that monitoring and appraising symptoms can result in increased engagement in medical help-seeking, improved patient-doctor communication, and reductions in symptom prevalence and severity (Shafran et al., 2018; Basche et al., 2012). To date, no studies have assessed whether symptom-monitoring may be useful among women with menopausal complaints.

This review explored existing literature to address whether symptom-monitoring, as a standalone intervention, could yield clinical improvements in menopausal symptoms, such as reductions in symptom severity and frequency. Changes in health-related behaviours were also investigated, including increased health awareness, improvements in patient-doctor communication, and timely medical help-seeking.

**Methods:** The following databases were screened for appropriate studies: PsychInfo, EMBASE, MEDLINE, CINAHL, Cochrane, ProQuest, PsychArticles, Scopus, and Web of Science. Included studies quantitatively or qualitatively measured the impact of a symptom-monitoring method on menopausal populations and symptoms. Searches returned 16 studies which met the eligibility criteria, which contributed data from 1967 participants. All studies were narratively synthesised using thematic methods, 3 studies were also examined via meta-analysis.

**Findings:** Key themes suggest that symptom-monitoring methods are related to improvements in menopausal symptoms, improved patient-doctor communication and medical decision-making, increased health awareness, and stronger engagement in goal-setting behaviours. Meta-analysis results indicated large effects for the prolonged use of symptom diaries on hot flush frequency recordings: 0.74 [0.58, .90].

**Discussion:** These results suggest that symptom-monitoring alone could be an effective health intervention for women with menopausal symptoms. However, these findings are preliminary, and further research is required to provide richer evidence for these promising outcomes.



11:05 - 12:35

# iHOPE for PCOS: Qualitative evaluation of an online peer support intervention for polycystic ovary syndrome

C. Percy<sup>1</sup>, A. Turner<sup>1</sup>, B. Alper<sup>2</sup>

<sup>1</sup>Coventry University, United Kingdom

<sup>2</sup>Hope For The Community CIC [www.h4c.org.uk/](http://www.h4c.org.uk/), United Kingdom

## Background

Sixty women aged 20-58 years (mean 31.5 years) volunteered to take part in a pilot trial of a new online peer support programme for polycystic ovary syndrome (PCOS).

The 'iHOPE PCOS' six-week intervention was delivered via an online peer support platform, including information about PCOS, psychoeducation including CBT, mindfulness, self-compassion, solution-focused goal setting, and activities from positive psychology (gratitude and personal strengths), plus coaching from two peer facilitators.

## Methods

After completing the intervention, eight participants aged 25-38 years (mean 30.2 years) volunteered for semi-structured interviews exploring their experiences. Interviews were subjected to thematic analysis to identify any changes participants attributed to the intervention.

## Findings

The following themes were identified:

'Prioritising self-care'; 'developing a self-management mindset', including symptom monitoring, pacing and fatigue management; 'setting more manageable, realistic, motivating goals'; 'improved mental health', including being able to experience and cope with a wider range of emotions, both positive and negative; 'increased self-compassion, reduced shame'; 'greater openness about PCOS', not only in terms of disclosure to health professionals, friends and family, but also joining in advocacy for the wider community; 'physical health changes', including weight loss, more physical activity, better sleep, better hydration; 'being prepared for future health concerns'; and 'continuing practice' to consolidate or extend what was learned in the programme. One of the eight volunteers reported that she did not find the programme helpful.

## Discussion

The qualitative evaluation data indicate that the intervention was acceptable to most participants and shows promise for testing in a mixed-methods randomised controlled trial.

11:05 - 12:35

# Emotional and cognitive processes in psychological interventions for children with chronic physical conditions

M. Kaemmerer<sup>1</sup>, O. Luminet<sup>1</sup>, M. Lahaye<sup>1</sup>, G. Panayiotou<sup>2</sup>

<sup>1</sup>UCLouvain, Belgium

<sup>2</sup>University of Cyprus, Cyprus

## Background:

Pediatric chronic physical conditions (CPC) have been associated with emotional and cognitive difficulties. Yet, most studies investigate general psychological outcomes (e.g., quality of life, anxiety). No systematic review has analyzed the effects of interventions on processes underlying the effects on these variables. We conduct a systematic review of studies testing the effects of psychological interventions for children with CPC on 1) emotional and cognitive processes and 2) on psychological and physical health.

## Methods:

Based on the PICO criteria, we selected relevant papers following five search criteria categories: age group (children aged 8-12 years) and disease types (e.g. diabetes, cystic fibrosis), intervention types (e.g., CBT, MBI), comparison (e.g., control group), and outcomes (e.g., emotion regulation, coping, cognition). Studies were included if they assessed at least one emotional or cognitive process.

## Findings:

The analyses will examine: 1) effects of interventions on emotional/cognitive processes; 2) effects of interventions on psychological/physical health; 3) potential mediating effects of emotional and cognitive processes on 2); 4) potential moderating variables (e.g., intervention content, methodology, sample characteristics) on 1) and 2). Results will be available for the conference.

## Discussion:

This review is a first step towards the development and implementation of transdiagnostic psychological intervention for children with CPC. This intervention will be co-constructed in a collaborative action-research by families, health care professionals and researchers and based on the acquired scientific evidence concerning the improvement of emotional and cognitive processes.

11:05 - 12:35

## Which behaviors are targeted in self-care interventions for patients with hypertension?

H. Westland<sup>1</sup>, T. Jaarsma<sup>1,2</sup>, P. Iovino<sup>3</sup>, O.H. Osokpo<sup>4</sup>, M. Stawnychy<sup>4</sup>, E. Tarbi<sup>4</sup>, B. Riegel<sup>4</sup>

<sup>1</sup>University Medical Center Utrecht, Netherlands

<sup>2</sup>Linköping University, Sweden

<sup>3</sup>University of Rome Tor Vergata, Italy

<sup>4</sup>University of Pennsylvania, United States

**Background:** Self-care is essential in the treatment of hypertension. Self-care refers to a process of maintaining health through treatment adherence and health-promoting practices (self-care maintenance), behavior and condition monitoring (self-care monitoring), and managing signs and symptoms when they occur (self-care management). To advance the field of hypertension self-care, this study aimed to describe which behaviors are emphasized in self-care interventions for patients with hypertension.

**Methods:** We conducted a scoping review of self-care interventions in chronic diseases. Included studies were randomized controlled trials in adults with nine major symptomatic chronic conditions, including hypertension evaluating a self-care intervention. Between 2008 – 2019, 9309 potential articles addressed self-care in chronic disease, 210 articles on hypertension were assessed for eligibility and 32 studies remained after further assessment.

**Results:** In total, 41% of the 32 studies included both self-care maintenance, monitoring and management. Self-care maintenance behaviors were mainly related to diet (53%), medication management (47%) and physical activity (44%). Self-care monitoring mostly included blood pressure (69%), activity level (31%) and food intake (19%). Self-care management behaviors were addressed rarely, but when addressed, focused on medication changes (25%) and stress reduction (6%). The mostly used behavior change techniques were action planning (31%), goal-setting (19%) and problem solving (12%).

**Discussion:** Self-care monitoring or management was evaluated in few self-care interventions. Behavior change techniques are used rarely. There is a large variation in which behaviors are emphasized in studies and the focus is primarily on changing traditional health behaviors. More study of self-care monitoring and management is needed.

11:05 - 12:35

## Developing an intervention to improve type 2 diabetes care for people with severe mental illness

T. Dorey<sup>1</sup>, K. Mulligan<sup>1</sup>, H. McBain<sup>2</sup>, M. Haddad<sup>1</sup>

<sup>1</sup>City, University of London, United Kingdom

<sup>2</sup>South West Academic Health Science Network, United Kingdom

**Background:** Outcomes are worse for people with type 2 diabetes (T2D) and a severe mental illness (SMI: including schizophrenia and other psychotic illnesses) compared to those with T2D alone. There is evidence of disparities in the provision of diabetes healthcare for people with SMI, a potential factor in this health inequality. This project seeks to co-design a theoretically informed intervention to support the delivery of T2D care for people with an SMI.

**Methods:** This is a four-phase mixed method study informed by the Behaviour Change Wheel (BCW). Phase 1 is a research prioritisation study, using an eDelphi method, with service users, healthcare professionals and service delivery leaders to identify a behaviour target of importance to stakeholders. Phase 2 will identify the important domains of the Theoretical Domains Framework related to the target behaviour. Phase 3 will identify intervention components as defined by the BCW through an online co-production workshop with relevant stakeholders. Phase 4 will identify hypothesised contextual moderators of intervention acceptability through semi-structured interviews with relevant stakeholders.

**Expected results:** This project will result in a theoretically informed intervention, co-designed with appropriate stakeholders, and an understanding of contextually informed acceptability.

**Current stage of work:** Phase 1 data collection.

**Discussion:** This project aims to provide a clearer understanding of stakeholders' perspectives and priorities for interventions to address this important area of need, and will enable fuller participation of service users in the development of a theoretically informed intervention it will result in an intervention suitable for future pilot and feasibility testing

11:05 - 12:35

## Self-regulation in sustainable food purchases: The role of motivation, self-control and depletion

N. Auch<sup>1</sup>, L. Panzone<sup>1</sup>

<sup>1</sup>Newcastle University, United Kingdom

Policies targeting beneficial health and environmental impacts of diets require consumers to use self-control to consistently give priority to certain food choices, giving up immediate gratification from poor nutrition and high-carbon items (e.g., red meat). This is particularly important when grocery shopping, which is a regular task, often influenced by habits and heuristics. Consequently, interventions can be more effective if they can motivate self-control. In policy arenas, nudges are becoming more prominent and commonly used to address social problems (Tannenbaum, Fox et al. 2017). More recent approaches to nudging focus on fostering people's competence to make their own decisions (Hertwig and Grüne-Yanoff 2017), and to activate beliefs and concerns, or more generally to motivate sustainable goal pursuits.

To study how commitment and self-signalling affect behaviour, in June 2019 we ran a field experiment using an online supermarket. The intervention specifically tested the effectiveness of nudges based on commitment, information and self-signalling in the form of a badge. For two consecutive weeks, each participant was given a virtual budget of £25.00 to shop on NU-food and they would physically receive one of their shopping baskets (randomly chosen) and kept any unspent budget for the same week.

The results indicate that commitment mechanisms can be effective in increasing the ability of consumers to self-control. Moreover, the results highlight a potential demand for consumers wanting to be provided with data related to the effects of their grocery choices, as well as commit before shopping.

# Coping with chronic illness

11:05 - 12:35

Maria Karekla

11:05 - 12:35

## Medication Adherence in Chronic Conditions: A Scoping Review of Barriers, Facilitators and Interventions

P. Konstantinou<sup>1</sup>, G. Georgiou<sup>2</sup>, A. Panayides<sup>3</sup>, A. Papageorgiou<sup>4</sup>, G. Wozniak<sup>1</sup>, A. Kassianos<sup>1</sup>, M. Karekla<sup>1</sup>

<sup>1</sup>Department of Psychology, University of Cyprus, Cyprus

<sup>2</sup>Department of Social and Behavioral Sciences, European University Cyprus, Cyprus

<sup>3</sup>Department of Computer Science, University of Cyprus, Cyprus

<sup>4</sup>Medical School, University of Nicosia, Cyprus

**Background:** Medication non-adherence (MNA) is prevalent across chronic health conditions, with almost one in two patients reporting low adherence to their prescribed medication. The purpose of this scoping review was to identify the barriers associated with medication adherence (MA) and the interventions and techniques developed to improve adherence among adult patients with chronic health conditions of the respiratory, central nervous, cardiovascular and immune systems (asthma, diabetes, cancer, epilepsy, hypertension, and AIDS) with high MNA. A scoping review was preferred to systematic review, in order to provide the scope of MNA and its barriers and interventions, and thus provide concrete recommendations for policymaking. **Method:** Published peer-reviewed studies (both quantitative and qualitative) with chronic patients and with MA explicitly stated as an outcome were included. PubMed, PsycINFO and Scopus databases were screened with 95 studies included. **Findings:** Most commonly reported barriers to MA across conditions were younger age, low education, low income, high medication cost, side effects, patient beliefs/perceptions, comorbidities, and poor patient-provider communication. Additionally, digital interventions such as SMS/text message interventions were commonly reported and often led to improvements in adherence rates. **Discussion:** This is the first review examining barriers to MA across chronic conditions and the behavioral interventions used for improving adherence. It highlights the importance of administering multicomponent interventions digitally, and personalized to the patients' individual needs and characteristics, in response to the barriers patients face in adhering to their medication. Stakeholders are called to explore methods overcoming barriers identified and support the development of multicomponent interventions.

11:05 - 12:35

## Development of the Patient-Reported Impact of Dermatological Disease (PRIDD) measure: a concept elicitation study

R. Pattinson<sup>1</sup>, R. Hewitt<sup>1</sup>, N. Trialonis-Suthakharan<sup>2</sup>, E. Chachos<sup>3</sup>, M. Augustin<sup>2</sup>, C. Bundy<sup>1</sup>

<sup>1</sup>Cardiff University, United Kingdom

<sup>2</sup>University Medical Center Hamburg-Eppendorf, Germany

<sup>3</sup>Monash University, Australia

**Background:** Dermatological conditions can cause pain, disfigurement, disability, and stigma, and have a psychological, social and financial burden, highlighting the need for a biopsychosocial approach to management. Our systematic review of dermatology patient-reported outcome measures (PROM) found not one comprehensively captured the full impact of living with dermatological conditions. We developed a conceptual framework of impact and a new measure called Patient Reported Impact of Dermatological Disease (PRIDD). Here we report the conceptual framework of this new measure.

**Methods:** A qualitative study combining face-to-face focus groups and online synchronous individual semi-structured interviews. Adults ( $\geq 18$  years) living with a dermatological condition and dermatology patient organisation representatives were recruited. Interview questions were theoretically informed by the Common-Sense Self-Regulatory Model. Thematic Analysis was conducted following a combined inductive and deductive approach.

**Findings:** Sixty-three people (68% female, across 29 dermatological conditions) participated. Key themes were: 1) Dermatological conditions impact at the individual, organisational and societal levels; 2) Degree of impact varies between and within individuals and over time; 3) Impact can be both point-in-time and cumulative; 4) Impact is a multifaceted construct; and 5) Dermatological conditions share common impacts.

**Discussion:**

Impact is a multifaceted concept involving physical, psychological, social, and financial functioning as well as daily responsibilities and healthcare, supporting the need for a holistic approach to management. The conceptual framework provides a basis for developing PRIDD's content. The next phase involves a Delphi study with a wider pool of people with dermatological conditions to determine which items should be included in PRIDD.



11:05 - 12:35

## Couples facing the honeymoon period of Parkinson's disease: a qualitative study of dyadic functioning

C. Manceau<sup>1</sup>, E. Constant<sup>1</sup>, E. Brugallé<sup>2</sup>, E. Wawrziczny<sup>1</sup>, B. Flinois<sup>2</sup>, G. Baille<sup>2</sup>, L. Defebvre<sup>3</sup>, K. Dujardin<sup>3</sup>, P. Antoine<sup>1</sup>

<sup>1</sup>Univ. Lille, CNRS, UMR 9193 - SCALab - Sciences Cognitives et Sciences Affectives, France

<sup>2</sup>Neurology and movement disorders, Lille University Medical Center, France

<sup>3</sup>Neurology and movement disorders, Lille University Medical Center, Inserm, Lille Neurosciences and Cognition, France

**Background:** Numerous researches highlighted the impacts of Parkinson's disease on both the patient and the caregiver, notably in terms of physical and psychological well-being. These individual issues affect the couple relationship and the dyadic functioning, as shown by upheavals caused by the disease on intimacy or communication. Nevertheless, dyadic mechanisms underlying the couple's experience are still unknown. Furthermore, understanding these processes according to the different stages of the disease is essential for the support of partners. The intermediary stage, called "honeymoon" is besides little explored. Thus, the objective of this study was to explore the couple experience and the dyadic functioning, at this specific stage of Parkinson disease.

**Methods:** Fifteen couples participated to semi-structured interviews, led separately with each partner. Interviews were recorded, transcribed, and finally analyzed with Interpretative Phenomenological Analysis.

**Results:** Two main themes were found: "Interactions under tension" and " 'Parkinson, we don't talk about it' : from protection to conflict", each divided into subparts. Nuancing the term "honeymoon", results highlight the lack of agreement among partners on the vision of the disease and the way to cope with it, which encourages negative interactions, avoidance of communication, and finally, distancing between partners. Nevertheless, others perceived a sense of meaning and positive consequences on proximity, thanks to the disease.

**Discussion:** These results show important clinical implications and point to the importance of considering relational and dyadic issues as soon as possible after diagnosis of Parkinson's disease.

11:05 - 12:35

## Differences between three groups of neurological patients regarding their adherence to medication

G.H. Franke<sup>1</sup>, M. Jagla-Franke<sup>2</sup>, J. Nentzl<sup>1</sup>, T. Prell<sup>3</sup>

<sup>1</sup>University of Applied Sciences Magdeburg and Stendal, Germany

<sup>2</sup>University of Applied Sciences, Germany

<sup>3</sup>Department of Neurology, Jena University Hospital, Germany

**Background:** Non-adherence to medication causes serious problems in medical care of different groups of patients. To develop more effective interventions to improve adherence, there is a need for a better understanding.

**Objective:** To analyze different types of non-adherence to medication in neurological patients and to evaluate the influence of coping with disease.

**Methods:** 545 patients of the Department of Neurology, Jena, University Hospital answered the Stendal Adherence to Medication Score (SAMS), and the Essen Coping Questionnaire (ECQ).

**Findings:** For the 545 patients, the mean age was 63 years (SD = 16, 18-96), 41% were female. According to the SAMS total score 85 (15.6%) patients were fully adherent, 326 (59.8%) showed moderate and 134 (24.6%) clinically significant non-adherence (reliability Cronbach's alpha = .85). Younger patients were less adherent ( $p < .05$ ). Regarding the nine coping scales of the ECQ, the fully adherent group reported more "Trivialization, wishful thinking and defense" and more "Finding of inner stability" than the two other groups (both  $\eta^2 = .02$ ). The non-adherent group reported less "Distance and self-promotion" and less "Active search for social integration" (both  $\eta^2 = .01$ ). "Trust in medical care" was high in the three groups ( $M = 6.6 \pm 1.7$ ), as well as "Depressive processing" ( $M = 5.7 \pm 1.8$ ); the total model was significant ( $\eta^2 = .03$ ).

**Discussion:** Mental distance and inner stability could be protective coping factors, which support adherence to medication in neurological patients. Low distance and self-promotion as well as low search for social integration could lead to non-adherent behavior in this population. Longitudinal studies are necessary.

## The relationship between depression, anxiety and quality of life in patients with inflammatory bowel disease

M. Bártek<sup>1</sup>, M. Kupka<sup>1</sup>

<sup>1</sup>Palacký University Olomouc, Czech Republic

**Background:** Patients with inflammatory bowel diseases (IBDs) have impaired health-related quality of life (HRQoL) as a result. In addition to the clinical manifestations of the disease, HRQoL is also influenced by the psychological effects of coping with the disease. In terms of psychological effects, IBD patients are most often faced with depression and anxiety. The main aim of this research is to describe the relationship between depression, anxiety and HRQoL in IBD patients with regards to socio-demographic (age, gender) and clinical factors (disease activity, type of treatment, surgery). **Methods:** A total of 213 adult IBD patients were admitted to the questionnaire survey through IBD centres and patient organizations. The data-collection methods were the WHO-QOL questionnaire, Beck's Depression Inventory and Beck's Anxiety Inventory. Data was analyzed using univariate analysis, from which significant variables were subsequently included in multiple regression analysis. **Findings:** In univariate analysis, gender ( $p < 0.05$ ), disease activity ( $p < 0.001$ ), depression ( $p < 0.001$ ) and anxiety ( $p < 0.001$ ) had a significant relationship to HRQoL. Multiple regression results showed that disease activity ( $p < 0.001$ ) and depression ( $p < 0.001$ ) are among the most important predictors of HRQoL.

**Discussion:** Managing the psychological effects of the disease has been shown to have a significant impact on HRQoL in IBD patients. The rate of depression in IBD patients was one of the major predictors of reduced HRQoL. In addition to managing the clinical manifestations of the disease, the treatment of IBD patients should also focus on managing the psychological effects of the disease, particularly alleviating depression.

11:05 - 12:35

# Psychosocial Functioning of Vitiligo Patients in the Face of Stigmatization: A systematic review

S. Lysáková<sup>1</sup>, C. Zimmermann<sup>2</sup>, C. Jordan<sup>3</sup>, T. Revenson<sup>4</sup>

<sup>1</sup>Hunter College, City University of New York, United States

<sup>2</sup>The Graduate Center, City University of New York, United States

<sup>3</sup>William Paterson University of New Jersey, United States

<sup>4</sup>Hunter College & The Graduate Center, City University of New York, United States

**Background:** Vitiligo is a chronic visible skin disease characterized by loss of pigmentation, affecting 1% of people globally. One quarter of people with vitiligo have psychiatric comorbidity and poor quality of life (QoL). Frequent experiences of stigma may contribute to these outcomes. In this systematic review, we examined the link between vitiligo-related stigma and psychosocial functioning.

**Methods:** Following PRISMA guidelines, we conducted a keyword search for peer-reviewed articles on skin disease, stigmatization, and psychosocial outcomes (e.g., QoL, mental health, preventive health behaviors) in PsycINFO, PubMed, and CINAHL databases. Studies were screened for eligibility by two researchers. We extracted data for the subsample of studies specific to vitiligo and integrated study results using narrative synthesis.

**Results:** The initial search yielded 237 articles; after screening, 45 studies met inclusion criteria, of which 8 studies with vitiligo samples were identified. Six studies utilized quantitative methods and two were qualitative. Measures of stigma were largely investigator-designed and non-validated. Stigma experiences were common and often associated with covering behaviors to hide symptoms, greater distress, and lower QoL. The most studied psychosocial outcome was QoL ( $k = 5$ ), with findings that revealed a moderate to large effect between stigma and QoL ( $r = -0.35 - -0.80$ ).

**Discussion:** Findings highlight paucity of research on stigma among people with vitiligo, and the varied measurement of stigma. Surprisingly, race was often unreported, despite evidence that vitiligo affects people of color at the same rate as Whites. Further study of vitiligo-related stigma and its psychosocial implications is needed.

11:05 - 12:35

## Being a person or being a patient: adaptive resources in long-term survivors after heart transplantation

A. Mierzynska<sup>1</sup>, A. Kokoszka<sup>2</sup>, G. Jerzak-Wodzynska<sup>1</sup>, M. Sobieszczanska-Malek<sup>1</sup>, T. Zielinski<sup>1</sup>

<sup>1</sup>The National Institute of Cardiology, Poland

<sup>2</sup>Medical University of Warsaw, Poland

**Background.** Among proposals for the treatment of end-stage heart failure, heart transplantation (HTx) gives a chance to return to full well-being. Proper adaptation to medical recommendations allows HTx patients to reduce the risk of treatment failure and organ rejection. Conclusions from preceding studies imply a significant impact of individual resources and patients' expectations on lifestyle and long-term outcomes of HTx. The study aimed to describe the subjective experiences of people with particularly long survival time after heart transplantation (more than 15 years) concerning their collaboration with medical staff and medical recommendations associated with treatment after organ transplantation.

**Methods.** From the study group consisting of 107 patients after heart transplantation, we have included 8 participants (age range: 42 - 71 y. o.; 1 F / 7 M; 16 - 27 years after HTx) to the qualitative part of the project. The study design required using semi-structured interviews with patients regarding the experience of HTx, adaptation strategies, and expectations towards themselves and the transplant team. Data were analysed using Interpretative Phenomenological Analysis.

**Findings.** Patients manifest expectations toward themselves clustered in 2 domains: adaptation to everyday life (having a regular occupation, usefulness to others, avoiding thinking about the disease) and adaptation to treatment (taking care of one's health, sharing knowledge with the medical team and with other HTx patients).

**Discussion.** Patients with long survival after transplantation express clear expectations toward themselves and others. It seems reasonable to consider the estimation of subjective expectations, as important resources, in the process of care after HTx.

11:05 - 12:35

## Living with cystic fibrosis: patients' experiences of diagnosis in adulthood

N. Sharma<sup>1</sup>, D. Harcourt<sup>1</sup>, E. Jenkinson<sup>1</sup>, A. Pearce<sup>2</sup>

<sup>1</sup>University of the West of England, United Kingdom

<sup>2</sup>Southern Health NHS Foundation Trust, United Kingdom

**Background:** There is a paucity of research investigating what it is like to be diagnosed and to live with cystic fibrosis (CF) in adulthood. Understanding patients' experiences and the impact of the condition can provide information to help healthcare professionals deliver appropriate support. This research aimed to address this literature gap.

**Methods:** An experiential qualitative approach using semi-structured interviews was undertaken. Sixteen individuals diagnosed with CF in adulthood who received their care from a UK regional CF centre were recruited.

**Findings:** Using inductive thematic analysis, four themes were identified "No, you can't possibly have CF", Emotions around diagnosis, "It did kind of take over my life" and "I no longer wish to argue with it". These themes described participants' frustrations regarding contact with healthcare professionals before diagnosis, ambivalence around diagnosis, the challenges faced with day-to-day living and acceptance and adjustment to their CF. A key finding was the mismatch between patient need and healthcare provision.

**Discussion:** Recommendations involved awareness raising of the possibility of receiving a CF diagnosis in adulthood, ensuring CF healthcare professionals delivering the news of an adult diagnosis have the appropriate training and support, they adequately assess individual's information needs and provide appropriate and relevant information. Implications for health psychology practice include providing educative training, reflective practice and supervision to healthcare professionals and supporting patients to make sense of the diagnosis, develop adaptive coping strategies and adjust to living with a chronic condition. Future research would benefit from a more diverse UK wide sample.

11:05 - 12:35

# A Qualitative Analysis of Psychosocial Adjustment Process of Veteran Soldiers with Amputation

Ö. Bozo<sup>1</sup>, İ.B. Güvenç<sup>1</sup>, Y. Erol<sup>2</sup>

<sup>1</sup>Middle East Technical University, Turkey

<sup>2</sup>Hacettepe University, Turkey

Amputation is defined as the loss of all or part of an organ. Dozens of research showed the difficulties in adaptation process of individuals who experienced amputation. The present study aims at understanding the experiences of veteran soldiers who traumatically lost any part or functioning of their body in relation to perceived social support, perceived social stigma, and their psychosocial adjustment. Semi-structured interviews were conducted with nine veteran soldiers in their solidarity association. As a result of qualitative analysis of these interview transcripts four themes emerged: (1) problems related to society (perceived social stigma, ignorance, personal relationships), (2) psychological distress, (3) hardships in adaptation to routine life, and (4) coping strategies (concealing the loss, proud of being a veteran, perceived social support, downward comparison). The most prominent themes were problems related to society and hardships in adaptation to routine life. The findings of this study pointed out that even a long period of time passes over the amputation, psychosocial adjustment could be difficult for these individuals especially if they have weak social ties and perceive stigma from the society. It was suggested that for this special population, novel psychological treatment strategies focusing on perceived stigmas could help them to cope with this traumatic loss better; moreover, raising awareness in the society and increasing employment opportunities could yield effective outcomes in terms of their psychosocial adjustment processes.

**Keywords:** amputation, perceived social support, perceived social stigma, psychosocial adaptation, veteran soldiers

11:05 - 12:35

## Management of the disease by osteoporotic patients

L. Lepage<sup>1</sup>, F. Lemetayer<sup>1</sup>

<sup>1</sup>Université de Lorraine, France

Osteoporosis is a disease that weakens bones and can have serious consequences. However, it is an asymptomatic disease that makes it difficult for patients to adhere to their medication regimens. They may decide to discontinue or refuse treatment during consultations with their rheumatologist. However, if this choice seems to be contrary to the management usually offered, these patients continue to manage their disease, by self-managing and/or referring to other health professionals. However, little is known about how osteoporotic patients manage or cope with their disease. The purpose of this study is to examine how osteoporotic patients regain control of their disease.

Five semi-structured interviews will be conducted with women over the age of 50 with postmenopausal osteoporosis undergoing treatment. The data is currently being collected and will be analysed thematically using Nvivo.10 software. A maintenance schedule has been established to update how patients manage their osteoporosis.

Analyses are still being processed. However, they should help us to examine how osteoporotic patients cope with their disease, the alternatives considered by the patients awareness and re-appropriation of their disease and thus strengthening their empowerment for a better management of the disease providing health behaviours. Three interviews have been analysed and two interviews are in progress.

This thesis work should help to update the way patients manage and adapt to their osteoporosis, oriented towards a developmental perspective in line with their current needs. This study should also the importance for healthcare professionals to consider the issue of self-management of patients with asymptomatic disease.



11:05 - 12:35

## Exploring personality and coping strategies in chronic pain patients

M. Radman<sup>1</sup>, Z. Lončar<sup>2</sup>

<sup>1</sup>University of Applied Health Sciences, Croatia

<sup>2</sup>University Hospital Clinic "Sisters of Mercy" Zagreb, Croatia

**Background and aims.** A large number of research has tried to identify relationship between personality and chronic pain, but majority concentrates on specific traits or specific causes of pain. Hence, the aim of the present study was to explore the role of different psychological factors, specifically personality traits and pain coping strategies in heterogeneous group of chronic pain patients and to evaluate different coping strategies as mediators in relation between personality traits on one side and perceived pain intensity on the other. **Methods.** The results were gathered on a sample of 94 participants (79 women and 14 me; mean age was 62,6) who suffer from chronic pain for 3,5 years in average and are treated in pain clinic at University Clinical Hospital "Sisters of Mercy", Zagreb. They completed a set of questionnaires which gathered sociodemographic variables, personality traits (HEXACO PI-R), pain coping strategies (CSQ) and perceived pain (SF-MPQ). **Results.** A set of correlations and regression analysis was performed and results showed that participants who tend to catastrophize while coping with pain perceive on average higher pain intensities. Relationship between neuroticism and pain intensity measured by SF-MPQ was mediated by catastrophizing. **Conclusions.** In general, these findings suggest the importance of targeting specific coping strategies for modification in the treatment of patients with chronic pain. The results also showed the need for more richer understanding of the role of personality in the coping process.

11:05 - 12:35

# Supported self-management in asthma reviews: a mixed methods observational study nested in the IMP2ART programme

E. Kinley<sup>1</sup>, K. McClatchey<sup>1</sup>, H. Pinnock<sup>1</sup>, L. Steed<sup>2</sup>, V. Marsh<sup>3</sup>

<sup>1</sup>University of Edinburgh, United Kingdom

<sup>2</sup>QMUL, United Kingdom

<sup>3</sup>NHS, United Kingdom

## Background

Asthma results in >6.3 million UK primary care consultations each year. Supported self-management reduces the risk of attacks, improves control and quality of life. The IMPLementing IMProved Asthma self-management as RouTine (IMP2ART) programme aims to address this issue by developing evidence-based strategies that enable general practices to prioritise supported self-management. Nested within the IMP2ART study, this work aims to observe asthma consultations and assess healthcare professional (HCP) usage of patient-centred/motivational strategies to promote asthma self-management.

## Methods

A mixed-method observational study will be conducted. Video recordings of a sub-sample of the IMP2ART UK-wide cluster-RCT practices (implementation n>10; control n>10) will be undertaken.

Analytical methods include:

- Time Interval Medical Event Recorder (TIMER) & The Roter interaction analysis system &#40;RIAS&#41; to code and quantify types of speech.
- Patient Centered Observation Form (PCOF) & The Behaviour Change Counselling Index (BECCI) to assess patient-centeredness and behaviour change techniques used by HCPs.

Clinician perceptions of asthma reviews will be explored using follow-up semi-structured interviews and analysed using thematic analysis.

## Expected Results

IMP2ART strategies delivered to implementation practices will enable HCPs to embed supported self-management more effectively within asthma consultations, compared to control practices.

## Current Stage of Work

At present, a methodological review of efficient tools to measure and analyse consultations and patterns of communications between patients and clinicians is underway.

## Discussion

This work will inform future roll out of the IMP2ART implementation strategy, adding weight to evidence that HCPs should be provided with specific training skills to implement a motivating, patient-centred asthma review.



11:05 - 12:35

## THEORETICALLY informed education to support asthma self-management in primary care: part of the IMP2ART programme

K. McClatchey<sup>1</sup>, V. Marsh<sup>2</sup>, R. Last<sup>3</sup>, L. Steed<sup>4</sup>, S. Taylor<sup>4</sup>, H. Pinnock<sup>1</sup>

<sup>1</sup>University of Edinburgh, United Kingdom

<sup>2</sup>National Health Service, United Kingdom

<sup>3</sup>Education for Health, United Kingdom

<sup>4</sup>Queen Mary University of London, United Kingdom

**Background:** The IMPlimenting IMProved Asthma self-management as RouTine (IMP2ART) programme is developing a whole-systems implementation strategy to improve the delivery of supported asthma self-management in routine primary care. We aimed to develop professional education that targeted barriers to implementation and developed professionals' skills in delivering tailored supported asthma self-management.

**Methods:** Underpinned by the Theoretical Domains Framework, a multidisciplinary team (educationalists, clinicians, health psychologists) along with a professional advisory group (n=10) developed two online educational packages, one for all primary care staff to be delivered in a team setting (Module 1), and one for clinicians who deliver asthma care (Module 2). During development, modules were tested in general practices using the think-aloud method (Module 1: n=17 across two practices; Module 2: n=6 across four practices). Additionally, four practices piloted Module 1, and three clinicians piloted Module 2.

**Findings:** The modules were received positively in both the initial development testing and the piloting. The piloting of Module 1 highlighted challenges with team setting delivery, leading to a more flexible approach to delivery and individual access to the module. Module 2 feedback led to changes in wording to provide clarity, and additional explanation of included components. Run times of the modules were as planned. Changes have now been incorporated into the modules.

**Discussion:** The finalised modules will be integrated with patient and organisational components of the IMP2ART UK-wide cluster-RCT (n=144 practices), evaluating the impact of the implementation strategy on unscheduled care, ownership of asthma action plans, and cost-effectiveness.

11:05 - 12:35

## The impacts of COVID-19 lockdown on mental health in patients with Inflammatory Arthritis

M. Sweeney<sup>1</sup>, L. Carpenter<sup>1</sup>, S. de Souza<sup>2</sup>, H. Chaplin<sup>1</sup>, H.Y. Tung<sup>1</sup>, E. Caton<sup>1</sup>, J. Galloway<sup>2</sup>, A. Cope<sup>2</sup>, M. Yates<sup>2</sup>, S. Norton<sup>1,2</sup>

<sup>1</sup>King's College London, United Kingdom

<sup>2</sup>Centre for Rheumatic Diseases, King's College London, United Kingdom

### Background:

People with inflammatory arthritis (IA) are at an increased risk of mental and physical health consequences of the COVID-19 lockdown in the UK. This study aimed to explore the impacts of lockdowns on the physical and mental health of IA patients.

### Methods:

An online questionnaire was completed by 338 participants with an IA condition. Visual analogue scales (VAS) for patient global assessment (PGA), pain, fatigue, and emotional distress were completed. The Patient Health Questionnaire (PHQ8) and the short UCLA loneliness scale were also used. Linear regressions were conducted to determine mental health factors associated with worse physical health outcomes (PGA, pain, and fatigue).

### Findings:

Overall, 49% of participants met the PHQ8 criteria for moderate to severe depressive symptoms and 58% reported their mental health had worsened by more than 10 points on the emotional distress VAS during lockdown.

Emotional distress VAS was significantly associated with PGA ( $b = 0.21$ ,  $p < 0.01$ ), pain ( $b = 0.24$ ,  $p < 0.01$ ), and fatigue ( $b = 0.36$ ,  $p < 0.01$ ). Similarly, depression was also associated with PGA ( $b = 0.95$ ,  $p < 0.01$ ), pain ( $b = 0.92$ ,  $p < 0.01$ ), and fatigue ( $b = 1.56$ ,  $p < 0.01$ ). However, loneliness was not associated with any of the physical health VAS scores but was associated with the emotional distress VAS ( $b = 1.83$ ,  $p < 0.01$ ).

### Discussion:

There has been a clear impact of the pandemic on the mental and physical health of people with IA. The mixed results for the different aspects of mental health may illustrate the inter-relatedness of these aspects of health, particularly in the context of lockdown.

# Youth and family mental health

11:05 - 12:35

Aleksandra Luszczynska

11:05 - 12:35

## Positive youth development and mental health of Bulgarian adolescents

A. Alexandrova-Karamanova<sup>1</sup>

<sup>1</sup>Department of Psychology, Institute for Population and Human Studies - Bulgarian Academy of Sciences, Bulgaria

**Background:** The Positive Youth Development (PYD) perspective focuses on the strengths and positive qualities and outcomes in young people. Lerner's 5Cs model defines positive development by five aspects: Competence, Confidence, Connection, Character, and Caring. The 5Cs have been found to be associated with youth's mental health and well-being, healthy lifestyles, risk behaviour, academic achievement, and civic engagement. The study aims to explore the relationships between 5C characteristics of positive youth development and adolescents' mental health (depression, perceived stress, and psychosomatic complaints).

**Methods:** The study employs data from the Bulgarian 2017/2018 Health Behaviour in School-Aged Children (HBSC) study. The national representative sample comprised 1517 adolescents aged 15 years. Measures included the Positive Youth Development Scale – short form, the Center for Epidemiologic Studies Short Depression Scale (CES-D-R 10), the Cohen Perceived Stress Scale (PSS-4), and the HBSC Psychosomatic Complaints Scale. Descriptive statistics and multiple hierarchical linear regressions were used.

**Findings:** The proportion of explained variance by the 5Cs was 11% for depression, 14% for perceived stress and 16% for psychosomatic complaints. All three outcome variables were significantly negatively associated with Confidence and Connection. Furthermore, depression was positively associated with Character, and psychosomatic complaints were negatively associated with Competence. These associations remained significant after being adjusted for socio-demographic characteristics.

**Discussion:** Findings suggest the development of the 5Cs of positive youth development through various youth programs can contribute to better mental health and well-being of Bulgarian young people.

11:05 - 12:35

## How to establish supportive peer relationships: a qualitative study with early adolescents

I. Krammer<sup>1,2</sup>, K. Stiehl<sup>1,2</sup>, I. Pollak<sup>1</sup>

<sup>1</sup>Ludwig Boltzmann Gesellschaft, D.O.T. Research Group, Austria

<sup>2</sup>University of Vienna, Department of Health and Clinical Psychology, Austria

Supportive peer relationships are an important resource for a healthy development of young people. An exploratory model that captures mechanisms of establishing and maintaining friendships is necessary to inform the development of age appropriate preventive programs. This qualitative study aims to understand early adolescents' perspectives around supportive and hindering factors in peer relationships.

A series of participatory workshops were conducted with 54 classes in primary and secondary schools across Lower Austria. The current study focuses on two distinct activities that addressed the topic of peer relations. Students were encouraged to talk about supportive and unsupportive peer relationships at class level and at friendship level. Qualitative data from 916 early adolescents (mean age = 10.44) was collected and analyzed employing a reflexive thematic analysis.

Results reveal that spending time with peers, displaying supportive behavior and establishing trust are key concepts of positive experiences. Various forms of victimization (e.g. humiliation or physical aggression) and conflicts with peers are described as negative. Face-to-face as well as digital interactions are relevant for the development of supportive peer relationships, emphasizing that friendship experiences occur in digital and offline spaces.

In conclusion, participatory research is relevant to gain insights into the authentic experiences of today's youth. Our findings can inform the development of a stakeholder-lead model that captures mechanisms of establishing and maintaining friendships and the roles of face-to-face and digital contact in these efforts.



11:05 - 12:35

## Social discourse and stigmatisation as a barrier to a child and adolescent mental health services

Z. Dankulincova Veselska<sup>1</sup>, D. Filakovska Bobakova<sup>1</sup>

<sup>1</sup>PJ Safarik University in Kosice, Slovakia

**Background:** Our aim was to explore barriers in child and adolescent mental health services (CAMHS) from the perspective of care providers.

**Methods:** We conducted 25 semi-structured interviews in 17 institutions which are a part of CAMHS to collect qualitative data about care providers' experiences with providing care for adolescents with emotional and behavioural problems and potential barriers existing in CAMHS. Thematic analysis of the transcribed audio recordings was performed in MAXQDA.

**Findings:** Two of the themes identified as potential barriers in CAMHS were social discourse and stigmatisation. Within social discourse topics of prejudices and disinformation and/or lack of information about problems and CAMHS occurred. The social discourse was expressed as a cause for stigmatisation which consists of following topics: fears of parents associated with labelling, stigmatization and marginalization, as well as labelling, stigmatisation and marginalisation by diagnosis and involvement in CAMHS itself.

**Discussion:** Social discourse and stigmatisation affect the provision and success of care for children with emotional and behavioural problems. Having emotional and behavioural problems and being involved in CAMHS is perceived and judged negatively in society. Entering CAMHS thus means the necessity to face a label and many of the associated prejudices what might cause the delay in entering the care and creates an essential barrier.

11:05 - 12:35

# Prevalence of mental disorders in youth with chronic skin conditions: A systematic review and meta-analysis

C. Flinn<sup>1</sup>, A. Mc Inerney<sup>1</sup>, F. Nearchou<sup>1</sup>

<sup>1</sup>University College Dublin, Ireland

**Background:** Psychological difficulties in dermatology have been documented in adults, however there has been less research in younger populations. Evidence on the prevalence of comorbidity between chronic skin conditions and mental disorders and/or mental health problems in youth remains inconsistent with suggested prevalence rates ranging from 8-70%.

The primary aim of this review is to identify the prevalence of comorbidity between mental health problems and chronic skin conditions in youth aged 0-25 years. The secondary aim is to investigate whether prevalence rates differ across subgroups.

**Methods:** PubMed, CINAHL, Embase, PsycInfo and PsycARTICLES will be searched for cross-sectional studies reporting prevalence estimates of the comorbidity between mental health problems and chronic skin conditions in youth aged 0-25 years. Studies will be reviewed according to PRISMA guidelines. The review will be registered with PROSPERO.

**Expected results:** Results are expected to identify the prevalence of comorbidity between mental disorders and/or difficulties and chronic skin conditions in youth. We expect to provide a developmental insight on this prevalence by comparing different age cohorts (e.g. adolescents vs young adults).

**Current stage of work:** Searches have started and preparing to submit protocol for registration.

**Discussion:** Minimising the impact of dermatologic conditions on mental health requires healthcare providers to assess and discuss patients' concerns about mental well-being. Increased awareness of this comorbidity could enable integrating discussion about the psychological impact of skin disease and strategies for address this into care. For example, providers could equip patients with responses to potential teasing about visible skin conditions from peers.

## Parental rejection and social appearance anxiety: The mediating role of self-concept clarity

C.K.N. Sen<sup>1</sup>, D. Gurleyik<sup>1</sup>, E. Psouni<sup>2</sup>

<sup>1</sup>Ozyegin University, Turkey

<sup>2</sup>Lund University, Sweden

The present study investigated the potential mediating role of self-concept clarity and self-esteem on the relationship between parental rejection and social appearance anxiety in emerging adulthood. Participants from Turkey (N=322; 226 females/96 males; MAge=21.28, SDAge=1.91) reported their memories of upbringing (Egna Minnen Beträffande Uppfostran/EMBU) related to mother and father, respectively, the extent to which their self-beliefs were clearly and confidently defined (Self-Concept Clarity/SCC), their self-esteem (Rosenberg's Self-Esteem Scale/RSES), and their anxiety about negative overall appearance evaluations by others (Social Appearance Anxiety Scale/SAAS). As expected, parental rejection was positively linked to social appearance anxiety ( $\beta = .37, p \leq .001$ ) and negatively linked to both SCC ( $\beta = -.44, p \leq .001$ ) and self-esteem ( $\beta = -0.15, p \leq .05$ ). However, only self-concept clarity was linked to lower social appearance anxiety ( $\beta_{SCC} = -0.34, p \leq .001; \beta_{SE} = -0.02, p_{SE} = .72$ ). Furthermore, mediation analysis confirmed that the relationship between parental rejection and social appearance anxiety was mediated by SCC (indirect=0.21, SE=0.06, 95% CI [0.10, 0.33]), suggesting that higher parental rejection likely results in decreased self-concept clarity, which in turn results in greater social appearance anxiety. Thus, interventions to increase self-concept clarity during early adulthood may help reduce the anxiety over negative body image appraisal in individuals who recall parental rejection during their upbringing.

11:05 - 12:35

## Parental Health Status and Adolescents' Psychological Distress: The Role of Parentification

C.Y. Chen<sup>1</sup>

<sup>1</sup>Queens College of the City University of New York, United States

**Background:** Some emerging studies have suggested that parental illness places children at risk for adjustment difficulties. However, the influence of various health conditions of healthy parents on children has rarely been studied. This quantitative study investigated the relationship between parental physical functioning and emotional well-being of healthy parents and their adolescent children's psychological distress. This study also examined the role of parentification in adolescents' psychological distress.

**Methods:** The sample involved 100 parent-child pairs in the United States. Parental health conditions were assessed by the Physical Functioning and Emotional Well-being subscales of the Medical Outcome Study Questionnaire Short Form Health Survey (Ware & Sherbourne, 1992). Emotional Parentification subscale of the Parentification Questionnaire-Youth Version (Godsall & Jurkovic, 1995) was used to measure emotional parentification. Adolescent psychological distress was measured by the Center for Epidemiologic Studies-Depression Scale (Radloff, 1977).

**Findings:** The results of a hierarchical regression analysis indicated that parental physical functioning ( $t = -6.57, p < .001$ ) and emotional well-being ( $t = -6.51, p < .001$ ) were both associated with adolescents' psychological distress. Moreover, emotional parentification provided additive value in predicting adolescent psychological distress ( $t = 2.47, p = .015$ ).

**Discussion:** Among healthy parents, lower levels of parental physical and emotional functioning were associated with higher levels of psychological distress in adolescents. Especially, adolescents who experienced higher levels of emotional parentification tended to psychological distress. The results highlight the importance of assessing and addressing different aspects of parental health status even when parents are not chronically ill, as well as family emotional process.

11:05 - 12:35

## Intergenerational transmission of posttraumatic orientation to bodily signals within mother-daughter dyads

N. Tsur<sup>1</sup>

<sup>1</sup>Tel Aviv University, Israel

**Background:** Orientation to bodily signals reflects the ways in which individuals interpret their bodily sensations. Such orientation is formed at initial stages of life and develops within an interpersonal context. Findings reveal that trauma may alter the basic trust in one's body, often leading to a catastrophic and fearful orientation towards bodily signals. However, little is known regarding this process as manifested within family contexts. This study examines the intergenerational link between childhood maltreatment (CM), complex posttraumatic stress symptoms (CPTS-symptoms), and a posttraumatic orientation to bodily signals among dyads of mothers and young adult daughters.

**Methods:** 194 mother-daughter dyads completed self-report questionnaires, assessing childhood maltreatment (CTQ), CPTS-symptoms (ITQ), and orientation to bodily signals (pain catastrophizing, anxiety sensitivity-physical, body vigilance).

**Findings:** Orientation to bodily signals was associated with CM, through the mediation of CPTS-symptoms among mothers ( $0.28 > \text{indirect effect} > 0.13$ ;  $p > 0.021$ ) and daughters ( $0.21 > \text{indirect effect} > 0.11$ ;  $p > 0.032$ ). Mothers' CM was associated with daughters' CM (effect=0.35;  $p < 0.001$ ), and mothers' orientation to bodily signals was associated with daughters' orientation ( $0.19 < \text{effect} < 0.27$ ;  $p < 0.016$ ). Daughters' orientation to bodily signals was partially associated with mothers' CM through mothers' CPTS-symptoms and orientation (indirect effect = 0.064;  $p = 0.023$ ).

**Discussion:** CM has a long-lasting effect on the way individuals orient to their normal day-to-day bodily sensations, such as hunger and pain. Such catastrophic and fearful orientation to bodily signals may be intergenerationally transmitted from, even when daughters were not exposed to trauma.

11:05 - 12:35

## Mindfulness mediates the relationship between parenting stress and relationship satisfaction

J. Eggermann<sup>1</sup>, C. Salewski<sup>1</sup>

<sup>1</sup>University of Hagen, Germany

**Background:** Parenting is a potentially stressful task and parenthood often results in reduced relationship satisfaction. Through stress reduction, relationship satisfaction might be improved and result in a better family functioning. One promising approach for parental stress reduction is strengthening the mindfulness of parents in everyday life, as mindfulness already proved to reduce stress in other contexts. Therefore the present study aimed at examining the potentially mediating role of mindfulness in the relation between parenting stress and relationship satisfaction.

**Methods:** 91 young heterosexual parents with children between six and 36 months of age filled out questionnaires about parenting stress (parenting-stress-index, EBI), mindfulness (mindful attention and awareness scale, MAAS) and relationship satisfaction (relationship assessment scale short version, PFB-K). Via actor-partner-mediator-model (APMeM) we assessed if mindfulness mediates the relation between parenting stress and relationship satisfaction. The proposed mediation model was performed using the MEDYAD tool.

**Findings:** Within our APMeM we found two actor-effects and one partner-effect. The correlation between parenting stress and relationship satisfaction was fully mediated by mindfulness for fathers (indirect effect:  $b = -.025$ , 95% CI [-.048, -.004]) and partially for mothers (indirect effect:  $b = -.022$ , 95% CI [-.046, -.002]). Moreover, the correlation between parenting stress of fathers and relationship satisfaction of mothers was fully mediated by the fathers' mindfulness (indirect effect:  $b = -.034$ , 95% CI [-.061, -.010]).

**Discussion:** These findings point to mindfulness enhancement as a promising approach to cope with parenting stress and thus help strengthening intimate relationships within families.

11:05 - 12:35

## Relationship satisfaction and depression in patient-partner dyads: longitudinal associations

K. Lobczowska<sup>1</sup>, E. Kulis<sup>1</sup>, M. Boberska<sup>2</sup>, M. Kruk<sup>2</sup>, Z. Szczuka<sup>1</sup>, A. Banik<sup>1</sup>, A. Luszczynska<sup>2</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>2</sup>University of Social Sciences and Humanities, Poland

**Background:** This longitudinal study tested the associations between relationship satisfaction and depression in patient-partner dyads.

**Method:** Data from 320 patient-partner dyads were collected (patients: 64.4% women, age: 18-90 years old, M = 43.86; partners: 64.1% women, age: 18-84 years old, M = 42.32) at the baseline (Time 1, T1) and nine weeks later (Time 2, T2). The study was conducted in the context of a dyadic intervention enhancing physical activity. The inclusion criteria referred to patients' reports of (1) physical activity below the level recommended by World Health Organization (100%) or (2) a chronic illness (70.7%). Regression analyses were conducted, controlling for the baseline levels of the respective outcome variables.

**Findings:** Patients' depression (T2) was associated with a lower level of patients' relationship satisfaction (T2). Partners' depression (T2) was predicted by a lower level of patients' relationship satisfaction (T1). Patients' relationship satisfaction (T2) was predicted by partners' relationship satisfaction (T1) and related to a lower level of depression in patients (T2). Partners' relationship satisfaction (T2) was predicted by patients' relationship satisfaction (T1).

**Discussion:** The findings point towards complex within-individual and dyadic associations between depression and relationship satisfaction in the context of a chronic illness and challenges related to changes in physical activity.

## Economic status and depression: Mediating role of self-rated health in students during the COVID-19 pandemic

D. Ochnik<sup>1</sup>, A.M. Rogowska<sup>2</sup>, A. Schütz<sup>3</sup>, A. Arzenšek<sup>4</sup>, J. Benatov<sup>5</sup>, E. Korchagina<sup>6</sup>, I. Blažková<sup>7</sup>, I. Aslan<sup>8</sup>, Y.A. Cuero-Acosta<sup>9</sup>

<sup>1</sup>University of Technology, Katowice, Poland

<sup>2</sup>University of Opole, Poland

<sup>3</sup>University of Bamberg, Germany

<sup>4</sup>University of Primorska, Slovenia

<sup>5</sup>University of Haifa, Israel

<sup>6</sup>Peter the Great St. Petersburg Polytechnic University, Russia

<sup>7</sup>Mendel University in Brno, Czech Republic

<sup>8</sup>Bingöl University, Turkey

<sup>9</sup>Universidad del Rosario, Colombia

**Background:** This study aims to show the prevalence and verify the mediating role of self-rated health between the deterioration of economic status and depression among university students in nine countries in the first phase of the coronavirus (COVID-19) pandemic.

**Methods:** The cross-sectional study based on self-reported questionnaires was conducted among 2,349 students, including 1,627 female students (69%), from Poland (n = 301), Slovenia (n = 209), Czechia (n = 310), Ukraine (n = 310), Russia (n = 285), Germany (n = 270), Turkey (n = 310), Israel (n = 199), and Colombia (n = 155) in May-June 2020. The study used the following: Self-Rated Health (SRH), Patient Health Questionnaire (PHQ-8), and self-evaluation of economic status deterioration during the COVID-19 pandemic (dSES). Research analyses were performed by means of the SPSS-27 and Model 4 of the PROCESS 3.5. macro.

**Findings:** The prevalence of SRH, dSES, and PHQ-8 was respectively 9.7%, 51.6%, and 40.2%. Both dSES and SRH were positively associated with PHQ-8. The analysis showed that SRH partially mediates the effect of dSES on PHQ-8.

**Discussion:** High depressive symptoms and economic status deterioration prevalence in the first phase of the pandemic among university students in nine countries is alarming. In congruence with other studies, the economic status deterioration was linked to lower self-reported physical health and depression. The deterioration of economic status caused by the pandemic increases depression through poorer physical health. The depression rates can be mitigated by the enhancement of the economic status and physical health in university students.



# Quality of life in community and clinical populations

11:05 - 12:35

Taina Hintsa

11:05 - 12:35

## Loss of self or an internal struggle? Investigating experiences of depression in Greek-Cypriot patients

M. Orphanidou<sup>1</sup>, I. Kadianaki<sup>1</sup>

<sup>1</sup>University of Cyprus, Cyprus

Using a socioconstructionist approach, this research aimed to explore how Greek-Cypriot patients of different ages experience depression. Its goal was to study this experience in a way that acknowledges the dynamic interaction between patients and their social context, and its impact on the meanings ascribed to depression. Individuals diagnosed with depression in the past five years, without any comorbid diagnosis or cognitive impairment (e.g., dementia) and falling within the following age-groups, were recruited: late adolescence (ages 16-20), early adulthood (ages 25-35), mid-adulthood (ages 40-55), late adulthood (ages 65-80). Data collection involved eight semi-structured individual interviews (two interviews per age-group). The data were qualitatively analysed using Thematic Analysis. Participants' experiences were organised under three themes. The theme of The Relationship Between Depression and the Self highlighted the participants' constant internal struggle over aspects of identity and control. Depression as an Embodied Experience reflected the embodied nature of participants' experiences. Lastly, the theme of Encountering Representations of Depression showed how the interplay between participants' lived experience and representations of depression held by social others, shaped participants' experiences. Regarding age-related differences, the only difference identified concerned the underestimation of the significance of participants' experience by social others. Findings suggest that experiences of depression may be better captured by the dynamic concept of a struggle rather than the static concept of loss. Also, these experiences seem to be actively shaped by social factors and deeply embodied. Theoretical and practical implications (e.g., need for a prominent role of the body in treatment) will be examined.

11:05 - 12:35

## Relationship between suicidal ideation and self-rated health indicators in general population

N. Gostautaitė Midttun<sup>1</sup>, A. Goštautas<sup>1,2</sup>, R. Zekas<sup>3</sup>

<sup>1</sup>Mental Health Initiative, Lithuania

<sup>2</sup>Vytautas Magnus University, Lithuania

<sup>3</sup>Municipality of Kaunas region, Lithuania

**Background.** Mortality from suicide in Lithuania is among the highest in the world. Self-rated health (SRH) is one of the widely used indicators for health and well-being. The association between SRH and all-cause mortality has been proven in large scale population studies. Increased population suicide risk could be mediated by lower indicators of self-rated health and health related quality of life. The aim of this analysis was to disclose association between suicidal ideation (thoughts, intentions and attempts), self-rated health and health related quality of life, for better understanding potential population interventions in suicide prevention. **Methods.** This is an additional analysis of the random general population sample data from the joint Quality of Life Project for Kaunas Region Municipality (N1110 respondents). Three questions for suicidal thoughts, intentions and attempts were used, together with SRH scale, and WHO QoL-100 questionnaire. Data was analyzed with SPSS statistical program, contingency tables and  $\chi^2$  were used for statistical analysis. **Findings.** 85 perc. of investigated population were free of suicidal ideation, while 1.4 perc. confirmed all components (thoughts, intentions, attempts). Lower SRH was significantly associated with suicidal attempts in both genders, with suicidal intentions only among men, and no significant relationship was detected with suicidal thoughts. Significant relationship was determined between suicidal ideation and physical, psychological, independence, social and environmental domains of and majority of scales of QoL-100. **Discussion** Significant associations between subjective health indicators and suicidal ideation suggests potential suicide prevention strategies, focused on reducing health inequalities, with contribution from health psychologists.

11:05 - 12:35

## Family and non-family intergenerational relationships: implications for students' subjective health, life satisfaction and psychological well-being

O. Strizhitskaya<sup>1</sup>, M. Petrash<sup>2</sup>, T. Kharitonova<sup>3</sup>

<sup>1</sup>Saint Petersburg State University, Russia

<sup>2</sup>Saint-Petersburg State University, Russia

<sup>3</sup>Saint-Petersburg State University of Economics, Russia

Modern society with its demographic shifts suggests new perspectives of lifespan development for every person. These new perspectives include broadened contexts of intergenerational relationships (IR). There is a solid body of research that suggests that family IR impact one's functioning. We hypothesized that wider intergenerational context that includes not only family but other social contexts such as relationships with faculty may also play an important role. We also supposed that the quality of IR would affect student's health, life satisfaction and psychological well-being (PW).

Participants were 145 students aged 18-23 (40% males). Semantic differential for IR (Strizhitskaya, Montero), PW scale (Ryff), Life satisfaction scale (Dinner), Self-report health measure.

Results showed that IR, both family (with parents and grandparents) and non-family (with faculty) affected subjective health ( $R^2=.038$ ), life satisfaction ( $R^2=.278$ ) and PW ( $R^2=.161$ ). We also found that variables included in regression models differed for these measures: in total sample health was predicted by relationships with grandparents, life satisfaction – by relationships with faculty and parents and PW was predicted by all three (faculty, parents, grandparents). We also found differences for males and females: for males health was associated with relationships with faculty and parents while for females – with grandparents. While life satisfaction was associated with faculty and grandparents relationships for males and with faculty and parents relationships for females.

Our study suggests that complex intergenerational system young adults live in has effects on different subjective and objective aspects of one's life. The study was supported by RFBR grant 19-013-00861.

11:05 - 12:35

## The role of school climate in Jordanian high school students' life satisfaction

A. Alshammari<sup>1</sup>, B. Piko<sup>2</sup>

<sup>1</sup>Doctoral School of Education, University of Szeged, Hungary

<sup>2</sup>Department of Behavioral Sciences, University of Szeged, Hungary

**Background:** Life satisfaction is associated with behavioral and health outcomes during both adolescence and adulthood. School climate is one of the important factors for promoting adolescent satisfaction with life. The purpose of this cross-sectional study is to investigate how school climate is related to life satisfaction among Jordanian students.

**Methods:** Data were collected from public schools in Irbid governorate located in northern Jordan affiliated with the Jordanian Ministry of Education. Multistage cluster sampling was used to recruit students (N = 2141, aged 13-18 years). Data were collected by a self-administered, online questionnaire. Besides sociodemographics, Diener's Satisfaction with Life Scale, and School Climate Inventory (SCI) were utilized in the survey.

**Findings:** Jordanian high school students' levels of life satisfaction were higher for girls. In multivariate analyses, teacher responsiveness and positive mutual bonds were the most important contributors for life satisfaction. Additionally, the role of disruptive behavior was different for girls (negative) compared to boys (positive) in life satisfaction, while age and growth proved significant only for boys.

**Discussion:** These results demonstrate the great importance of the school climate in improving satisfaction with life among adolescents. Certain gender differences may call attention to differences in social needs in classrooms.

**Keyword:** school climate, satisfaction with life, gender differences, high school students

11:05 - 12:35

## Reconceptualization of quality of life due to the lockdown among women with or without cancer

S. Ginguené<sup>1</sup>, T. Leroy<sup>1</sup>, C. Bauquier<sup>1</sup>, M. Doumergue<sup>1</sup>, P. Mercier<sup>1</sup>, D. Ferraz<sup>1</sup>, M. Perray<sup>1</sup>, A. Petit<sup>1</sup>, C. Morin-Messabel<sup>1</sup>, M. Préau<sup>1</sup>

<sup>1</sup>GRePS (UR GRePS), Université Lumière Lyon 2, France

### Background:

In the context of the Covid-19 pandemic and the lockdown situation (March to May 2020 in France), people's personal and professional lives have been strongly impacted. We hypothesized that in order to maintain their level of quality of life (QoL), people had to reconceptualize it. This study aims to investigate the reconceptualization of quality of life due to the lockdown, taking into account the participant's cancer status.

### Methods:

Data presented come from the RAR2C study, conducted in April 2020. 1303 female participants (Mage=44.4; SD=14.4) were recruited using the French collaborative research platform Seintinelles to answer an online survey. QoL was measured using an individualized QoL scale (adapted from the Patient Generated Index; Ruta et al., 1999) during lockdown and retrospectively, before lockdown. The scale produced scores of QoL between 0 and 100.

### Findings:

Overall, women without cancer (N=936) reported a lower QoL during lockdown than before (M=-15.0;  $p<.001$ ) but significantly higher than QoL of patients with cancer (N=367; M=-18.9;  $p<.05$ ). Participants without cancer reconsidered significantly less their life domains during lockdown (M=3.53 out of 5) than participants with cancer (M=3.67;  $p<.05$ ).

### Discussion:

Data highlight that lockdown had a negative impact on women's QoL, especially for women with cancer. Results can be interpreted in adaptive terms with regard to the results relating to the reconceptualization of QoL.

11:05 - 12:35

## How emotional intelligence and emotional skills are linked with well-being, health, work ability and recovery?

T. Hintsala<sup>1</sup>, A. Aronen<sup>1</sup>

<sup>1</sup>University of Eastern Finland, Finland

**Background:** Emotional intelligence (EI) has been associated with better health. Previously it has been suggested that EI may work as a stress buffer. A recent systematic review has concluded that EI relates to faster recovery from stress. We expanded this line of research by examining the links of EI and emotional skills (ES) with subjective wellbeing, self-rated health, work ability and recovery from work, and potential gender differences.

**Methods:** There were 50 (21 women) participants of the cross-sectional study. EI was measured with BEIS-10 (its dimensions as ES), and emotions with a short version of PANAS. We had questions about self-rated health and work ability. Subjective well-being (SWB) was formulated from the PANAS. Recovery (detachment, relaxation, mastery and control) was measured with Recovery Experiences Questionnaire. We analyzed the data with correlation analysis.

**Findings:** EI was related to higher mastery recovery experiences ( $r_s=0.32$ ,  $p<.05$ ). In women, EI was linked to better self-rated health ( $r_s=0.44$ ,  $p<05$ ), and mastery ( $r_s=0.52$ ,  $p<.05$ ) and control ( $r_s=0.59$ ,  $p<0.01$ ) recovery experiences. Of the ES, appraisal ( $r_s=0.33$ ,  $p<05$ ) and regulation ( $r_s=0.0.32$ ,  $p<0.05$ ) of own emotions were linked to better SWB. In men, appraisal of own emotions was linked to better SWB and higher recovery. Positive emotions were linked to better self-rated health and work ability whereas negative emotions to poorer recovery.

**Discussion:** EI, ES and positive emotions seem to relate to better well-being, and may help in finding adaptive responses when encountering stress. This information may be useful in development of programs aimed at enhancing well-being.

11:05 - 12:35

## Is work-life balance important for Portuguese adults' productivity?

F. Pimenta<sup>1</sup>, M. C. Ferreira<sup>2</sup>, B. Pinheiro<sup>2</sup>, F. Romão<sup>2</sup>, H. Mainprize<sup>2</sup>, I. Patrão<sup>3</sup>

<sup>1</sup>WJCR – William James Center for Research, Portugal

<sup>2</sup>SPA-Instituto Universitário, Portugal

<sup>3</sup>APPsyCI - Applied Psychology Research Center Capabilities & Inclusion, Portugal

**Background:** There is evidence that work-life balance (WLB; the harmonious and satisfactory performance of activities related with work, social/interpersonal, family, health, daily routines, etc.) impacts productivity positively. Moreover, engagement (fulfilling affective-motivational state, characterized by high levels of energy and enthusiasm with work) and meaning (a subjective sense that people make of their work, fulfilling their needs) are also associated with higher productivity. Thus, this study explores if productivity can be predicted by WLB, meaning and engagement with work, in a Portuguese sample. **Methods:** Overall, 1,007 professionally active adults (Mage=40.7; SD=10.63), mostly women (68%), filled in the Brief WLB Questionnaire, the Workplace PERMA Profiler (namely, Engagement and Meaning subscales), and the Health & Work Questionnaire. Sex, age and size of the organization were controlled. Structural equation modelling was used. **Findings:** Only the WLB predicted productivity ( $\beta=.47$ ;  $p<.001$ ), that is, people with better WLB presented higher productivity. This relationship was moderated by the sex ( $\beta=-.11$ ;  $p<.001$ ), revealing that men are more productive. Our model showed a good fit (SRMR=.0925; RMSEA=.070;  $P(\text{rmsea} \leq .05) < .001$ ; CI 90%=[.067; .073]; CFI=.909; TLI=.900; NFI=.893) and explains 25% of the productivity variation. **Discussion:** Our findings corroborate the WLB literature; however, Meaning and Engagement did not predict productivity in this sample. Policies which promote the balance between work and personal lives will not only allow higher levels of contribution for the institutions, but will also encourage an experience that contributes to the collaborators' well-being.



11:05 - 12:35

## Effects of brief mindfulness program for medical students

E. Nishigaki<sup>1</sup>, A. Fujimura<sup>1</sup>

<sup>1</sup>Kansai Medical University, Japan

**Background:** Mindfulness has been attracting attention as methods of nurturing skills including self-care and stress reduction in Japan. However, it is difficult to include an 8-week mindfulness program into the busy curriculums of medical schools. We introduced a brief mindfulness program to first-year medical students, and obtained positive results (Nishigaki, et.al., 2019). The objectives of this study were to investigate the effects of our updated program on improving the students' resilience, and positive emotions.

**Methods:** First-year medical students (N = 123) attended a brief mindfulness program. Following an introductory lecture, a 12-hour program lasting 2 months was introduced by well-trained mindfulness teachers, neuroscientist, and a Buddhist monk. The program was concluded with a reflection and feedback class. Questionnaires including the Connor-Davidson Resilience Scale and the Wong and Law Emotional Intelligence Scale (J-WLEIS) were administered before and after the program. The Positive Mood Scale (PMS) was administered before and after each session. Salivary cortisol was also measured before and after the session.

**Results:** A paired t-test was used to analyze the data. Results indicated significant differences in resilience ( $t=-3.31$ , 121df,  $p=.001$ ), and use of emotions in J-WLEIS ( $t=-4.46$ , 121df,  $p<.001$ ) before and after the program. The positive mood was increased significantly after each session. Moreover, the median of the value of cortisol concentration declined 38% after the session.

**Conclusion:** The brief mindfulness and program for medical students was effective and positively evaluated. Further research is needed to examine the long-term effects of the program.

11:05 - 12:35

## Positive Well-Being in Heart Failure Patients

K. Piotrowicz<sup>1</sup>, P. Krzesiński<sup>1</sup>, A. Stanczyk<sup>1</sup>, J. Jastrzębski<sup>2</sup>, G. Gielerak<sup>1</sup>

<sup>1</sup>Military Institute of Medicine, Poland

<sup>2</sup>Cardinal Stefan Wyszyński University, Poland

**Background:** Negative emotions of stress (anger), anxiety, and depression has been documented to contribute to poor clinical outcome in cardiac patients. On the other hand there is a growing interest in linking positive well-being with favourable outcome in cardiac patients. Among cardiovascular diseases (CV), heart failure (HF) is a growing epidemic affecting 0.4-2% of European population. HF is characterized by high morbidity and mortality rate, frequent hospitalizations, poor quality of life and still undefined aspects of psychological well-being.

**Aim:** The aim of the study was to explore the association between psychological well-being, quality of life and clinical outcome in HF patients.

**Design:** Multicenter, prospective, randomized , open-label and controlled, parallel group study. Patients were randomly assigned in a 1:1 ratio to either intervention group or empiric group. The intervention was performed using A new Model of medical care with Use of modern methods of non-invasive cLinical assEssment and Telemedicine in patients with heart failure (AMULET study) .

**Methods:** In both groups additionally to the standard medical assessment the measurement of quality of life by SF-36 questionnaire and Minnesota Living with Heart Failure questionnaire and questionnaire for psychological well-being PERMA were distributed.

**Study population:** The study included 600 patients (300 subjects per group) both gender , age >18 years with diagnosis of HF and at least 1 hospitalization due to the acute HF decompensation within the last 6 months before enrolment

**Discussion:** The study will provide an evidence on the association of positive well-being with CV health focusing on HF patients.

11:05 - 12:35

## Sexual quality of life of cancer patients

F. Sordes<sup>1</sup>, C. Garraud<sup>1</sup>, L. Beaubrun<sup>1</sup>, A. Croiset<sup>1</sup>

<sup>1</sup>University Toulouse Jean Jaures, CERPPS, France

The literature has shown that cancer treatments affect the body, its functioning and sexuality. The sexual quality of life of patients is often poorly integrated into care. However, this is a multi-faceted, complex issue to consider.

This research focuses on the sexual quality of life of breast cancer patients. We question the links between sexual quality of life, body image and disease representation.

Seventy women aged 26 to 77, with cancer and undergoing treatment, were included in this study. Were collected and evaluated: 1) some anamnestic data: socio-demographic characteristics of patients and clinical data on pathology; 2) disease representation through the Brief illness perception questionnaire (Broedbent et al., 2005); 3) body image through the Body Image Questionnaire (Bruchon-Schweitzer, 1990); 4) quality of sexual life through the Quality of Sexual Life Questionnaire (Almont et al., 2017).

The sexual activities of patients evolve after diagnosis. Pearson's correlation coefficient revealed that some of the items considered in the disease representation assessment are significantly correlated with the body image. In addition, there is a significant and negative relationship between body image and sexual quality of life.

In conclusion, cancer affects the sexual quality of life of patients with breast cancer. The challenge today is to understand the psychosocial context in which this problem fits.

11:05 - 12:35

# A qualitative meta-synthesis examining spirituality as experienced by individuals living with terminal cancer

L. Hayden<sup>1,2</sup>, E. Byrne<sup>1</sup>, S. Dunne<sup>1</sup>, P. Gallagher<sup>1</sup>

<sup>1</sup>Dublin City University, Ireland

<sup>2</sup>Breakthrough Cancer Research, Ireland

**Background:** Following a terminal diagnosis, cancer patients can become increasingly vulnerable and face spiritual distress. However, there is a dearth of research examining spirituality from the perspective of terminal cancer patients. The aim of this review was to examine spirituality as experienced by individuals living with terminal cancer.

**Methods:** Six databases (PubMed, PsycINFO, CINAHL, Embase, Medline and Web of Science) were systematically searched for empirical studies with qualitative findings relevant to spirituality from the perspective of patients over 18 years of age with terminal cancer. A thematic synthesis approach was used to analyse articles and identify analytical themes.

**Findings:** Thirty-one articles met the inclusion criteria. The synthesis provides an understanding of spirituality in the context of participants' lives as they live with terminal cancer. Analytical themes included; making sense of dying; living with dying; being connected; and being reflective. The findings provide evidence that spirituality is an innate facet of humanity that enables individuals to find meaning and purpose in their lives and experience strengthened relationships with the self, others, nature, and a higher power.

**Discussion:** To the author's knowledge, this is the first meta-synthesis to specifically examine spirituality as experienced by individuals living with terminal cancer. The findings highlight the multi-dimensional and dynamic nature of spirituality as individuals attempt to live with dying. This study has the potential to inform the type of compassionate end-of-life care and support that is needed to help individuals live while dying.

11:05 - 12:35

## Utilizing Interpretative Phenomenological Analysis in Researching Sexual Health: Working with Women at Temporary Shelters

A. Alexandrov<sup>1</sup>, Z. Kalo<sup>1</sup>

<sup>1</sup>ELTE Eötvös Loránd University Institute of Psychology, Hungary

Despite a seeming consensus on the importance of social factors in the development of human sexuality, most psychological research on sexuality does not concern the relationship between economic status and personal meanings attributed to sexual experiences. Through an ongoing research project on women's sexualities and the social contexts they are embedded in, I would like to argue for the necessity of not only qualitative research, but a non-universalizing approach to sexual health as well, one which does not separate sexual and romantic experiences from their social environments. My research focuses on young women living in housing poverty – specifically, in a temporary family shelter, a partially government-funded live-in institution in Budapest, Hungary. Utilizing Interpretative Phenomenological Analysis, I am drawing up an account of how women inhabiting similar locations in a specific social context think about their own womanhood, sexual lives and relationships. The explorative focus of IPA allows me to approach a topic that was previously unexplored not only in the Hungarian context, but in analyses of sexual health in general. The poster will include the results of my ongoing pilot study as well as the plan of a wider research project I will be pursuing during the next years. The aim of my project is to mend the lack of qualitative, explorative studies on women's sexualities in the context of poverty and social housing. Based on the theoretical background of critical psychology, my objective is to contribute to a more accessible and socially responsible psychology of sexual health.

# Social support, caregiving, and health

11:05 - 12:35

Mariët Hagedoorn

11:05 - 12:35

## Inclusion of Illness in the self among cardiac patients and their caregiving partners

S. Galin Soibelman<sup>1</sup>, N. Vilchinsky<sup>2</sup>, R. Dekel<sup>3</sup>, k. fait<sup>2</sup>, S. Matetzky<sup>4</sup>, H. Hod<sup>4</sup>

<sup>1</sup>Bar-Ilan, Israel

<sup>2</sup>Bar-Ilan University, Israel

<sup>3</sup>Bar Ilan, Israel

<sup>4</sup>Sheba Medical Center, Israel

**Background:** It has long been established that patients coping with chronic illnesses experience changes in their identity and self-conception. Patients' partners also face major life changes due to their social role as caregivers. Therefore, we suggest that caregiving partners might also experience a radical transformation in their selves, to the extent that the illness of their loved ones becomes part of their own identity. Basing on conceptualizations from the psychoanalytical and health psychology fields, we adapted the IOS (Inclusion of other in the self) to assess the inclusion of illness (IIS) in the self among heart disease patients and their caregiving partners.

**Method:** Dyads (N=143) of male patients and their female caregiving partners were recruited during patients' hospitalization, due to a cardiac event and were followed for four months. The adapted IIS was measured for both partners at both times.

**Results:** Using the GEE (Generalized Estimating Equations) procedure, we found that the main effect of role (patient/caregiving partner) reached significance ( $b = -1.92$ ,  $p < .001$ ) meaning that caregiving partners had higher levels of inclusion of illness in the self, compared to patients. We also found a positive main effect of time ( $b = 0.40$ ,  $p < .001$ ), meaning that both patients and partners were less likely to include the illness in the self over time.

**Discussion:** Caregivers were found to be at higher risk than patients to include the illness in their self-identity. Better understating of their subjective experience may lead to the design of better individual and dyadic interventions.

11:05 - 12:35

## Communal Motivation to Provide Care: Evidence from a Multinational iCohort Study on Informal Care

G. Ferraris<sup>1</sup>, M. Hagedoorn<sup>2</sup>, R. Sanderman<sup>2</sup>

<sup>1</sup>UMCG, Netherlands

<sup>2</sup>University of Groningen, Netherlands

**Background:** Due to the ageing population and the prevalence of chronic diseases, the need for informal care is rising. Providing care to a relative or friend with a chronic illness or care needs could be a challenging experience, possibly affecting the caregivers' willingness to care. It is unknown whether the willingness to care changes over time and how it is related to interpersonal factors (e.g., collaboration and stress communication) and caregivers' outcomes. The aim of the study is to investigate which factors stimulate or decrease caregivers' willingness to care and psychological/relationship wellbeing over time.

**Methods:** The Intensive Longitudinal Design combines a baseline and a six-months follow-up online survey with weekly assessments. The study is being conducted in 9 countries: The Netherlands, The UK, Sweden, Italy, Israel, Greece, Poland, Ireland and Germany.

**Expected results:** interpersonal processes are expected to influence caregiver's willingness to care and, in turn, impact the caregivers' wellbeing.

**Current stage of work:** Data collection

**Discussion:** A full understanding of the caregiving experience and their willingness to provide care is essential for the development of effective support. The study will identify (1) associations between willingness to care as communal motivation to care and caregivers' psychological and relationship outcomes, exploring the potential differences herein based on the type of relationship between caregivers and care recipients (e.g., spouses or adult children-parent); (2) weekly fluctuations of willingness to care, dyadic coping and caregiving-related behaviours in caregivers' daily lives; (3) changes in willingness, interpersonal processes and relationship satisfaction over time.



11:05 - 12:35

## The place of sick peers in adolescents and young adults with cancer. Preliminary quantitative results

J. Phan<sup>1,2</sup>, L. Karsenti<sup>1,3</sup>, V. Laurence<sup>2</sup>, P. Marec-Berard<sup>4</sup>, C. Flahault<sup>1,3</sup>

<sup>1</sup>Laboratory of Psychopathology and Health Processes - University of Paris, France

<sup>2</sup>Adolescents and Young Adults Unit – Curie Institute, Paris, France

<sup>3</sup>Psycho-Oncology Unit – Gustave Roussy Hospital, Villejuif, France

<sup>4</sup>Adolescents and Young Adults Unit – Hematology and Pediatrics Oncology Institute, Lyon, France

Adolescent and Young Adult (AYA) units attempt to meet the psychosocial and developmental needs specific to this population. Indeed, social support has a major role in the psychological adjustment and adaptation of AYA to cancer.

The main objectives of our study are to follow the evolution in time of the psychological adjustment and adaptation to cancer and, to investigate the influence of perceived social support and its effects on psychological adjustment in AJA patients.

23 patients (N=13 men; N=10 women) between the ages of 15 and 25 (Mage=20.1), and diagnosed with cancer, have been recruited at two French cancer centers. Those patients have completed the questionnaires of the initial stage of the study (anxiety and depression symptomatology, social support, coping strategies...).

So far, results demonstrate a difference in depression score between men and women (Mmen=6.54, SD=3.3; Mwomen=12.3, SD=3.8;  $t(21) = -3.85$ ,  $p < .001$ ). In addition, results about depression score show that participants with mild depression score (Mmild=5.64, SD=1.3) are more likely to use instrumental support than participants with minimal depression score (Mminimal=3.67, SD=1.4;  $t(21) = -3.45$ ,  $p < .01$ ). On the contrary, participants with minimal depression score (Mminimal=5.67, SD=1.8) use humor as a coping strategy more often (Mmild=3.91, SD=1.9;  $t(21) = 2.28$ ,  $p < .05$ ).

About social support, there only is a moderate correlation between availability score at social support questionnaire and distraction coping strategy ( $r = .43$ ;  $p < .05$ ).

This research will improve the understanding of the place of social support in these AYA cancer patients and thus allow family and health professionals to better adjust to their needs.

11:05 - 12:35

## Health and psychosocial correlates of being a spouse carer of a person with dementia

M. Falk Johansson<sup>1</sup>, K. McKee<sup>1</sup>, L. Dahlberg<sup>1,2</sup>, C. Williams<sup>3</sup>, M. Summer Meranius<sup>4</sup>, E. Hanson<sup>5</sup>, L. Magnusson<sup>5</sup>, B. Ekman<sup>6</sup>, L. Marmstål Hammar<sup>4</sup>

<sup>1</sup>Dalarna University, Sweden

<sup>2</sup>Aging Research Center, Karolinska Institutet, Sweden

<sup>3</sup>Florida Atlantic University, United States

<sup>4</sup>Mälardalens University, Sweden

<sup>5</sup>Swedish Family Care Competence Centre, Linnaeus University, Sweden

<sup>6</sup>Lund University, Sweden

**Background.** Caring for a person with dementia (PWD) can negatively affect the quality of life of the carer, and research suggests spouse carers are particularly vulnerable and requiring of support. Yet the formal support offered is rarely tailored to meet the needs of spouse carers of PWDs. The aim of the present study is to compare spouse carers to other carers of PWDs on a range of factors, as a foundation for a better understanding of their support needs.

**Method.** Cross-sectional survey. In late 2018 a random stratified sample was taken of the Swedish population aged 18 and older. Of 30,009 people contacted, 11,168 completed and returned a questionnaire or completed a web-based version, a response rate of 37.3%. The questionnaire contained questions on whether the respondent was an informal carer for another person, the extent of care provided, contact with and support received from formal services, and the positive and negative psychosocial and health impacts of care.

**Findings.** Of the respondents, 378 (3.38%) were carers of PWDs, of whom 107 (28.3%) were spouse carers. Compared to other carers of PWDs, spouse carers provided care more frequently, supported more of the care-recipient's care needs alone, had higher levels of negative psychosocial impact of care, higher levels of sleep disturbance, and poorer self-reported health (all  $p < .05$ ).

**Discussion.** Our findings confirm previous research that identifies spouse carers of PWDs as a carer group in particular need of targeted support that might obviate the negative psychosocial and health impacts of providing care.

11:05 - 12:35

## People living with type 2 diabetes in Pakistan: Nutritional practices and family roles

O. Tariq<sup>1</sup>, C. Rosten<sup>2</sup>, J. Huber<sup>2</sup>

<sup>1</sup>Institute of Applied Psychology, University of the Punjab, Lahore, Pakistan

<sup>2</sup>School of Health Sciences, University of Brighton, Brighton, United Kingdom

**Background:** Diabetes is highly prevalent in Pakistan; adjusting to medically recommended lifestyle changes is likely to be affected by the still dominant collectivist culture and joint family systems. Here we explore the influence of family roles on the ability of people living with type 2 diabetes (PLwD) in Pakistan to increase healthy food choices as recommended by health professionals.

**Methods:** One-to-one interviews with 30 PLwD (13 men, 17 women; aged 30–70 years), 17 family members of PLwD (4 men, 13 women; 22–61 years), and nine doctors from hospitals and via snowball sampling at a university in Lahore. Interviews were analysed using thematic analysis.

**Findings:** Three themes were identified. (1) Changes to nutritional practices: family hierarchies facilitate changes to nutritional practices, because a person's opinion is given more or less consideration according to their position in the hierarchy. (2) Cultural practices and temptation: temptation around food increases during festive occasions. Not every family member has the capacity to influence the person LwD, and when they adopt a more influencing role it can potentially cause conflict in their relations. (3) Beliefs about nutrition and home remedies: food is perceived as having nutritional properties that reduce diabetes symptoms. PLwD, family and doctors talked about either knowing of or practising remedial treatments for managing diabetes.

**Discussion:** The findings reveal that health beliefs held by PLwD and their family members influence their nutritional practices. Incorporating culturally defined roles and practices in treatment recommendations can improve nutritional practices of PLwD in South Asian families.

11:05 - 12:35

## Adjustment and maintenance of couple relationships following a spinal cord injury

L. Mair<sup>1</sup>, J. Moses<sup>1</sup>

<sup>1</sup>South Wales Doctoral Course in Clinical Psychology, Cardiff University, United Kingdom

**Background:** Experiencing a spinal cord injury (SCI) can be life-changing for individuals and their families. However, there is a general lack of research or application of adult attachment theory to how couple relationships are formed, maintained and adjust following SCI. This study aims to use a qualitative approach to explore how SCI may impact on couple relationships in the months and years following SCI.

**Methods:** Nine individuals (4 females and 5 males) with SCI were recruited to participate in a semi-structured interview. For some their relationship continued but others had established their current relationship following SCI. Co-construction was used to devise the interview. Qualitative data was analysed using interpretative phenomenological analysis.

**Findings:** Emergent results suggest that themes including communication, negotiating and maintaining clearly defined roles, mutual support and changing definitions of intimacy are important when considering how people adjust and maintain their romantic relationship following SCI.

**Discussion:** The results of the study will provide further information regarding the factors that are important for couples when maintaining and adjusting following SCI. The results of the study will be of use to healthcare providers, charities and other agencies that support couples following a SCI. It is hoped that it will enable appropriate support to be provided to better enable couples to negotiate challenges to their relationship and adult attachment that they may face following injury.

**Footnote:** The study is in partial fulfilment of a Doctorate in Clinical Psychology for submission in May 2021.

Ethics no. EC.20.01.14.5933RA.

11:05 - 12:35

## Life Review Intervention Among Patients In Palliative Care

C. Garrouteigt<sup>1,2</sup>, G. Décamps<sup>1</sup>, K. Gana<sup>1</sup>

<sup>1</sup>Université de Bordeaux, France

<sup>2</sup>Clinique Tivoli-Ducos, France

**Context:** Facing one's own mortality can lead to an existential crisis, psychological distress, and a rupture of meaning of life. Life review and reminiscence tend to integrate the life story as a coherent whole. The objective is to evaluate the efficacy of short-term life review therapy in palliative care. To our knowledge, this is the first French study evaluating the life review experience for the enhancement of quality of life in palliative care.

**Method:** The participants are terminally ill cancer patients who have stopped specific treatments or are discussing this possibility with their oncologist. They are randomly allocated to a Short-Term Life Review therapy group or a control group. The patients completed questionnaires pre- and post-intervention, including gratitude, life satisfaction, quality of life and emotional distress. Short-term life review intervention consists of two interviews leading to the creation of a life album. Finally, patients will complete an interview in order to collect their experience of the intervention.

Only results of life review group are analyzed here (data of the control group are being collected).

**Expected results:** We expect to observe an improvement in the patient's sense of gratitude, life satisfaction, quality of life and a decrease in emotional distress.

**Current stage of work:** Our intervention started in December 2020 and two patients were included.

**Discussion:** The main goal of our study is to provide first results of this intervention in a French palliative care population and to propose an intervention adapted to them.

11:05 - 12:35

## Psychosocial, pregnancy and delivery characteristics of mothers at risk of postpartum depression

L. Banovcinova<sup>1</sup>, Z. Skodova<sup>1</sup>, K. Jakubcikova<sup>1</sup>

<sup>1</sup>Comenius University in Bratislava, Jessenius Faculty of Medicine in Martin, Department of Midwifery, Slovakia

**Background:** Postpartum depression (PPD) is the most common psychological complication related to childbirth. Previous research has identified several risk factors affecting the onset and progression of PPD. The objective of the study was to examine the psychosocial risk profile of a sample of postpartum women.

**Methods:** Of the 510 mothers (mean age 30,6±5,3), 25,3% tested positive at the Edinburgh postnatal depression scale (score ≥13) and were considered as having current PPD symptoms. A questionnaire was prepared to identify variables from different areas: sociodemographic (e.i. age, education); psychologic (e.i. history of depression, satisfaction with motherhood); delivery (e.i. course of labour, bonding) and childcare (e.i. tearful child, breastfeeding).

**Findings:** Women with PPD had lower education; reported more conflicts with family and partner; were less satisfied with received social support and financial situation; had more often history of depression; were less satisfied with motherhood and mastering maternity; were less satisfied with labour and bonding; more often described their child as tearful; tend to worry and experienced negative feelings toward baby. The linear regression model showed significant predictors of postpartum depression: lower education; history of depression; low satisfaction with motherhood; problems with partner; tearful child; negative emotions toward baby; and poor mastering of maternity.

**Discussion:** Present study showed a link between multiple variables and PPD. The identification of specific risk factors may contribute to the early diagnosis and treatment of PPD, thus preventing a deeper disruption of bio-psycho-social wellbeing of mothers.

**Acknowledgement:** This work was supported by the VEGA research grant agency under Contact No. VEGA- 1/0211/19.

11:05 - 12:35

## Feasibility of a multi-modular program for pediatric brain tumor survivors: what is their experience ?

L. Karsenti<sup>1,2</sup>, C. Lopez<sup>1,2</sup>, V. Wolfrom<sup>1</sup>, L. Fasse<sup>1,2</sup>, C. Flahault<sup>1,2</sup>

<sup>1</sup>Paris Descartes, France

<sup>2</sup>Gustave Roussy hospital, France

**Background:** Pediatric brain tumor survivors face treatment-induced sequelae of all sorts, as a result of oncology treatments. The family, often impacted by the management of these difficulties on a daily basis, appears as a moderating factor in after-effects expression.

We tested with these children and their families the feasibility of a multi-modular program aimed at reducing the impact of treatment on the child and family's daily life.

After 3 months of participation in the 2 mandatory modules of the program and the optional modules, what are the obstacles and motivations expressed by the parents to register their child in such a program? What experience have these children and parents with the program?

**Methods:** We contact the parents (N=11) whose children participated in the program as well as those who refused to participate (N=9) through semi-structured telephone interviews.

Children in the "older" group (10-14 years old) are interviewed in a focus-group about their experience with the program.

The telephone interviews and the focus-group recording are analysed qualitatively by means of a thematic analysis.

**Findings:** They shed light on the experience of the program and the changes to be made to it. More details will be presented for GM5min.

**Discussion :** To the one hand, through the exploration of the program experience of these families, we obtain information to improve it accordingly and better define on the other hand the care that the hospital could provide in cancer's after treatment, at a time when important needs are expressed by these families.

11:05 - 12:35

## Stigma Toward Smoking Pregnant Women in the French General Population. A Qualitative-Mixed Approach

D. Loyal<sup>1</sup>, A. Sutter<sup>1,2</sup>, M. Auriacombe<sup>2,3</sup>, F. Serre<sup>3</sup>, N. Calcagni<sup>1</sup>, N. Rascle<sup>4</sup>

<sup>1</sup>Inserm U1219 Bordeaux Population Health, Bordeaux University, France

<sup>2</sup>Charles Perrens Hospital, Bordeaux, France

<sup>3</sup>CNRS USR 3413 SANPSY, Bordeaux University, France

<sup>4</sup>Inserm U1219 Bordeaux Population Health, Bordeaux University, France

**Background.** Cigarette consumption during pregnancy has major health consequences for women and unborn children. It is associated with a stigma that might hinder access to adequate healthcare and smoking cessation especially in disadvantaged groups. This Qualitative-Mixed study was designed to describe the public stigma associated with smoking during pregnancy to build a scale thereafter (P3S, Pregnant Smoker Stigma Scale). **Method.** Participants were French adults recruited from the general population through social networks (N=100). They were asked to answer three pairs of open-ended questions regarding cognitions, emotions and behaviors elicited by pregnant smoking women in the general population. An inductive thematic content analysis was performed and inter-judge agreement was computed on 30% of the corpus. Finally, independence (chi-square) between mentioned themes and gender, education, parental and smoking status was tested. **Findings.** Themes (n=25) were defined regarding cognitions (n=9, e.g., irresponsible, thoughtless & unmindful...), emotions (n=8, e.g., anger, disgust...) and behaviors (n=8, e.g., inform & persuade, moralize & blame...). Global inter-judge agreement was strong ( $\kappa=0.8$ ). No difference was observed in mentioned themes according to gender, parental status or education, indicating a quite heterogenous awareness of stigma. However, some differences were observed according to smoking status ( $\chi^2 = 69.59$ ,  $p = 0.02$ ) (e.g., non-smokers more frequently stressed immorality). **Discussion.** The stigma associated with smoking during pregnancy includes various components that might be measured and targeted in interventions to favor access to adequate healthcare and smoking cessation in this specific population.



# Understanding and protecting employee health and wellbeing

11:05 - 12:35

Renato Pisanti

11:05 - 12:35

## Shift working nurses with symptoms of depression report insomnia, hyperarousal and lower circadian rhythm amplitude

K. Gustavsson<sup>1</sup>, J. Szmyd<sup>2</sup>, A. Wichniak<sup>1,2</sup>

<sup>1</sup>Department of Clinical Neurophysiology, Sleep Medicine Center, Institute of Psychiatry and Neurology, Warsaw, Poland

<sup>2</sup>Third Department of Psychiatry, Institute of Psychiatry and Neurology, Warsaw, Poland

Nurses, as shift workers, are at an increased risk of depressive symptoms when compared to non-shift workers. Sleep has a close relationship with mental health - sleep-related problems constitute a predictor for the development of depression.

We surveyed 72 female nurses working 12-hour rotating shifts. Based on their scores on the short form of the Center for Epidemiologic Studies Depression Scale (CES-D-10) they were divided into two groups: 30 nurses who scored below 10 points and 42 nurses who scored 10 or more on CES-D-10.

To investigate the association of depressive symptoms with sleep, chronotype and arousability, as factors playing a role in depression among shift workers, Insomnia Severity Index, Epworth Sleepiness Scale, Circadian Type Inventory (measuring circadian rhythm amplitude and flexibility of sleeping habits) and Hyperarousal Scale were used.

Nurses with depression symptoms had lower circadian rhythm amplitude ( $p = .001$ ) and more insomnia symptoms ( $p < .001$ ), but did not differ in flexibility of sleeping habits ( $p = .068$ ) and daytime sleepiness ( $p = .088$ ) from nurses without depressive symptoms. They also had higher scores on all hyperarousal subscales (introspectiveness,  $p = .003$ ; reactivity,  $p = .001$ ; extreme responses,  $p = .031$ ) and the total score ( $p < .001$ ).

Aspects of sleep, circadian rhythm and hyperarousal are significantly associated with mental health of shift workers. Nurses scoring 10 or more on CES-D-10 obtained higher scores in all the hyperarousal subscales, presented more insomnia symptoms and lower circadian rhythm amplitude - which indicated lower ability to overcome drowsiness.

11:05 - 12:35

# Burnout among healthcare workers at the Ljubljana Division of Internal Medicine's Geriatric Medicine Center

N. Dernovšček Hafner<sup>1</sup>

<sup>1</sup>University Medical Centre Ljubljana, Slovenia

## Background:

In view of healthcare workers' high workload, this study analysed burnout among employees at the Ljubljana Geriatric Medicine Centre (CGM) and determined their extent of various burnout dimensions and work areas with the greatest discrepancies between work demands and workers' expectations and capabilities.

## Methods:

The study conducted at the end of 2018 included 23 CGM healthcare workers (RR = 96%): 26.0% men (n = 6) and 74.0% women (n = 17). It used the Maslach Burnout Toolkit for Human Services, which combines the Maslach Burnout Inventory – Human Services Survey (MBI-HSS) and Areas of Worklife Survey (AWS). An ANOVA was conducted to analyse differences between groups.

## Findings:

The results show variations in emotional exhaustion among CGM healthcare workers resulting from varying years of service. On average, the greatest emotional exhaustion ( $F(2, 18) = 5.9, p < 0.01$ ) is reported by those working in this department for over 10 years. This group also reports the highest workload ( $F(2, 18) = 4.4, p = 0.027$ ) and the lowest job control ( $F(2, 18) = 4.2, p = 0.031$ ). Among the professional groups at CGM, licensed practical nurses are the most vulnerable to burnout. Compared to the average scores of healthcare workers in other countries, CGM healthcare workers report higher workloads and a less supportive and cooperative work environment.

## Discussion:

The results are a warning sign that requires serious consideration and action from individuals and the organization, whereby health-promoting organizational changes should be made and introduced to prevent complex problems in the future.

11:05 - 12:35

## Understanding the etiology of workaholism: results of a systematic review

M. Morkevičiūtė<sup>1</sup>, A. Endriulaitienė<sup>1</sup>

<sup>1</sup>Vytautas Magnus University, Lithuania

**Background:** Workaholism is a serious issue that can lead to physical and psychological problems. However, the antecedents of workaholism are controversial and under-investigated. Therefore, the principal purpose of the current paper is to systematically review scientific literature on the antecedents of workaholism. Additionally, attempts were made to separate the precursors of both workaholism and work addiction in our study.

**Methods:** Four online databases were used to search for articles. The search was limited to the articles published between 2007 and 2020. The relevance of the studies was determined by screening the titles, abstracts and full texts. Only those articles that did not include any exclusion criteria and that met all inclusion criteria were analyzed.

**Findings:** Thirty-three articles published during the period from 2008 to 2019 were included. Our study revealed that such variables as perfectionism, extrinsic work motivation and job demands (workload, interpersonal conflicts, as well as role conflicts at work) were the most important factors predicting the increased levels of workaholism. Further it was observed that all studies examining the relationship between neuroticism and work addiction confirmed a positive link, whereas the link between neuroticism and workaholism was controversial.

**Discussion:** All the above-mentioned factors of workaholism provide the most promising potential for practical application. It is imperative to systematically test organizational environment-motivation-trait hypotheses and include them in empirically validated research designs. Finally, the hypotheses about different origins of workaholism and work addiction should be developed and the empirical studies based on this recent idea should be initiated.

## Pilot study of a communication skills program for home-visiting staffs

N. Watanabe<sup>1</sup>, T. Moroe<sup>2</sup>, E. Ishikura<sup>3</sup>, N. Seita<sup>4</sup>, K. Takenaka<sup>1</sup>

<sup>1</sup>Waseda University, Japan

<sup>2</sup>All Win Limited Liability Company, Japan

<sup>3</sup>Applause Care, Shakujii-branch office, Tokyp, Japan, Japan

<sup>4</sup>Applause Care, Shakujii-branch office, Japan

Home-visit care service is in high demand to deal with the super-aged societal needs in Japan (Ministry of Economy, Trade and Industry, 2018). Home-visit care relies heavily on individual communication skills of the helpers. In this study, an online communication skills program (CSP) for home-visiting staff, developed based on a research of previous literature and an experts' interview, was conducted and evaluated with a pre-post design. 18 helpers (five males, M 44.56 years, SD 13.46) from three home care offices in Tokyo, Aichi, and Toyama, participated in the CSP. Outcomes were measured using the individual communication skills of the home-visiting staff (hereafter referred to as helpers), a self-assessment tool to measure the communication skills for both home care ( $\alpha = .98$ ) and teamwork settings ( $\alpha = .98$ ), as well as psycho-sociological outcomes, such as social support, job satisfaction, mental health, and well-being. Results showed that the overall self-rated communication skills for service users improved after CSP, although the changes were insignificant. The difference in scores of CHVS in the pre-post study predicted a relationship between communication skills and helper's mental health, and between social support and job satisfaction. Moreover, the difference in scores was negatively associated with conflicts of coworkers and users at 90-99% CI. In conclusion, the study findings implied that improving the helpers' communication skills could promote their mental health and job satisfaction through the mediation of social support. For future studies, objective evaluations with a larger sample size were suggested for generalizability.

11:05 - 12:35

## Development of best practice guidelines for frontline healthcare workers: A novel Delphi approach

C. Ffrench<sup>1</sup>, G. Bellani<sup>2</sup>, M. Contreras<sup>3</sup>, A. Doherty<sup>4</sup>, H. Durand<sup>5</sup>, E. Fallon<sup>6</sup>, J. Flynn<sup>5</sup>, C. Gormley<sup>7</sup>, M. Hanlon<sup>1</sup>, J. Laffey<sup>8</sup>, G. Molloy<sup>1</sup>, L. O'Connor<sup>9</sup>, M. O'Reilly<sup>1</sup>, S. Russo<sup>10</sup>, K. Sarma<sup>1</sup>, M.G. Strepparava<sup>10</sup>, J. Walsh<sup>11</sup>, B. McGuire<sup>1</sup>

<sup>1</sup>School of Psychology, National University of Ireland, Galway, Ireland

<sup>2</sup>University of Milano-Bicocca, Italy

<sup>3</sup>University Hospital Galway, Ireland

<sup>4</sup>Mater Misericordiae University Hospital, Ireland

<sup>5</sup>School of Psychology, National University of Ireland, Galway,, Ireland

<sup>6</sup>Saolta University Health Care Group, Ireland

<sup>7</sup>Health Service Executive West, Ireland

<sup>8</sup>School of Medicine, National University of Ireland, Galway, Ireland/ University Hospital Galway,, Ireland

<sup>9</sup>[laura.l.oconnor@nuigalway.ie](mailto:laura.l.oconnor@nuigalway.ie);; Ireland

<sup>10</sup>School of Medicine and Surgery, University of Milano-Bicocca, Milan, Italy

<sup>11</sup>School of Psychology, National University of Ireland, Galway, Ireland, Ireland

**Background:** The COVID-19 pandemic has posed unprecedented challenges for frontline healthcare workers (FLWs). Individual organizations have responded as best they can but there are currently no accepted best practice guidelines for supporting FLW mental health during a pandemic. This research seeks to create informed guidance for supporting the psychological wellbeing of FLWs during this pandemic and for future public health emergencies.

**Methods:** Data collected in the FLoWS project will inform a novel Delphi consensus approach to create psychological support guidelines for FLWs. Four rounds will be conducted, utilizing two sub-panels (one frontline focused, one organizational/managerially focused) each comprised of 30 experts (N=60) in real-time. Round 1 will focus on guideline creation, Round 2-3 will be conducted in real time and have participants rate and re-rate created guidelines on their level of importance. Round 4 will consult additional stakeholders with expertise in implementing supports, who will further vet the created guidelines in terms of feasibility of rapid integration into existing practice. Participants will be selected based on both open invitation and self-selection from existing expertise on the project steering group.

**Expected Results:** Findings will be ordered into individual, organizational, and national recommendations and ranked by effort needed to implement; immediate implementation possible, medium-term with some resources needed, and long-term stretch goals needing the most commitment.

Current stage of work: Phase-1 start Mar 2021

Discussion: The final recommendations aim to be an immediately implementable resource for healthcare management in supporting mental wellbeing and addressing practical burdens faced by those on the frontline.

11:05 - 12:35

## Health psychology meets biomechanics: Does work context matter for self-regulation, physical activity and back health?

N. Lederle<sup>1</sup>, L.O. Wilhelm<sup>1</sup>, H. Schmidt<sup>2</sup>, S. Hahn<sup>2</sup>, L. Thiel<sup>1</sup>, D. Wunsch<sup>1</sup>, L. Fleig<sup>1</sup>

<sup>1</sup>MSB Medical School Berlin, Department of Psychology, Germany

<sup>2</sup>Julius Wolff Institute, Charité – Berlin, Germany

**Background.** The project workHealth investigates how the work environment relates to employees' leisure-time physical activity (LTPA) and back health, using psychological theories focusing on self-regulatory mechanisms like the health action process approach, and occupational theories focusing on work demands and resources. Aims are to investigate patterns of physical activity, spinal posture, shape and motion in two different work contexts, and to investigate their interplay with work-related barriers and resources, activity-specific self-regulation, pain and affect.

**Methods.** This longitudinal observational study encompasses a 14-day intensive ecological momentary assessment (EMA; app-based diaries, accelerometers) phase in addition to a baseline and three follow-up questionnaires (T0-T3) on physical activity, work environment, and psychosocial measures. At T0 and the first four days of the diary period, non-invasive thoracolumbar spinal shape and motion measurement is applied.

**Expected Results.** Work-related barriers are expected to endanger self-regulatory efforts for LTPA and spine shape/motion, while work-related resources are expected to promote them. Positive and negative affect are expected to predict LTPA in opposite ways. Psychosocial predictors might affect spine shape/motion through LTPA.

**Current stage of work.** Currently, the piloting of measurements to be used in the EMA part of the study is taking place. Recruitment and data collection will start in April 2021.

**Discussion.** The study aims to gain a better understanding of how individual (psychosocial and biomechanical) and environmental factors contribute to the risk of lower back pain in the work context, relating to a possible lack of LTPA. Prospectively, the findings can help to generate tailored prevention programs.



11:05 - 12:35

## Effects of self-care and communication skills training on employees in mid-level management positions

R. Ishikawa<sup>1</sup>, Y. Matsuda-Chapman<sup>1</sup>, S. Ishikawa<sup>1</sup>, D. Nagamine<sup>2</sup>

<sup>1</sup>J. F. Oberlin University, Japan

<sup>2</sup>J.F. Oberlin University, Japan

**Background:** Mental health problems are the leading cause of long-term sick leave amongst Japanese civil servants. The municipal government participating in this study was no exception. Employees in mid-level management positions, in particular, had a higher rate of mental health issues, primarily caused by poor subordinate relationships. This study aimed to evaluate the effectiveness of a two-session training programme of self-care activities to cope with stress and to improve communication skills in work relationships.

**Methods:** Thirty municipal government employees in middle management positions participated in two 2.5-hour training sessions. The sessions imparted lectures and exercises on stress management and self-care, and communication skills.

A self-report questionnaire consisting of organization-based self-esteem (OBSE), self-compassion (SC) and efficacy in coaching attitudes (CA) were administered at pre and post sessions. Free text post-session feedback was also collected.

**Findings:** Twenty-eight participants who completed two sessions were included in the analysis. Significantly greater improvements were found in OBSE, common humanity factor of SC, and five factors of CA. A multiple regression analysis indicated that mindfulness factor of SC and feedback attitude factor of CA had a positive effect on OBSE.

**Discussion:** The brief training programme helped participants to recognise they are not alone in their struggles, and to enhance their efficacy in coaching attitudes to support others through repeated practice of communication skills. To support municipal civil servants to enhance their mental and physical health with limited time and financial resources, it is imperative to offer brief and frequent training opportunities with a hands-on learning approach.

11:05 - 12:35

## Mindfulness and compassion training for clinicians: a qualitative study

C. Brun<sup>1,2</sup>, A. Akinyemi<sup>2</sup>, L. Houtin<sup>2</sup>, C. Mizzi<sup>3</sup>, T. Cardoso<sup>4</sup>, C. Isnard Bagnis<sup>3</sup>

<sup>1</sup>Université Grenoble Alpes, France

<sup>2</sup>AD-HOC Lab, France

<sup>3</sup>APHP Sorbonne University, France

<sup>4</sup>Santé Publique France, France

### Background:

Encouraging caregivers to develop a patient-centred care relationship has beneficial effects for both patients and caregivers (Dobkin, 2016). The literature suggests that caregivers' compassion and self-compassion can be increased with the practice of mindfulness, more particularly through caregiving-focused mindfulness training programs. We hypothesized that a mindfulness training program specifically focused on situations that are relevant for caregivers could improve patient-caregiver relationships, and the care provided by the latter.

### Methods:

We conducted 10 interviews with caregivers who had completed a mindfulness compassion-based program, the MB CARE program. Our goal was to evaluate the impact of the MB CARE training, through the study of the capacity of caregivers to mobilise its methods in their daily practice. We used King's template analysis method.

### Findings:

Our content analysis showed that the training seemed to have had a positive impact on the ability of caregivers to feel compassion toward their patients and themselves. Caregivers showed more caring listening. The program also appears to have enhanced participants' ability to recognize the presence of their emotions. Those were better accepted, especially negative ones. Participants also seemed to be able to change their perspective, especially in order to understand their patients. Overall, participants were now able to accept more sympathetically the difficult experiences they might encounter in the workplace, or those reported by their patients.

### Discussion:

Future studies should assess if professional mindfulness and compassion training programs could effectively be operational levers for institutions aiming to foster a more compassionate caregiver-patient relationship and improve care global efficiency.

11:05 - 12:35

## 'Dear Doctor': Results from a randomised controlled trial to reduce burnout in trainee anaesthetists

A. Brazier<sup>1,2</sup>, Y. Xu<sup>2</sup>, E. Larson<sup>3</sup>, J. Milward<sup>2</sup>, M. Egan<sup>2</sup>, J. Frerichs<sup>4</sup>, H. Burd<sup>2</sup>, G. Judah<sup>5</sup>, A. Darzi<sup>5</sup>

<sup>1</sup>Imperial College London, United Kingdom

<sup>2</sup>The Behavioural Insights Team, United Kingdom

<sup>3</sup>The Behavioural Insights Team, United States

<sup>4</sup>The Behavioural Insights Team (now left), United Kingdom

<sup>5</sup>The NIHR Imperial Patient safety Translational Research Centre, United Kingdom

**Objective:** To determine if a novel text message intervention can reduce burnout and increase wellbeing in UK trainee anaesthetists.

**Methods:** Two-arm individually-randomised controlled trial. 279 trainee anaesthetists in Core Training Year 2 or Specialty Training Years 3 or 4 were recruited and could be included. 139 participants were randomly allocated to receive the intervention: 22 fortnightly text messages based on 11 evidence-based themes (including gratitude, social support, self-efficacy and self-compassion) over approximately ten months. All participants received one initial message sharing support resources. The control group received no additional intervention messages. Outcomes were measured via online survey. Primary outcomes were burnout (Copenhagen Burnout Inventory) and wellbeing (Short Warwick-Edinburgh Mental Wellbeing Scale). Secondary outcomes were: meaning in work, professional value, sickness absence, and consideration of career break. Factors that may have affected wellbeing were also measured. 153 participants completed the endline survey (74 intervention; 79 control). Intervention effect on primary outcomes was tested with Ordinary Least Squares regression.

**Findings:** There were no significant group differences in burnout ( $\beta=-1.82$ ,  $p=0.45$ ), wellbeing ( $\beta=-0.52$ ,  $p=0.40$ ), or any of the secondary outcomes. Post-hoc analysis found the intervention reduced burnout in participants reporting personal or work-related difficulties during the trial period ( $\beta=-9.56$ ,  $p=0.02$ ).

**Discussion:** The intervention had no impact overall, but was associated with reduced burnout in participants reporting difficult personal or work circumstances. Given this intervention is low cost and requires minimal time commitment from recipients, it may warrant adaptation and further evaluation.

11:05 - 12:35

## Defining emotional competencies of Artists in Healthcare: Development of a Competency Framework

A. Karypidou<sup>1</sup>, P. Sextou<sup>1</sup>, E. Kourtidou-Sextou<sup>2</sup>

<sup>1</sup>Newman University, United Kingdom

<sup>2</sup>Assistant Psychologist, United Kingdom

**Background:** Although there is established evidence of the contribution of the Arts in Health & Wellbeing, the emotional competencies for artists in healthcare still need further investigation. Drawing from researchers' published work (2018; 2020), this presentation defines the emotional competencies for artists' professional training and practice within healthcare.

**Methods:** Applied theatre practitioners, trainees and other professionals with an experience of either performing theatrical or puppetry interventions in healthcare (N = 29) were recruited via purposive sampling, using an open-ended questionnaire and in depth semi-structured interviews. An inductive qualitative approach was applied, using thematic analysis to secondary data.

**Findings:** Empathy: demonstrating the understanding of audience to facilitate connection with the interactive experience in a compassionate manner. Emotional awareness: identify emotions in the self and act with clarity in practice. Social awareness: identify the emotions of audience, respond appropriately and aware of situational factors that might impact the intervention. Emotional safety: maintain a safe, emotional experience with the audience through the use of arts as intermedium to assist relaxation. Emotional resilience: flexible to the unexpected, adaptive to new situations and tolerant to avoid emotional burnout.

**Discussion:** The findings highlight the need for tailored training to equip artists in healthcare. Verbal and non-verbal communication perceived as facilitator of an empathetic approach to challenging situations. Supervision, reflective practice and cross-disciplinary collaborative work were acknowledged as central components to minimise ambivalence in artistic interventions. Emotional Intelligence has been proposed as a core skill to assist professional artistic practice in healthcare settings.

# State of the Art

12:45 - 13:45

12:45 - 13:15

## Dyadic Health Behavior Change: Potential and Pitfalls

C. Berli<sup>1</sup>, J. Lüscher<sup>1</sup>, N. Knoll<sup>2</sup>, U. Scholz<sup>1</sup>

<sup>1</sup>University of Zurich, Switzerland

<sup>2</sup>Freie Universität Berlin, Germany

A growing literature documents the importance of the social context in shaping health behavior change. Romantic partners represent the closest and most important relationship. In line with this, there has been a rise in dyadic interventions, many of which involve romantic couples to change health behavior. Overall, evidence to date suggests that dyadic interventions with couples may be a promising avenue for changing health behavior. However, studies are highly heterogeneous in populations, intervention content and partner involvement, and comparison groups, which makes direct comparisons difficult. Moreover, due to poor reporting of intervention content and unsystematic labelling of intervention strategies, little is known about what exactly makes these interventions successful and what theory -if any- they build upon. Thus, even intervention work has generally not been as productive in accumulating and advancing our knowledge on how exactly close relationships impact health behaviors.

In this state of the art presentation, I will first review the existing theoretical approaches and current evidence base of dyadic behavior change interventions across different health behavior contexts, focusing on the exemplary case of romantic couples.

Second, I will introduce a continuum of individual to dyadic behavior change techniques (DBCTs) that address different degrees of partner involvement along which dyadic interventions can be classified, and will provide example techniques from the empirical literature. I will further demonstrate that many dyadic behavior change techniques are not at all or not sufficiently identified in existing behavior change techniques taxonomies.

Third, I will discuss the need for more systematic research in the area of dyadic behavior change. This includes better reporting of intervention content and delivery as well as generating a common language for dyadic behavior change techniques and level of dyad partner involvement. This will allow to synthesize evidence from heterogeneous dyadic interventions and move the field forward.

13:15 - 13:27

## What are (be)friends for? The impact of befriending services on health: A dyadic analysis

E. Holton<sup>1</sup>, C. Hannigan<sup>2</sup>, T. Scharf<sup>3</sup>, B. Lawlor<sup>1</sup>, N. Johnson<sup>4</sup>, J. McHugh Power<sup>5</sup>

<sup>1</sup>Trinity College Dublin, School of Medicine, Ireland

<sup>2</sup>National College of Ireland, School of Business, Ireland

<sup>3</sup>Newcastle University, Health Sciences Institute, United Kingdom

<sup>4</sup>ALONE, Ireland

<sup>5</sup>Maynooth University, Department of Psychology, Ireland

**Background:** Befriending services are used to reduce isolation in older adults. We explored perceived health benefits associated with befriending service use.

**Methods:** A qualitative, constructivist grounded theory approach informed study design, data collection, and analysis. Dyadic interviews were used, such that service users and their befriending partners were interviewed together and separately, to identify points of divergence and convergence. Data recorded from semi-structured interviews with nine dyads were analysed. Interviews were then transcribed. Initial and focused coding, followed by a process of constant comparison, led to the identification of categories and subcategories in the data.

**Findings:** We describe a grounded theory entitled: “partnering to improve health”, in which befrienders and service users both describe a journey from “life before” the partnership, via a developing relationship, towards improved mental health (physical health was mentioned less frequently). Categories included “active ingredients” in a successful partnership (e.g. the relationship itself, shared activities), the context of broader life (e.g. the organisational context), and pre-partnership life (e.g. initial support needs). Ultimately, service users received emotional, social, and practical support from their befriending partners, which was required in the context of health requirements and family issues. Befrienders mostly corroborated the interviews of their service user partners, but described service user needs as being greater than service users themselves did.

**Discussion:** Building a meaningful friendship appears to be the mechanism through which befriending services may impact health. This hypothesis should be tested further using confirmatory approaches.

## Planning in context: dyadic and individual planning for physical activity in obese individuals' daily diaries

L.O. Wilhelm<sup>1,2</sup>, S. Heuse<sup>3</sup>, T. Schütz<sup>4</sup>, U. Elbelt<sup>5</sup>, N. Knoll<sup>1</sup>

<sup>1</sup>Freie Universität Berlin, Germany

<sup>2</sup>Medical School Berlin, Germany

<sup>3</sup>University of Applied Sciences Europe, Germany, Germany

<sup>4</sup>Universitätsmedizin Leipzig, Germany, Germany

<sup>5</sup>Charité – Universitätsmedizin Berlin, Germany, Germany

**Background:** Physical activity (PA) is an important pillar in the treatment of obesity. While planning individually is a well-established behavioural intervention to increase PA, involving an individuals' social context in planning might bring additional benefits. Dyadic planning refers to two persons (i.e., target person and partner) planning for one person's (i.e., target person) behaviour change. We aimed to study the role of dyadic and individual planning in daily PA in a sample with obesity.

**Methods:** In an 8-day daily diary study, 113 individuals with overweight/obesity (BMI range = 28 – 64; M age = 41.36, SD = 13.67, range = 19 – 74; 78% women) reported on their dyadic planning, individual planning, and PA. Self-reported total PA was validated with three days of accelerometer assessments. Two-level models were fit.

**Findings:** Participants planned individually on 61% of days (n = 452 out of total N = 741 person days), and dyadically on 31% of days (n = 230 days). Daily individual and dyadic planning were highly correlated,  $r = .52$ ,  $p < .001$ . On a day with higher than usual dyadic planning, participants reported more PA. This link disappeared when same-day individual planning was introduced. No interaction between the two planning concepts was found.

**Discussion:** Findings show that dyadic planning of PA is a fairly regular feature of social interactions in couples with persons with obesity. Dyadic planning, however, mostly co-occurs with individual planning and does not explain additional unique variance in daily PA.



# Lab Series

12:45 - 13:45

12:45 - 13:45

## Show and tell: Learning and doing translational health psychology together

J. Hart<sup>1</sup>, L. Byrne-davis<sup>1</sup>, P. Chadwick<sup>2</sup>, D. D'Lima<sup>2</sup>, S. Hotham<sup>3</sup>, W. Maltinsky<sup>4</sup>

<sup>1</sup>University of Manchester, United Kingdom

<sup>2</sup>University College London, United Kingdom

<sup>3</sup>University of Kent, United Kingdom

<sup>4</sup>Stirling University, United Kingdom

### Purpose

The focus of this session is to explore ideas around how to translate health psychology and to share innovations. We would like to, as a health psychology community, discuss challenges, highlight successes and consider how we can learn from each other to improve our translational attempts.

### Objectives

1. To share experiences of translation and successful materials, for example training materials or creative methods to share health psychology e.g., books, posters, animations, games, activities etc.
2. To generate a list of priorities to improve translational health psychology and support us all in attempts to translate.

### Rationale

Health and social care organisations and practitioners, including those in public health, primary care, social care, organisational development and health professional education, are increasing their use of theories, methods and insights from health psychology, such as behavioural influences, behaviour change techniques and improved methods of communication. Health psychology researchers are under increasing pressure to have impact beyond academia and Health Psychologist practitioners are being asked to help healthcare professionals, patients and the public understand and apply more psychology to health and healthcare. Achieving these outcomes requires the translation of theories and methods of health psychology.

Often, the 'black box' of how we translate health psychology is not made explicit. Translation itself is often an intervention with a desired outcome and selection of intervention components but there is little opportunity for us, as a community, to discuss this.

This conference lab session will invite conference attendees to share materials and experiences of translation. We will create a list of priority areas for improving our attempts to translate.

12:45 - 13:45

## Providing care for care providers: innovative eHealth solutions across Europe

S. Dang<sup>1</sup>, M. Hagedoorn<sup>2</sup>, G. Ferraris<sup>1</sup>, M. Petrovic<sup>3</sup>, L. Biliunaite<sup>4</sup>, S. Bastoni<sup>5</sup>

<sup>1</sup>University medical center Groningen, Netherlands

<sup>2</sup>University of Groningen, Netherlands

<sup>3</sup>Università Cattolica Del Sacro Cuore, Italy

<sup>4</sup>Linköping University, Sweden

<sup>5</sup>University of Twente, Netherlands

**Purpose:** to explore psychosocial challenges that informal caregivers experience in their daily life in order to provide sustainable digital solutions for managing burden and stress.

Schematic representation of our theoretical model

**Objectives:**

1. Provide an insight into the current trends in caregiving and psychological aspects of informal care in Europe
2. Demonstrate the approaches in developing, designing, and implementing technological solutions

**Rationale:** The determining role of informal caregivers in bridging the gap between the services available by health care systems and the services care recipients need has been acknowledged by the social, health, economic and political systems across Europe. Current data predicts the rise of the elderly above the age of 80 from 4.9% in 2014 to 13% in 2070 (Spasova et al., 2018). Current demographic changes and the predicted rise puts social and health systems of Europe to a test and challenges the long-term fiscal sustainability of health care. The existing psychological interventions, technology, and social incentives partially address the caregiver's mental health and wellbeing by providing some short-term solutions. The project ENTWINE is dedicated to addressing caregiver's health by developing accessible long-term solutions for the issues affecting roughly 34.3% of the population in Europe and seriously endangering wellbeing, the economy, and the future of society.

# Planetary Health: The need for integrating insights from health psychology and environmental communication

14:15 - 15:15

Eline Smit

14:20 - 14:30

## Promoting climate action using fear appeals: addressing collective efficacy

M. Adriaanse<sup>1</sup>, R. Drbohlav Ollerton<sup>1</sup>

<sup>1</sup>Utrecht University, Netherlands

**Background:** Promoting individual climate action requires communicating effectively about the threat of climate change and about actions to alleviate this threat. The latter is challenging as alleviating this threat requires others to act as well. The present studies therefore test whether the efficacy of fear appeals is enhanced when adding a message targeting collective efficacy. We tested two approaches; a normative and a social contagion message.

**Methods:** In Study 1, N = 129 participants were randomly assigned to a control, regular fear appeal, fear appeal+normative message, or a fear appeal+social contagion message condition. The fear appeal presented the risk of sea level rise due to greenhouse gas emissions and reduced meat and/or dairy intake as effective actions. Dependent measures were meat/dairy consumption using 48hour recall measures before (T0) and one week after (T1) the manipulation. Study 2 (N = 404) aims to replicate Study 1 using daily consumption measures for 5 days.

**Findings:** Study 1: no effect for meat was found. For dairy, T1 consumption was lower for the social contagion (M = 2.63, SD = 1.35) compared to the regular fear appeal condition (M = 3.67, SD = 2.12),  $p = .025$ . Dairy intake reduced T0-T1 in the social contagion condition, but not significantly,  $p = .085$ . Results of Study 2 are being analyzed.

**Discussion:** Results of Study 1 suggest that it may be worthwhile to augment fear appeals promoting climate action with a social contagion message. However, replication in larger samples with improved measures is warranted.

14:30 - 14:40

## Stimulating Sustainable Food Choices Using Virtual Reality: Taking an Environmental vs Health Communication Perspective

M. Meijers<sup>1</sup>, E. Smit<sup>2</sup>, K. de Wildt<sup>3</sup>, S. Karvonen<sup>4</sup>, D. Van der Plas<sup>4</sup>, N. van der Laan<sup>5</sup>

<sup>1</sup>Universiteit van Amsterdam/ASCoR, Netherlands

<sup>2</sup>University of Amsterdam/ASCoR, Netherlands

<sup>3</sup>AMC / University of Amsterdam, Netherlands

<sup>4</sup>University of Amsterdam, Netherlands

<sup>5</sup>Tilburg University, Netherlands

Research shows that food choices which are detrimental to the environment are often also bad for people's health (e.g., red meat). Changing people's food choices so to limit environmental and health problems is however challenging. One particular important barrier is low personal response efficacy beliefs (i.e., the belief that one is able to contribute to the solution of a problem). To increase personal response efficacy beliefs, we used a Virtual Reality (VR) experience. In a VR-supermarket, messages popped-up when participants (N = 249; Mage= 21.56, SDage= 3.48, 77.1% female) picked up products. In the four experimental conditions, the pop-ups showed the impact on participants' health vs. the environment (e.g., clogged arteries, destroyed rainforest); so-called impact messages. These messages differed in modality: text only or text and visuals. In the control condition, the pop-up showed the ingredient list or country of origin. After the VR-experience, we measured participant's personal response efficacy beliefs. In the follow-up questionnaires, (one and two weeks later) we assessed their pro-environmental food choices in the regular supermarket. Our results showed that the impact messages were effective in stimulating personal response efficacy beliefs which mediated the positive effect on pro-environmental food choices in the VR-supermarket (all indirect effects  $p < .05$ ). The heightened response efficacy beliefs further positively affected pro-environmental food choices up to two weeks after the VR-experience (all indirect effects  $p < .05$ ). The effectiveness of the impact messages did not depend on appeal type (i.e., health vs environmental appeal) or modality ( $p > .05$ ).

14:40 - 14:50

## Who accepts nudges? A scenario study exploring acceptability of nudges targeting healthy and sustainable eating

L. van Gestel<sup>1</sup>, M. Adriaanse<sup>1</sup>, D. de Ridder<sup>1</sup>

<sup>1</sup>Utrecht University, Netherlands

**Background:** Acceptability of nudges has thus far not been studied from the perspective of the nudgee, while it is important to find out who the accepters of nudges are. We investigated acceptability of three different nudges for healthy and sustainable eating, and related acceptability to elements of self-regulation.

**Methods:** We conducted an online scenario study (N = 301) and measured self-control, proactive coping skills, autonomous and controlled motivation, and self-efficacy. We showed participants three scenarios describing a default, portion size, and rearrangement nudge, and manipulated whether these nudges promoted healthy eating or sustainable eating. For each scenario, we asked about acceptability, intrusiveness, and perceived effectiveness of the nudge.

**Findings:** The nudges that targeted healthy eating were evaluated as more pro-self than those that targeted sustainable eating,  $t(273) = -12.61$ ,  $p < .001$ , but there was no significant difference in acceptability by behavioral domain,  $F(1, 299) = 1.74$ ,  $p = .188$ . We found a large difference between the three nudges in acceptability,  $F(2, 598) = 105.42$ ,  $p < .001$ , such that the default nudge was evaluated as least acceptable and the rearrangement nudge as most acceptable. Only autonomous motivation for healthy/sustainable eating was a consistent predictor of nudge acceptability.

**Discussion:** Healthy eating is experienced as more pro-self than sustainable eating. Yet, there is no difference in acceptability of nudges that target healthy or sustainable eating. Autonomous motivation was positively related to acceptability for all nudges, suggesting that those who want to perform the nudged behavior are more likely to accept it.

14:50 - 15:00

## The potential of virtual reality to stimulate healthy and environmentally friendly food consumption among children

E. Smit<sup>1</sup>, M. Meijers<sup>1</sup>, N. van der Laan<sup>2</sup>

<sup>1</sup>University of Amsterdam/ASCoR, Netherlands

<sup>2</sup>Tilburg University, Netherlands

**Background:** Since habits formed during childhood are predictive of adult behaviour, children form an important target group when it comes to improving healthy and environmentally friendly food consumption.

**Methods:** To explore the potential of immersive virtual reality (VR) in this respect, we conducted a semi-structured interview study (N = 22) among children aged 6–13 years. This study consisted of two parts: (1) a VR experience and (2) a semi-structured interview to investigate (1) to what extent children are able to recall and understand information about the impact of food products on their health and the environment when provided to them as pop-ups in a VR supermarket; (2) what rational and emotional processes are triggered by this information; and (3) what children's expectations about the real-life application and impact of the pop-ups are, and why. Interview data were analysed using the framework method.

**Findings:** Results showed that although all participants were able to recall the information, only children from an average age of ten years old also understood the information. When participants understood the information, they were often aware of and felt sorry for their negative behavioural impact. Most participants expected their behaviour to positively change when imagining real-life application of the pop-ups.

**Discussion:** Pop-ups in a VR supermarket may be able to generate an increase in awareness among children about the impact of their behaviour on their health and the environment. Nonetheless, quantitative support for this finding and for potential effects on other important behavioural predictors is needed.



# Measurement and other methodological challenges for health psychology research in low resource and cross- country settings

14:15 - 15:15

Gudrun Sproesser

14:15 - 14:25

## Barriers to collecting longitudinal data in a public health setting in South Africa

R. Roomaney<sup>1</sup>, A. Kagee<sup>1</sup>, N. Knoll<sup>2</sup>

<sup>1</sup>Stellenbosch University, South Africa

<sup>2</sup>Freie Universität Berlin, Germany

**Objective:** This presentation will discuss the barriers to collecting longitudinal data in a public hospital in South Africa, a middle income country.

**Method:** We collected longitudinal data for two studies at a tertiary, public hospital in South Africa. In the first study, we evaluated changes in psychosocial well-being among women receiving breast cancer treatment (n=201). Participants completed several measures related to social support, quality of life, and psychosocial well-being. Data were collected at baseline and at one year follow-up. The retention rate of participants was 42%. In the second study which is ongoing, we are evaluating the sensitivity to change of an endometriosis quality of life measure. Participants complete measures of health related-quality of life prior to surgery, and at 6 weeks, 6 months and 18 months post-surgery. The retention rate of the endometriosis study is currently 57%.

**Results:** We found three sets of barriers to data collection, namely (1) high staff turnover and the fact that junior research staff lacked confidence when dealing with patients and hospital staff; (2) the use of telephonic follow-ups and lengthy time lapses between data collection phases, and (3) participants' changes in contact details, mortality among breast cancer patients, and the need for medical follow-up.

**Implications:** While longitudinal data collection in a low-resource setting can be challenging, acceptable retention rates can be achieved if researchers and clinical staff work together.

## Reflections on conducting qualitative interviews with couples in South Africa (SA) to inform intervention optimisation

K. Morton<sup>1,2</sup>, T. Mhlakwaphalwa<sup>3</sup>, L. Msimango<sup>3</sup>, A. Van Heerden<sup>3,4</sup>, T. Ngubani<sup>3</sup>, P. Joseph<sup>3</sup>, N. Ngcobo<sup>3</sup>, Z. Feng<sup>5</sup>, V. Hosegood<sup>6</sup>, N. McGrath<sup>5,6</sup>

<sup>1</sup>University of Southampton, United Kingdom

<sup>2</sup>University of Bristol, United Kingdom

<sup>3</sup>Human Sciences Research Council, South Africa

<sup>4</sup>SAMRC/WITS Developmental Pathways for Health Research Unit Department of Paediatrics, South Africa

<sup>5</sup>School of Primary Care, Population Sciences and Medical Education, Faculty of Medicine, University of Southampton, United Kingdom

<sup>6</sup>Department of Social Statistics & Demography, Faculty of Social Sciences, University of Southampton, United Kingdom

**Background:** This study adopted the person-based approach to explore couples' experiences of taking part in an intervention to promote couples HIV testing. We present the reflections of our international, multi-disciplinary team on conducting qualitative research to inform intervention optimisation.

**Methods:** Male and female partners (n=40, age 25-59 years) took part in individual semi-structured interviews with a gender-matched qualitative researcher. The interview explored participants' perceptions of each component of the intervention (group sessions and couples counselling), and their thoughts about couples HIV testing.

The interview schedule was developed collaboratively with the local researchers. Interviewers shared debrief forms with the team after each interview. Audio-recordings were transcribed into English and coded to identify possible intervention optimisations.

**Findings:** The SA and UK researchers worked closely together during data collection to make iterative revisions to the interview schedule. Most participants were very open and happy to discuss their experiences, but the interviewers noticed that partners who had separated since the intervention were often more reluctant to engage in the interview, whilst a few participants struggled to remember the intervention in detail. We noticed that very few participants spoke about aspects of the intervention they disliked or ideas for improvement, even after the interview schedule was modified to encourage this.

**Discussion:** Joint development and iteration of the interview schedule helped ensure questions were sensitive to the local context. More creative strategies may help elicit critical feedback in some cultures, and pilot interviews or working with public contributors could help select appropriate methods.

14:35 - 14:45

## Measuring psychological ownership in the context of health related infrastructure in India

B. Ambuehl<sup>1</sup>, J. Inauen<sup>2</sup>

<sup>1</sup>Eawag, Switzerland

<sup>2</sup>University of Bern, Switzerland

Arsenic and microbiological contamination in drinking and cooking water, is threatening health of millions. One possibility to reduce risk is to install mitigation infrastructure (e.g. community water filters). To keep infrastructure functional and used in the long-term, 'creating ownership' is proposed to be important. Psychological ownership (i.e. feeling that something is 'mine') is a concept from organisational psychology in high income countries. Psychological concepts and measurement scales are always context-specific and need to be validated in a new context. Our study addresses the question whether the concept and measurement scale for PO is transferrable to the context of health related infrastructure in low and middle income countries, i.e. India.

In a mixed-methods study, N=17 qualitative interviews and a 2-wave quantitative survey (N=193) using computer-assisted personal interviewing, were conducted in Bihar, India. PO for the safe water infrastructure was quantitatively assessed using a Likert scale.

Qualitative content analysis revealed that PO in the new context is understood as multidimensional construct, compared to the one-dimensional construct in the old context. Confirmatory factor analysis, the measurement scale showed good fit (RMSEA: 0.074 ; CFI: 0.996 ; Chisq (1): 2.779 (p>0.05)) and good (Cronbach's  $\alpha > 0.733$ ) or very good internal consistency when selected and reverse-coded items were removed (Cronbach's  $\alpha = 0.826$ ). Retest reliability was low (r=0.493) with moderate ICC = 0.64.

Indices showed that the PO scale was transferrable to the context of health related infrastructure in India. However, we found that reverse coded items are not well understood in this context.

## Dyadic health psychology theory and methods to explain protective maternal health behavior in Nepal

V.M.J. Tomberge<sup>1</sup>, A. Shrestha<sup>2</sup>, R. Meierhofer<sup>3</sup>, J. Inauen<sup>1</sup>

<sup>1</sup>University of Bern, Health Psychology & Behavioral Medicine, Switzerland

<sup>2</sup>Kathmandu University School of Medical Sciences, Nepal

<sup>3</sup>Eawag - Swiss Federal Institute of Aquatic Research, Switzerland

Many Nepali mothers are affected by adverse health impacts due to carrying heavy loads during pregnancy and postpartum. Health psychology theory taking into account both the women and their social environment, may improve understanding of maternal risk behaviour. We investigated whether an extended, dyadic version of the health action process approach (HAPA) can be applied to this context.

We conducted qualitative interviews with rural Nepali women and their family members examining their protective maternal behavior related to carrying heavy loads. After careful translation and adaptation of Likert-type scales with our Nepali partners, trained interviewers conducted 238 quantitative interviews with pairs of daughters- and their mothers-in-law assessing HAPA-based psychosocial determinants of protective behavior. Effects of the daughter-in-law's own cognitions and her mother-in-law's cognitions were modeled by linear-mixed Actor-Partner Interdependence Models.

Qualitative results indicated that maternal risk behavior was attributed to a lack of family support, a shift of health decision-making power to in-laws and low behavioral control. This encouraged a dyadic quantitative approach and convergent validity of the HAPA variables. The mother-in-law's self-efficacy ( $B=0.20$ ,  $p=0.001$ ), descriptive norms ( $B=0.20$ ,  $p=0.046$ ) and coping planning strategies ( $B=-0.10$ ,  $p=0.002$ ) explained women's protective maternal behavior over and above women's own self-efficacy ( $B=0.35$ ,  $p<0.001$ ) and injunctive norms ( $B=0.22$ ,  $p=0.012$ ).

Dyadic health psychology theory and methods are transferrable to the context of water carrying in Nepal, provided formative research with a local team. From the results, behavior change interventions with a focus on including social partners can be developed to improve women's health in Nepal.

14:55 - 15:05

## Similar or different? A quantitative, comparable assessment of food cultures across ten countries

G. Sproesser<sup>1</sup>, M. Ruby<sup>2</sup>, N. Arbit<sup>3</sup>, C. Akotia<sup>4</sup>, M.d.S. Alvarenga<sup>5</sup>, R. Bhangaokar<sup>6</sup>, I. Furumitsu<sup>7</sup>, X. Hu<sup>8</sup>, S. Imada<sup>9</sup>, G. Kaptan<sup>10</sup>, M. Kaufer-Horwitz<sup>11</sup>, U. Menon<sup>12</sup>, C. Fischler<sup>13</sup>, P. Rozin<sup>14</sup>, H. Schupp<sup>1</sup>, B. Renner<sup>1</sup>

<sup>1</sup>University of Konstanz, Germany

<sup>2</sup>La Trobe University, Australia

<sup>3</sup>BetterUp, Inc., United States

<sup>4</sup>University of Ghana, Ghana

<sup>5</sup>University of Sao Paulo, Brazil

<sup>6</sup>Maharaja Sayajirao University of Baroda, India

<sup>7</sup>Hiroshima-Shudo University, Japan

<sup>8</sup>Tsinghua University, China

<sup>9</sup>Hiroshima Shodo University, Japan

<sup>10</sup>University of Leeds, United Kingdom

<sup>11</sup>Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico

<sup>12</sup>Drexel University, United States

<sup>13</sup>Centre National de la Recherche Scientifique, France

<sup>14</sup>University of Pennsylvania, United States

**Background:** Food cultures can play a role in health and well-being. Until now, the assessment of food cultures was based on qualitative approaches which made direct comparisons between food cultures difficult. The present study provides a new measure to quantify food cultures and investigates similarities and differences across food cultures.

**Methods:** In total, 3722 participants from ten countries, representing 25 regional and ethnic groups, were queried about 86 traditional and modern aspects of their food cultures in interviews, paper-pencil, and online questionnaires.

**Results:** The results showed that the quantitative, comparative assessment of food cultures provided a wealth of information for describing and comparing food cultures. For instance, whereas sweet desserts, high-fat foods, and dairy products were part of the traditional food culture described by the Turkish sample, these items were rated as modern in the food cultures described by the Ghanaian and Japanese sample. With regard to the overall similarity of food cultures, a hierarchical cluster analysis revealed that the investigated groups could be categorized into nine clusters; namely the food cultures of the Brazilian, Mexican, Turkish, Indian, Ghanaian, Chinese, African and Hispanic US American sample, and of the samples of European descendants. Interestingly, traditional eating practices were more diverse across these clusters than modern eating practices.

**Discussion:** The presented results are important for a better understanding of the complex interplay between food and culture, and might help to develop interventions to improve diet and reduce the risk for diet-related diseases, that take into account people's cultural background.

**Co-designing health behaviour change  
interventions face-to-face and remotely:  
involving target groups to maximise  
effectiveness**

14:15 - 15:15

Katie Robb

14:16 - 14:27

## Co-design with multiple stakeholders: developing a health literacy intervention for new parents

J. Ayre<sup>1</sup>, D. Nutbeam<sup>1</sup>, A. Harris<sup>2</sup>, L. Tunchon<sup>2</sup>, D. Zachariah<sup>2</sup>, K. McCaffery<sup>1</sup>, D. Muscat<sup>1</sup>

<sup>1</sup>The University of Sydney, Australia

<sup>2</sup>NSW Health, Australia

**Background:** Health literacy describes the skills needed to access, understand and act on health information. Low health literacy is associated with poorer health outcomes for parents and their children. Given that new parenthood is also a time when informational needs, motivation, and contact with the health system are high, a health literacy intervention is well-placed to succeed in providing benefits to parents and their children. We developed a health literacy intervention for new parents (Parenting Plus) in Western Sydney, Australia.

**Methods:** Parenting Plus was iteratively developed through several rounds of piloting. This involved in-depth interviews with pilot participants, observations of pilots, and review by experts, stakeholders, and consumer representatives.

**Findings:** The development of Parenting Plus required a balance between our priorities and those of nurses and the new parents themselves. To achieve this balance, the intervention shifted from targeting pregnant women to new parents (child 4-26 weeks); the topics, activities and resources shifted to better reflect the priorities and needs of parents and nurses; and health literacy skills became more embedded in educational content.

**Discussion:** This presentation provides key learnings from an iterative co-design process that itself developed and refined over time. For example, we found that the pilot studies allowed rapport to develop naturally, and facilitated feedback that was more honest, open and constructive. We also emphasise that providing a clear description of the primary goal of the intervention is fundamental to effective co-design. Lastly, we discuss how other methods such as observation and quantitative measures can complement co-design.



14:27 - 14:38

## Involving young adults with type 1 diabetes in intervention refinement and piloting: the D1Now study

E. Morrissey<sup>1</sup>, B. Casey<sup>2</sup>, E. McCarthy<sup>1</sup>, S. Dinneen<sup>1</sup>, D.N. Young Adult Panel<sup>1</sup>, M. Byrne<sup>1</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>University of Limerick, Ireland

### Introduction:

Young adults living with type 1 diabetes have been highlighted as being at risk of poor self-management. Previous interventions have not been successful and there is a need for theory-based interventions that include key stakeholder opinions. At the beginning of the D1 Now study a Young Adult Panel (YAP) was set up. The aim of this presentation is to outline how the YAP guided intervention refinement and pilot testing.

### Methods:

Monthly meetings were held with the YAP throughout the study. During the refinement phase, some members of the YAP received training in qualitative research and sat in on interviews and focus groups, acting as note-takers and moderators. They also dedicated a meeting to discussing and contextualising the qualitative results. During the pilot trial, the YAP engaged in issues such as recruitment and retention strategies and operationalising outcomes.

### Results:

The YAP were involved in collecting and analysing qualitative data during the refinement phase. Changes were made to the intervention if they were deemed acceptable and feasible to the YAP. The YAP also gave key input to the pilot study and designed a Study Within A Trial (SWAT) on retention.

### Discussion:

The D1 Now intervention has been largely shaped and refined by input from the YAP. They have also played a key role in the rollout of the pilot trial and are continuing to contextualise the findings from this work.

14:38 - 14:49

## Co-designing lung screening information with people from low-resource neighbourhoods: Community workshops and remote design interviews

L. Gatting<sup>1</sup>, B. Slade<sup>1</sup>, L. Grove<sup>1</sup>, K. Robb<sup>1</sup>

<sup>1</sup>University of Glasgow, United Kingdom

**Background:** Cancer screening information materials are an opportunity to encourage participation and support informed decision making. Co-designed information materials can be more accessible, acceptable and engaging for the target population. This study explores the use of in-person community-based workshops and remote design-focused interviews to co-design print information for a future lung screening programme with potentially eligible people living in socioeconomically deprived neighbourhoods in Glasgow, Scotland.

**Methods:** A 4-hour co-design workshop was led with a community development volunteer and held in a community centre in a socioeconomically deprived area. Design-focused interviews were then conducted with smokers between 50- and 75-years old living in socioeconomically deprived neighbourhoods. Workshop participants were invited to follow-up interviews to evaluate the workshop and design interview participants were asked to provide feedback following the interview.

**Findings:** Nineteen participants (aged 45-79 years, 26% men) took part in the workshop. Follow-up interviews (n=12) found the community workshop was enjoyable and acceptable. The workshop's success depended on: i) individual support being available to participants; ii) flexibility and sensitivity to the needs of the participants; iii) alignment of the goals and expectations of all involved. The success of the design interviews depended on building rapport and being clear about expectations. Design ideas generated through the workshop and interviews were incorporated into final designs of lung screening information, to be evaluated in a questionnaire study.

**Discussion:** This project provides evidence of the suitability of community workshops and remote interviews as methods to co-design information materials with people living in socioeconomically deprived areas.

14:49 - 15:00

## Co-creating a faith-based intervention for Muslim women to reduce cancer screening barriers: participatory online workshops

M. Kotzur<sup>1</sup>, K. Robb<sup>2</sup>, R. Amiri<sup>3</sup>, J. Ling<sup>3</sup>, J. Mooney<sup>4</sup>, F. Christie--de Jong<sup>3</sup>

<sup>1</sup>Institute of Health & Wellbeing; University of Glasgow, United Kingdom

<sup>2</sup>University of Glasgow, United Kingdom

<sup>3</sup>University of Sunderland, United Kingdom

<sup>4</sup>NHS Highland, United Kingdom

**Background:** Screening can reduce deaths from cancer, but Muslim women experience complex barriers to breast, cervical and colorectal screening leading to lower participation rates. Cultural tailoring can address barriers to screening and create targeted interventions to promote screening. We conducted four participatory online workshops with Muslim women in Scotland to co-create an intervention using faith-based messages to reduce barriers to cancer screening.

**Methods:** We contacted Scottish mosques, community centres, and The Muslim Women's Resource Centre to identify potential participants. Snowball sampling supported recruitment. We used purposive sampling to select participants according to age, ethnicity, English fluency, and country of origin. The workshops were hosted by video call, lasted two hours each, and covered four topics: Islam and health, screening barriers, faith-based messages to overcome screening barriers, and delivering a faith-based intervention. Akin to the World Café approach, participants engaged in small-group discussions and plenary sessions captured by a graphic recorder.

**Findings:** Ten women (aged 29-65 years) joined the workshops. Participants identified key screening barriers, e.g. modesty concerns, and relevant faith-based messages, e.g. health outweighs religious restrictions and requirements. Participants emphasised the importance of peer educators in delivering the intervention, but also felt that information should be provided by health professionals and religious scholars. Feedback survey findings showed that the participants found the workshops worthwhile.

**Discussion:** We co-created a faith-based intervention to be accessible and engaging to Muslim women invited to cancer screening. Future research will explore intervention acceptability in the target population and changes to screening attitudes and intentions.

# Making the most of what we know about behaviour change: Challenges and opportunities

14:15 - 15:15

Molly Byrne

14:15 - 14:30

## Behavioural theories: An ontology-based modelling system for integration

S. Michie<sup>1</sup>, J. Hale<sup>1</sup>, J. Hastings<sup>1</sup>, R. West<sup>1</sup>

<sup>1</sup>University College London, United Kingdom

**Background:** To efficiently search, compare, test and integrate behavioural theories, they need to be represented in a way that is clear, consistent and computable. Challenges include heterogeneity of construct labels and under-specified relationships. Opportunities are using ontologies to structure knowledge and computation for complex analysis. The aim is to apply an ontology-based modelling system to represent behavioural theories.

**Methods:** We identified and labelled constructs within 76 theories and used the OBMS to specify and represent the relationships between constructs in each theory. Graphical theory representations were sent to authors or experts for feedback and amendment. As amended, these were computationally parsed into a database of theories represented as triples that link two constructs via a specified relationship type. We present descriptive statistics on the constructs, triples and relationship types within the theories.

**Findings:** Of the authors/experts contacted, 73% responded and 55% provided feedback on the graphical representations. The average number of constructs per theory is ~20, with the average number of triples per theory ~31. Fourteen relationship types were used in the theory set, of which the most commonly used is 'influences', followed by 'part of'. See <http://humanbehaviourchange.org/theory-database>.

**Discussion:** The OBMS is able to represent a wide array of behavioural theories in a precise and computable format. Theory experts have reviewed this system and agreed it captures theory propositions adequately. Constructs within the searchable database of theories will be mapped to shared ontology entities to allow for comparison and integration using computational methods in next steps of this research programme.

14:30 - 14:45

## Making the most of behavioural evidence: Development of an ontology of human behaviours

M. Johnston<sup>1</sup>, S. Michie<sup>2</sup>, R. West<sup>2</sup>, J. Hastings<sup>2</sup>, M. Marques<sup>2,3</sup>, O. Serrano Castro<sup>2</sup>, E. Corker<sup>2</sup>, E. Hayes<sup>2</sup>

<sup>1</sup>University of Aberdeen, United Kingdom

<sup>2</sup>UCL, United Kingdom

<sup>3</sup>Trinity College Dublin, Ireland

### Background:

Despite 'behaviour' being a focus for health psychology, we lack a shared terminology for describing and classifying behaviours. Behaviours have been classified in many ways based on theoretical frameworks, or within specific domains such as biology, physical activity and health protection. A more broadly-based way of representing behaviours would facilitate integration of evidence across behaviours. This presentation describes the development of a prototype ontology of behaviours.

### Methods:

Existing classifications of behaviour were reviewed and evaluated against a set of criteria including quality of definitions, interoperability with other classifications, and use of a clear logical structure to link behaviours. The results were combined with a review of behaviours referred to in behaviour and behaviour change studies to develop a prototype Human Behaviour Ontology (HBO) through an iterative process involving team discussions and workshops.

### Findings:

Classifications reviewed were domain specific and not readily linked. The prototype HBO classifies behaviours according to 11 upper level non-exclusive classes: functional, locomotive, postural, sexual, expressive, physical impact, grooming, goal-oriented, interpersonal, socially evaluated, and object-involving. Any given behaviour can belong to more than one of these upper-level classes but its primary classification is in the class to which every instance always belongs. Alongside the classification system are a set of attributes of behaviours such as onset, offset, intensity and frequency.

### Discussion

The prototype Human Behaviour Ontology is ready for wider consultation with a view to establishing a formal representation system that can facilitate integration of evidence across behaviours relevant to health and global challenges.

14:45 - 15:00

## Linking Measures to Mechanisms of Action: An Expert Consensus Study

T. Cornelius<sup>1</sup>, L. Derby<sup>1</sup>, L. Connell Bohlen<sup>2</sup>, J. Birk<sup>1</sup>, A. Rothman<sup>3</sup>, M. Johnston<sup>4</sup>, S. Michie<sup>5</sup>

<sup>1</sup>Columbia University Irving Medical Center, United States

<sup>2</sup>Brown University School of Public Health, United States

<sup>3</sup>University of Minnesota, United States

<sup>4</sup>University of Aberdeen, United Kingdom

<sup>5</sup>University College London, United Kingdom

**Background:** Researchers at the Human Behaviour Change Project (HBCP) identified a set of behaviour-change techniques (BCTs) and mechanisms through which behavior-change successes occur (mechanisms of action; MoAs). Separately, researchers at the Science Of Behavior Change (SOBC) curated an online repository of measures of potential MoAs.

The goal of this study was to systematically integrate the SOBC measures repository with the HBCP MoAs.

**Methods:** We conducted a three-round expert consensus study, examining agreement on hypothesized measure-MoA links. The research team pre-coded 84 links to be rated by experts (1,114 possible links [44 self-report measures, 26 MoAs]). In round one, 30 international experts rated agreement with pre-coded measure-MoA links and suggested novel links. In round two, experts discussed pre-coded links with <50% agreement and new links suggested by 20-50% of respondents in an anonymous online forum. In round three, experts rated all links meeting round two discussion criteria.

**Findings:** 82 pre-coded links reached >50% agreement. 15 new measure-MoA links were hypothesized by >50% of experts, and 95 new measure-MoA links had 20-50% agreement. In round two, experts noted the importance, and challenges, associated with linking measures-MoAs (e.g., uncertainty, construct validity). Round three (97 links) is currently underway.

**Discussion:** Results from this international collaboration show promise for the integration of disparate knowledge to facilitate accumulation of scientific knowledge across disciplines. The results of this research can additionally facilitate the SOBC experimental medicine approach to intervention development by integrating BCTs, MoAs, and measures in a computer-accessible, user-friendly, online format.

# Health behavior models and the COVID-19 pandemic

14:15 - 15:15

Nadine Berndt



14:17 - 14:29

## Predicting physical distancing over time during the COVID-19 pandemic

K. Hamilton<sup>1</sup>, S. Smith<sup>1</sup>, J. Keech<sup>1,2</sup>, S. Moyers<sup>3</sup>, M. Hagger<sup>3,4</sup>

<sup>1</sup>Griffith University, Australia

<sup>2</sup>University of the Sunshine Coast, Australia

<sup>3</sup>University of California, Merced, United States

<sup>4</sup>University of Jyväskylä, Finland

**Background:** Identification of potentially modifiable factors for physical distancing, a key behavior essential to preventing transmission of COVID-19 infections, may assist development of effective behavioral interventions. The present study applied an integrated social cognition model to predict physical distancing behavior over a four-month period. **Methods:** A three-wave longitudinal survey design was adopted. Australian and US residents (N = 601) completed self-report measures of social cognition constructs (attitude, subjective norm, moral norm, perceived behavioral control), intention, habit, and physical distancing behavior on an initial occasion (T1) and on two further occasions one week (T2) and four months (T3) later. **Findings:** Partial least-squares structural equation modeling demonstrated subjective norm, moral norm, and perceived behavioral control, but not attitude, as consistent predictors of physical distancing intention at all three occasions. Intention and habit at T1 and T2 predicted physical distancing behavior at T2 and T3, respectively. Intention at T2 mediated effects of subjective norm, moral norm, and perceived behavioral control at T2 on physical distancing behavior at T3, and habit at T1 and T2 mediated effects of behavior at T1 and T2 on follow-up behavior at T2 and T3, respectively. All model constructs exhibited significant stability. **Discussion:** Findings indicate normative (subjective and moral norms) and personal capacity (perceived behavioral control) beliefs as consistent determinants of physical distancing intention, and intention and habit as determinants of physical distancing behavior, over time. Behavioral interventions aimed at promoting physical distancing behavior should consider adopting techniques that target change in normative and personal capacity beliefs, and habit.

14:29 - 14:41

## Cognitive and Emotional Determinants to predict Handwashing and Limitation of Social Contacts

O. Luminet<sup>1</sup>, A. Bigot<sup>1</sup>, E. Banse<sup>1</sup>, M. Schmitz<sup>1</sup>, R. Wollast<sup>1</sup>

<sup>1</sup>Université catholique de Louvain, Belgium

**Background:** To contain the SARS-CoV-2 infection rate, health authorities have encouraged the population to enhance protective behaviors such as physical distancing and handwashing. Behavioral sciences emphasize the role of socio-cognitive determinants to explain health behaviors, while largely ignoring emotional factors.

**Methods:** In a large online study (N > 4000), we investigated the role of sociodemographic, cognitive, emotional, and social factors that predict handwashing and limitation of social contacts. Data were collected from March 18 until April 19, 2020, which corresponds to the spring lockdown and the first peak of the pandemic in Belgium.

**Findings:** Logistic regressions showed that socio-demographic factors (gender, age, level of education) and the dimensions of the Theory of Planned Behavior (intentions, attitudes, perceived control and subjective norms) had a strong impact on health behaviors, but that emotional factors explained an additional part of the variance. Being attentive/determined and frightened/anxious were related to a higher frequency of handwashing, along with a high level of health anxiety. In contrast, being enthusiastic/happy was related to lower adherence to limiting social contacts. Results from a follow-up conducted in March 2021 will also be available for the presentation in the symposium.

**Discussion:** The role of specific emotional factors in addition to more classical socio-cognitive predictors should be more systematically considered, together with a closer examination of the variations in the predictive value depending on the type of sanitary behavior considered.

14:41 - 14:51

## Using Core Processes to explore the determinants of university students' adherence to COVID-19 guidelines

T. Varol<sup>1</sup>, R. Crutzen<sup>1</sup>, F. Schneider<sup>1</sup>, I. Mesters<sup>1</sup>, R. Ruiter<sup>1</sup>, G. Kok<sup>1</sup>, G. ten Hoor<sup>1</sup>

<sup>1</sup>Maastricht University, Netherlands

**Background:** Safely reopening universities in times of COVID-19 requires systematically planned behavior-change interventions to maintain or increase adherence of students to COVID-19-prevention-guidelines. In this project, following Intervention Mapping Core Processes, we explored determinants of students' adherence to those guidelines, to design intervention components: Brainstorm, Literature, Theories (TPB, PMT) and Research (qualitative & quantitative).

**Methods:** After a brainstorm and literature search, semi-structured focus group interviews (online and on-site) with university students were conducted during Sept 2020 (N = 33). Interviews were summarized and analyzed thematically. The results were translated into survey questions for the subsequent quantitative study: a cross-sectional survey, conducted during Oct – Nov 2020 (N = 255). CIBER plots were created to select the most relevant determinants (and underlying beliefs) of students' adherence to COVID-19 guidelines, keeping 1.5m distance and testing/isolating.

**Findings:** Students mostly adhere to guidelines. There are facilitators (e.g., reminders from staff) and barriers (e.g., social situations). However, there is room for improvement regarding attitude (unpleasant), perceived norm, attitudinal belief (feeling responsible for others), risk perception belief (I am young), and self-efficacy beliefs (difficult). Attitude (unpleasant), perceived norm, habit, and attitudinal belief (socializing) were common determinants of keeping distance specifically. Regarding getting tested/isolating, attitude (unpleasant) and perceived norm (people like me) were relevant determinants.

**Discussion:** Findings can inform future interventions. In our situation, the following of Core Processes informed the creation of a small intervention (Intervention Mapping Step 3&4), New Year message to students. Messages were tailored based on the relevant determinants of students' adherence to guidelines.

## No party, stay home. Impact of COVID-19 on drug behaviour among recreational users in Luxembourg

N. Berndt<sup>1</sup>, R. Seixas<sup>1</sup>, C. Paulos<sup>2</sup>

<sup>1</sup>Directorate of Health, Department of Epidemiology and Statistics, Luxembourg

<sup>2</sup>4motion asbl, Luxembourg

**Background:** Little is known about the COVID-19 pandemic and the restrictions implemented by governments on the use of psychoactive substances. The current study investigated the impact of the current sanitary crisis on engagement in COVID-19 related measures and factors associated with adaptations in drug consumption and acquisition behaviours among a target group of recreational drug users in the Grand-Duchy of Luxembourg.

**Methods:** This cross-sectional study was conducted among recreational drug users (N=424) during the post-lockdown period of April to June 2020. Engagement in COVID-19 related measures, past drug use, and reasons for changes in drug consumption and acquisition behaviours were assessed using a standardised web survey. Data were analysed descriptively and using regression analysis.

**Findings:** The sample was predominantly male (66.2%) and on average 32 years. Home isolation (73.1%) and physical isolation (62.6%) were the most frequent COVID-19 engagements. The month prior responding to the survey, cannabis was mostly used (69.3%), followed by cocaine (11.9%) and MDMA/Ecstasy (4.8%). Almost one-third of the respondents adapted (29.8%) or increased their cannabis use (27.1%). A reduction or cessation of use were mainly reported for the other drugs (13.1%). Changes were predominantly related to boredom and anxiety, and the reduced availability and fewer opportunities to use drugs since the implementation of COVID-19 restrictions.

**Discussion:** Linked to the relief of negative emotions, unhealthier drug use patterns may persist after relaxation of COVID-19 restrictive measures. The results highlight the need to invest in health behaviour resources to understand and prevent negative impacts of the sanitary crisis.

# The potential of digital technologies for understanding and changing eating behavior

14:15 - 15:15

Laura König

14:15 - 14:27

## Comfort eating: An observational study of affect in the hours immediately before, and after, snacking

S. Franja<sup>1</sup>, D.R. Wahl<sup>2</sup>, K.G. Elliston<sup>1</sup>, S.G. Ferguson<sup>1</sup>

<sup>1</sup>University of Tasmania, Australia

<sup>2</sup>University of Konstanz, Germany

**Objective.** ‘Comfort eating’ has been used to explain real-world food choices, suggesting that individuals are drawn to energy-dense (‘unhealthy’) snacks when experiencing negative affect. However, this concept has rarely been studied, particularly in real-world settings. Similarly, the effects of snacking on subsequent affect are also poorly understood. The present study aimed to examine the association between affect and snacking in daily life.

**Methods.** One hundred and forty-one adults recorded their food intake in real time for ~14 days using a study issued mobile phone. Participants also responded to randomly timed assessments. During both types of assessments, participants indicated their current level of affect. By anchoring off snacking events, the trajectory of affect in the hours leading up to – and following – snacking was explored.

**Results.** In the three hours leading up to a healthy snack, affect was stable. In contrast, affect fell during the hours leading up to an unhealthy snack. The interaction between snack type and time was significant. A similar, but opposite, pattern was seen following snacking: where affect decreased after unhealthy snacking, affect increased following healthy snack intake.

**Conclusion.** The findings are consistent with the hypothesis of comfort eating, with unhealthy snacking being preceded by worsening affect. Unhealthy snacking did not, however, lead to affect improvements afterwards, which questions the ‘effectiveness’ of comfort eating. The intake of healthy snacks however was associated with positive affective experiences. These findings could function as a component of interventions aiming at improving dietary behaviours.

14:27 - 14:39

## Colourful meals are healthy meals: Results from a smartphone-based Ecological Momentary Assessment

L. König<sup>1,2</sup>, J. Koller<sup>2</sup>, K. Villinger<sup>2</sup>, D.R. Wahl<sup>2</sup>, K. Ziese<sup>2</sup>, H.T. Schupp<sup>2</sup>, B. Renner<sup>2</sup>

<sup>1</sup>University of Bayreuth, Germany

<sup>2</sup>University of Konstanz, Germany

**Background:** Although most people are aware of the health benefits of consuming sufficient amounts of fruit and vegetables, many do not adhere to current dietary recommendations. Recent studies have suggested meal colour variety as an intuitive cue for healthy and enjoyable lunch meal choices. The present study extends this research by testing the “colourful = healthy” association across meal types.

**Methods:** Using smartphone-based Ecological Momentary Assessment, 110 participants recorded 2,818 eating occasions over a period of eight days. For each eating occasion, a picture, a short written description of the meal, the meal type (breakfast, lunch, afternoon tea, dinner, snack) and the perceived meal colour variety were recorded. Foods were classified into seven food groups based on the pictures and descriptions. Data were analysed using multilevel modelling.

**Results:** For all meal types except afternoon tea which did not include vegetables, perceived meal colour variety was positively related to vegetable consumption ( $bs \geq 0.001$ ,  $ts \geq 3.27$ ,  $ps \leq .002$ , quasi- $R^2s \geq .06$ ). Moreover, perceived meal colour variety was negatively associated with sweets consumption for breakfast, dinner and snacks ( $bs \leq -0.001$ ,  $ts \leq -2.82$ ,  $ps \leq .006$ , quasi- $R^2s \geq .01$ ).

**Conclusion:** The “colourful = healthy” association can be generalized across meal types and thus may be a promising strategy to promote a healthier diet.

14:39 - 14:51

## Quality over quantity: Increasing need-supportive communication in online support groups via a brief intervention video

M. Kilb<sup>1</sup>, O. Dickhäuser<sup>1</sup>, J. Mata<sup>1</sup>

<sup>1</sup>Department of Psychology, University of Mannheim, Germany

**Background:** Can a brief Self-Determination-Theory-based communication intervention increase need-supportive communication strategy uptake, perceived climate, and engagement within an online support forum?

**Methods:** We tested the effects of a Self-Determination-Theory-based intervention video (vs. a control video on netiquette rules) on need-supportive communication strategy use to fictive Facebook postings (Experiment 1, N = 76) and on perceived need-support, engagement, and behavior change in a forum-based behavior change intervention (Experiment 2). In Experiment 2 (N = 190), participants joined a peer-based online support forum for two weeks in order to improve their eating or physical activity behavior. Data from both experiments were analyzed with (generalized) mixed models and follow-up tests.

**Findings:** Experiment 1: Participants from the intervention but not from the control group showed an increase in the number of need-supportive communication strategies (condition \* time interaction, partial  $\eta^2 = .36$ ). Between-group differences were consistent and large for competence- and relatedness-supportive strategies (all  $d > 0.94$ ) but small and less consistent for autonomy-supportive strategies. Experiment 2: Participants watching the intervention video had a higher engagement (number of logins and postings) than participants watching the control video. There were no other effects on our primary and secondary outcomes. This could be due to low strategy uptake and restricted applicability of the communication strategies to all postings.

**Discussion:** A brief Self-Determination-Theory-based video intervention is suitable to promote need-supportive communication strategy use and could serve as a low-cost intervention to improve need-supportive communication. However, its applicability and effectiveness in more ecologically valid contexts need further evaluation.



14:51 - 15:03

## User engagement with app-based food Go/No-Go training and dietary intake: An opportunistic observational study

M. Aulbach<sup>1</sup>, K. Knittle<sup>1</sup>, S. van Beurden<sup>2</sup>, A. Haukkala<sup>1,3</sup>, N. Lawrence<sup>2</sup>

<sup>1</sup>University of Helsinki, Finland

<sup>2</sup>University of Exeter, United Kingdom

<sup>3</sup>Helsinki Collegium of Advanced Studies, Finland

Food Go/No-Go training aims to alter implicit food biases by creating associations between perceiving unhealthy foods and withholding a dominant response. Asking participants to repeatedly inhibit an impulse to approach unhealthy foods can decrease unhealthy food intake in laboratory settings. However, less is known about how people engage with app-based Go/No-Go training in real-world settings and how this might relate to dietary outcomes. This pragmatic observational study investigated associations between the number of completed app-based food Go/No-Go training trials and changes in food intake (Food Frequency Questionnaire; FFQ) for different healthy and unhealthy food categories from baseline to one-month follow-up. In total, 1234 participants (m(BMI)=29kg/m<sup>2</sup>, m(age)=43years, 69% female) downloaded the FoodT app and completed food-Go/No-Go training at their own discretion (mean number of completed sessions = 10.7, sd=10.3, range: 1-122). In pre-registered analyses, random-intercept linear models predicting intake of different foods, and controlled for baseline consumption, BMI, age, sex, smoking, metabolic syndrome, and dieting status, revealed small, significant associations between the number of completed training trials and reductions in unhealthy food intake ( $b=-0.0005$ , CI95=[-0.0007;-0.0003]) and increases in healthy food intake ( $b=0.0003$ , CI95=[0.0000;0.0006]). Exploratory analyses suggest that more temporally spaced training was associated with greater changes in dietary intake. These results imply a positive association between the amount of training and beneficial changes in food intake but should be interpreted cautiously, as potential confounding factors were not accounted for. Experimental research needs to rule out these possible confounds and establish causal dose-response relationships between app engagement and changes in dietary intake.

# Understanding health behaviour change and its psychosocial correlates in everyday life

14:15 - 15:15

Janina Lüscher and Jan Keller

14:15 - 14:27

## The role of daily perceived responsiveness, daily smoking and well-being from a quit attempt on

J. Lüscher<sup>1</sup>, P. Schwaninger<sup>2</sup>, C. Berli<sup>1</sup>, U. Scholz<sup>1</sup>

<sup>1</sup>University of Zurich, Switzerland

<sup>2</sup>Universität Zürich, Switzerland

**Introduction:** Social network partners, such as a romantic partner or a buddy can play a crucial role for successful smoking cessation. A factor associated with health indicators and well-being is responsiveness. Responsiveness is defined as the perception that a significant other understands, approves and cares for the self. Only few studies have examined the role of responsiveness in the context of smoking cessation. Moreover, responsiveness was only investigated from a romantic partner and not from a buddy. The present research thus examines perceptions of a self-chosen buddy's responsiveness as a predictor of daily smoking and well-being from a self-set quit date on. **Methods:** 72 adult smokers participating in a dyadic app-based smoking cessation intervention reported on daily responsiveness, number of cigarettes smoked and well-being in end-of-day diaries from a self-set quit date on across 21 consecutive days. **Results:** Multilevel analyses revealed that at the between-person level responsiveness was negatively associated with daily numbers of cigarettes smoked and at the within-person level responsiveness was positively associated with well-being. **Conclusions:** Previous research has shown that responsiveness is an important predictor of smoking cessation. This is the first study examining the role of responsiveness from a self-chosen buddy in the context of smoking cessation in daily life. The present study shows that perceived responsiveness from a self-chosen buddy also predicts less daily smoking and higher well-being and thus demonstrates the potential of perceived responsiveness for smoking outcomes.

14:27 - 14:39

## An evening on the couch? Links between everyday health-compromising behaviours in couples and relationship functioning

T. Pauly<sup>1</sup>, J. Lüscher<sup>1</sup>, C. Berli<sup>1</sup>, C. Hoppmann<sup>2</sup>, M. Ashe<sup>2</sup>, W. Linden<sup>2</sup>, K. Madden<sup>2</sup>, R. Murphy<sup>2</sup>, U. Scholz<sup>1</sup>

<sup>1</sup>University of Zurich, Switzerland

<sup>2</sup>The University of British Columbia, Canada

**Background:** Romantic partners influence the day-to-day decisions we make to engage in certain health promoting or compromising behaviours but the underlying mechanisms are incompletely understood. This project aims to examine whether engaging in unhealthy behaviours together in everyday life is associated with increased feelings of partner closeness and relationship satisfaction in couples.

**Methods:** Couples in three studies (study 1: N = 83 couples that smoke; study 2: N = 118 couples who are overweight, study 3: N = 84 couples post stroke) completed an ecological momentary assessment phase, during which daily information on couple dynamics and health behaviours was recorded (study 1: self-reported smoking, study 2: physical activity measured via accelerometry, study 3: self-reported consumption of unhealthy foods). Data were analyzed using multi-level models, controlling for age, educational background, and relationship duration.

**Findings:** In study 1, couples reported higher closeness and relationship satisfaction on days, when they smoked more cigarettes together than usual. In study 2, couples reported higher closeness and relationship satisfaction on days on which they both engaged in more sedentary behaviour than usual. In study 3, couples reported higher closeness but not higher relationship satisfaction on days on which they both consumed more foods high in fat, sugar, or salt than usual.

**Discussion:** These findings point to problematic interpersonal dynamics that might be involved in the maintenance of health compromising behaviours. Furthermore, they demonstrate the importance of considering social influences and including a person's partner when aiming to promote behaviour change.

14:39 - 14:51

## How do stress and health behavior relate in daily life? Feasibility study of mobile electrocardiography

J. Inauen<sup>1</sup>, M. Bamert<sup>1</sup>

<sup>1</sup>University of Bern, Switzerland

### Background:

There is growing evidence that both chronic and acute stress are related to health behavior and health outcomes. To arrive at ecologically valid conclusions, these relationships are best studied in daily life, but this is challenging. Past research of stress in daily life has predominantly relied on self-report, and these measures may be biased. In the present study, we investigate whether heart rate variability (HRV) assessed by a chest-worn mobile electrocardiography device is acceptable for participants, and whether it provides a reliable and valid indicator of acute stress in daily life.

### Methods:

Sixty young adults wore the ecgMove 4 electrocardiography device continuously monitoring their HRV for four days. They were instructed to keep an event-based diary to immediately report on stressful events by tapping on the device. Additionally, participants reported on their snacking five times a day.

### Findings:

First results indicate participants' acceptability of the HRV assessment. It is expected that the ecgMove 4 reliably measures stressful events in daily life, indicated by lower HRV compared to other times of day. Speaking to the predictive validity of the device, HRV is assumed to positively relate to health behavior in daily life, both at the within- and at the between-person level.

### Discussion:

Provided the reliable and valid detection of stressful events in daily life, mobile electrocardiography has great potential to investigate the stress-health behavior relationship unobtrusively in naturalistic settings.

14:51 - 15:03

## Habit formation following routine-based versus time-based cue planning

J. Keller<sup>1</sup>, D. Kwasnicka<sup>2,3</sup>, P. Klaiber<sup>4</sup>, L. Sichert<sup>1</sup>, P. Lally<sup>5</sup>, L. Fleig<sup>6</sup>

<sup>1</sup>Freie Universität Berlin, Germany

<sup>2</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>3</sup>University of Melbourne, Australia

<sup>4</sup>University of British Columbia, Canada

<sup>5</sup>University College London, United Kingdom

<sup>6</sup>MSB Medical School Berlin, Germany

**Background.** Habit formation has been identified as one of the key determinants of behavior change. To initiate habit formation, self-regulation interventions can support individuals to form a cue-behavior plan and to repeatedly enact the plan in the same context. This randomized controlled trial aimed to model habit formation of an everyday nutrition behavior and examined whether habit formation and plan enactment differ when individuals plan to enact their behavior in response to a routine-based versus time-based cue.

**Methods.** Following a baseline assessment, N=192 adults (aged 18 to 77 years) were randomly assigned to a routine-based cue or a time-based cue planning intervention, in which they selected an everyday nutrition behavior and associated it with a daily routine or a time cue. Participants responded to daily questionnaires over 84 days assessing plan enactment and the behavior's automaticity (as an indicator of habit formation). Multilevel models with days nested in participants were fitted.

**Findings.** As indicated by asymptotic curves, it took a median of 59 days for participants who successfully formed habits to reach peak automaticity. Group-level analyses revealed that both routine-based and time-based cue planning led to increases in automaticity and plan enactment, but no between-condition differences were found. Repeated plan enactment was a key predictor for automaticity.

**Discussion.** Relating one's nutrition behaviour to a daily routine or a specific time was similarly effective for habit formation. Interventions should encourage persons to repeatedly carry out their planned behaviour in response to the planned cue to facilitate habit formation.

# Health-care communication from patients' and physicians' perspectives

15:25 - 16:55

Radomír Masaryk

15:25 - 16:55

# How oncologists experience the announcement of treatment resistance? The one who announced the breaking new

A. Rault<sup>1</sup>, J. Terrasson<sup>1</sup>, S. Dolbeault<sup>1,2</sup>, A. Brédart<sup>1,3</sup>

<sup>1</sup>Institut Curie, PSL Research University, Psycho-Oncology Unit, 75005, Paris, France

<sup>2</sup>Paris-Saclay University, Research Center in Epidemiology and Health Population, INSERM, U1018, 94807, Villejuif, France

<sup>3</sup>University of Paris, Psychopathology and Health Process Laboratory, 92100, Boulogne-Billancourt, France

## Background

Cancer resistance to anti-tumor treatments refers to a failure of treatment efficacy. The subjective experience of oncologists disclosing this to patients is rarely taken into account, even though they may report personal difficulties in coping with this announcement. The aim of the present research was to explore oncologists' feelings and perceptions at this time of resistance disclosure.

## Method

Fifteen oncologists (53.33% females) from four cancer departments in the Paris region took part in a semi-structured interview lasting on average 45.5 minutes and exploring their experience about the announcement of resistance. A thematic content analysis was then performed on these interviews' complete transcription.

## Findings

More than half of oncologists mention the difficulty of finding a balance between saying too much and not enough. They report feeling "violent" during the difficult and severe announcement that the disease is getting worse, which they try to mitigate with their choice of words. Practically all of them evoke the psychological weight of having to accept, assume and assert what is also their failure. Oncologists report experiencing personal stress, anguish, despair, even to the point of describing this moment as "infernal".

## Discussion

The announcement of resistance to anti-tumor treatments is a critical step in the oncologist-patient relationship. During this stage, oncologists perceive themselves as "violent" towards patients and their emotions can affect the communication content. Our results support the idea that oncologists may need to share their experiences with each other in order to break with the risk of emotional isolation.



15:25 - 16:55

## From risk communication to lifestyle modification -the importance of interaction between cognition and emotion

E. Andersson<sup>1</sup>, K. Lindvall<sup>2</sup>, M. Norberg<sup>3</sup>, E. Nyman<sup>3</sup>, U. Näslund<sup>3</sup>, S. Nordin<sup>1</sup>

<sup>1</sup>Umeå University, Department of Psychology, Sweden

<sup>2</sup>Umeå University, Department of Epidemiology and Global Health, Sweden

<sup>3</sup>Umeå University, Department of Public Health and Clinical Medicine, Sweden

**Background:** In development of new methods for effective cardiovascular disease prevention, assessing psychological processes that underlie successful lifestyle modification is important. In this study, we investigated whether cognitive and emotional factors evoked by the VIPVIZA intervention were associated with lifestyle modification over three years.

**Methods:** VIPVIZA investigates the impact of visualization of subclinical atherosclerosis. The population-based randomized controlled trial assesses the potential of personalized risk communication in a letter including graphics based on ultrasound results and a motivational conversation. Understanding and perception of the risk communication were assessed in the intervention group (n=1749). Lifestyle modifications was assessed with a lifestyle index based on physical activity, diet, smoking and alcohol consumption at baseline and after 3 years. Associations between psychological factors and lifestyle modification were tested with ANCOVAs in a subset (n=714-857).

**Findings:** In total, 43.9% of the participants had atherosclerotic plaque, 85.8% reported that it was very easy or quite easy to understand the information letter, and 47.4% that the letter had contributed a lot to increase their understanding of their risk. Feelings of negative valence was in minority. Cognitive factors, including efficacy beliefs, and emotional arousal evoked by the intervention was positively associated with lifestyle modification, whereas negative valence was not associated with lifestyle modification.

**Discussion:** The study supports the importance of interactions between emotional and cognitive factors for behavioral change, but challenge assumptions of fear appeals. It is possible, despite many having plaque, that several participants developed a promotion focus rather than a prevention focus, facilitating lifestyle modifications.

15:25 - 16:55

## The diagnosis of neuromuscular disease in adulthood through communicative processes and its psychological experience

B. Beaujard<sup>1,2</sup>, A. Béhin<sup>2</sup>, M. Gargiulo<sup>3</sup>, M. Castillo<sup>1</sup>

<sup>1</sup>Université Paris 8 Vincennes - St Denis, France

<sup>2</sup>Institut de Myologie, Groupe Hospitalier Pitié-Salpêtrière, Assistance Publique-Hôpitaux de Paris, France

<sup>3</sup>Université de Paris, France

**Background :** The diagnosis of a neuromuscular disease constitutes a key moment in the relationship between patients and physicians. However, there is very little literature about neuromuscular disease occurring in adulthood. Furthermore, the literature on diagnosis disclosure lacks highlights on the relational process and its impact on the patient's experience. How does announcing the diagnosis of neuromuscular disease impact adult patients' experience and their psychic adjustment to the illness? This doctoral thesis in psychology aims at increasing knowledge on the diagnosis disclosure of a neuromuscular disease through the relational dimension of the consultation, patients and physicians crossed experience analysis, as well as patients memory in the long term.

**Study design :** (1) A retrospective study that seeks to question patients months after their diagnosis with semi-structured interviews in order to investigate long term representations of the diagnosis consultation; (2) A prospective study that seeks to (a) examine the communication process during the diagnosis consultation; (b) revisit the physicians' experience; (c) explore the patients' understanding of medical information; (d) assess the psychological impact in terms of anxiety and depression three and six months after the diagnosis; (e) and examine sense of coherence and mentalization skills.

**Results :** This research is in working progress and we will present an in-depth case rapport from the retrospective cohort.

**Discussion :** This way, it will be possible to improve support of patients suffering from a neuromuscular disease with better understanding of disclosure terms as a key moment for the psychological outcome of patients.

15:25 - 16:55

## Impact of an Informational Care Resource on Patient Perceptions of Care/Rehabilitation following a Spinal Cord Injury

K. Jobbins<sup>1</sup>, J. Moses<sup>1,2</sup>

<sup>1</sup>Cardiff University, United Kingdom

<sup>2</sup>Cardiff & Vale University Health Board, United Kingdom

Experiencing a spinal cord injury can be extremely physically and psychologically traumatic. The transition period between acute care and rehabilitation can be a critical period in terms of risk, assessment, and preparation for rehabilitation. Therefore, a Regional Spinal Cord Rehabilitation Centre produced a 'Welcome to Rehab' booklet, aiming to improve participants' understanding, expectations, and perceptions of their care and transition into rehabilitation. The project also explored participant views on specific factors that helped or hindered their care and transition. Forty-three participants were included within this study. Results demonstrated positive significant differences between pre-and-post intervention groups. Semi-structured interviews also revealed that communication and feeling cared for were common themes regarding specific factors that helped or hindered care and transition. This report recommends the use of the 'Welcome to Rehab' booklet and discusses ideas for further service evaluation.

15:25 - 16:55

## The agreement between patients' and doctors' perspectives of doctors' communication skills : A dyadic analysis

Z. Kwissa-Gajewska<sup>1</sup>, A. Kroemeke<sup>1</sup>

<sup>1</sup>University of Social Sciences and Humanities, Poland

**Background:** To explore an agreement between the doctors' and the patients' perspectives of doctors' skills during a dermatological visit.

**Methods:** Dermatologists (n=8) and their patients (n=122) completed post-consultation dyadic measure of the physician's communication skills (content skills- „what physician communicates”, and process skills - „how physician communicates”). Multilevel modeling was used to investigate the patient and

doctor variance components at both the dyad-level and the doctor-level.

**Findings:** Patients rated higher than doctors on content skills, however doctors rated themselves as better skilled at the process of communication. There was a high level of consensus among patients of the same doctor about their content and process skills, although physicians did not perceive themselves as consistent in communication between one patient to another. There was no patient-physician agreement on the level of communication skills of physicians.

**Discussion:**

High consistency in patients' ratings might indicate that doctors behave in the same manner across patients, not adapting their activity to patients' needs and specificities.

The disagreement between physicians' and patients' opinion about dermatologists' communication skills supports previous findings.

15:25 - 16:55

## Value based health care in a psycho-social perspective: A systematic literature review

L. Marino<sup>1</sup>, G. Schettino<sup>1</sup>, V. Capone<sup>1</sup>

<sup>1</sup>Università degli Studi di Napoli "Federico II", Italy

**Background:** This systematic literature review explores the literature of VBHC to identify non-economic factors that could contribute to positive health outcomes.

**Method:** A systematic research was conducted following the PRISMA's guidelines. The keywords were: "Value Based Healthcare"; "value co-creation"; "psychosocial perspective"; "psychological variables"; through SCOPUS, PsychINFO, PubMed databases. We undertook a comprehensive literature search within the peer-reviewed international literature. Quantitative and qualitative studies in English and Italian language were included. No geographical and temporal restrictions were used.

**Findings:** 23 studies met the predefined criteria for inclusion in the review. The review demonstrated that most of the studies focused on the engagement activities between health customers and healthcare workers, and patient outcomes such as care effectiveness, customer satisfaction, quality of life. Furthermore, the importance of experience and communication skills emerged.

**Discussion:** The literature has highlighted the difficulty of understanding, defining and measuring value in a psycho-social perspective. Specifically, our study identifies some characteristic and antecedents of the value co-creation activities that could contribute to define it. This result requires attention as previous studies showed that these factors are necessary for healthcare organizations to achieve their goals. Moreover, VBHCs studies points out the importance of new multidisciplinary contributions for the framework's development.

15:25 - 16:55

# Online Assessment as an indicator for Case Management. When is Case Management really needed?

W. Nieuwenboom<sup>1</sup>, H. Schmid<sup>2</sup>, S. Bühler<sup>1</sup>, J. Amstutz<sup>1</sup>, S. Süsstrunk<sup>1</sup>

<sup>1</sup>University of Applied Sciences and Arts Northwestern Switzerland - School of Social Work, Switzerland

<sup>2</sup>University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

## Background.

Health insurance companies rely on case management to ensure a cost-effective, individual, needs-based and resource-oriented support of their clients. However, considerable differences exist with respect to methods and the implementation of interventions. Moreover, to determine which clients should effectively be taken in, a professional assessment system is needed. The aim of this study was to develop and test an online questionnaire that provides an objective, valid and reliable indicator for the assignment of case management interventions.

## Research Questions.

This study was conducted within the framework of a broader efficacy study provided by a major health insurance company in Switzerland. We hypothesized that our online tool, based on an adapted version of the Camberwell Assessment of Needs (CAN) would meet the criteria.

## Methods.

We interviewed 48 subjects from two psychiatric clinics (mean age 47 years, 67% female) using the online questionnaire. We collected also the ratings of the medical doctors as an indication for case management from a medical point of view. Logistic regression was performed to determine the criterion validity of our instrument.

## Results.

Internal consistency of our instrument proved to be excellent. With the logistic regression, a cutoff could be determined which allowed for correct classification of more than three quarters of the clients.

## Discussion and Conclusions.

The results of our study support the feasibility of a professional online case management assessment. Whereas the performance of the questionnaire turned out to be promising, more instruments will be needed to assess implementation, effectiveness and sustainability of CM services.

# Instrument development and psychometric quality

15:25 - 16:55

Elaine Toomey

15:25 - 16:55

## How to increase heart rate variability based on breathing exercises?

L. Caton<sup>1</sup>, E. Vlemincx<sup>2</sup>, Y. Gidron<sup>3</sup>, D. Grynberg<sup>1</sup>

<sup>1</sup>Université de Lille, France

<sup>2</sup>Vrije Universiteit, Netherlands

<sup>3</sup>University of Haifa, Israel

**Background:** Heart Rate Variability (HRV) has gained interest for several years in medical and psychological studies as elevated HRV have been associated with better indicators (e.g., better emotional regulation, survival, and recovery). Research has also examined whether it was possible to increase HRV based on breathing exercises. However, most of these studies show contradictory results partly due to large methodological variabilities regarding the frequency (e.g., 0.1 vs 0.07 Hz), the pattern (e.g., inhalation/exhalation ratio) the duration of exercises and the design of studies (e.g., independent or repeated measures). Therefore, our study aimed to compare for the first time the effect of different breathing exercises on HRV by manipulating frequency and pattern. In addition, we explored the impact of individual differences (e.g., emotion regulation) on their effectiveness.

**Methods:** The study included 108 participants who were randomly assigned to one out of 9 breathing exercises. The task lasted 15 min during which participants had to breath normally (pre-test, 5 min), make one of the breathing exercises (5 min), and then breath normally again (post-test, 5 min). Heart rate and breathing pattern were recorded during the whole task. Individual differences were measured by questionnaires.

**Preliminary results:** Each exercise increases HRV although the effect seems stronger for some exercises. Further analyses will determine whether effectiveness depends on breathing exercises characteristics and/or on individual differences.

**Current stage of work:** Statistical analysis

**Discussion:** This study will allow us to provide evidence-based arguments to develop interventions based on breathing exercises in physical and mental health care.



15:25 - 16:55

## The Self-efficacy Scale for physical activity in women with fibromyalgia

M. Pastor-Mira<sup>1</sup>, S. López-Roig<sup>2</sup>, F. Martínez-Zaragoza<sup>3</sup>, E. León-Zarceño<sup>4</sup>, F. Ortín<sup>5</sup>

<sup>1</sup>Miguel Hernández, Spain

<sup>2</sup>Miguel Hernández University, Spain

<sup>3</sup>University Miguel Hernandez, Spain

<sup>4</sup>University Miguel Hernández, Spain

<sup>5</sup>Consellería de Sanidad. Generalitat Valenciana., Spain

**Background:** Physical activity is a well-established protective factor for health in chronic pain. As self-efficacy is a good predictor of behaviours, interventions to promote physical activity could benefit using instruments of specific chronic pain self-efficacy for physical activity. Our aim was to develop a new self-efficacy for physical activity measure specifically suitable for women with fibromyalgia. We considered standardized levels of physical activity and walking along with the more frequent obstacles of walking identified in a previous study with women with fibromyalgia.

**Methods:** 197 women with fibromyalgia participated in the study. Exploratory factor analysis was performed and we analysed reliability and validity based on relations to other variables as physical activity, fibromyalgia impact and chronic pain self-efficacy.

**Findings:** We found a five factors solution explaining 83% of variance with high reliability (Cronbach  $\alpha > .90$  in all factors). Every factor was related to chronic pain self-efficacy ( $r$  [.31—.44],  $p=.000$ ). Self-efficacy to practice light and moderate physical activity were associated to activity levels assessed by the IPAQ ( $r$  [.14—.23],  $p$  [.05—.01]), and less fibromyalgia impact ( $r$  [-.24— -.17],  $p$  [.05—.01]). Self-efficacy to do a minimum walking program was related to less functional impact ( $r=-.14$ ,  $p=.05$ ). Self-efficacy to practice intense activity and to walking more than 60' twice a week factors showed the lowest scores and didn't present significant relations.

**Discussion:** Self-efficacy for physical activity is a useful measure for women with fibromyalgia with low physical activity. Future studies should test the relationships with objective measures of physical activity.

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## Assessment method of physical inactivity (Hypodynamia questionnaire) – development and application

O. Lutsenko<sup>1</sup>, O. Gabelkova<sup>2</sup>

<sup>1</sup>V.N.Karazin National University, Ukraine

<sup>2</sup>V.N.Karazin Kharkiv National University, Ukraine

Physical inactivity is a well-known problem in health care. There are not enough methods to measure it. The aim of this study was to develop psychometric questionnaire for physical inactivity assessment.

The sample was 316 persons aged 17-43 (193 women). Questionnaire design included verification of main psychometric properties and test norms calculation. 10 items with multiple-choice responses were formulated originally.

One item was deleted as unreliable. Discriminability was excellent. Cronbach's alpha reliability was 0.65, test-retest reliability after 1.5-month was 0.79 ( $p < 0.0001$ ). Convergent validity was verified by Healthy Behavior Test. Correlations were found between exercise ( $\rho = -0.30$ ;  $p = 0.002$ ), healthy eating ( $\rho = -0.20$ ;  $p = 0.032$ ), stress control ( $\rho = -0.25$ ;  $p = 0.008$ ) and the physical inactivity of our questionnaire. Correlation with physiological Ruthier's test was  $\rho = 0.20$ ;  $p = 0.033$ . Correlations between physical inactivity and the severity of asthenic condition:  $\rho = 0.31$ ;  $p = 0.011$ , and low mood/subdepression:  $\rho = 0.37$ ;  $p = 0.002$  were found.

To check the applicability of our questionnaire 2 groups of women (30 people) aged 18-35 who attended aerobics and yoga were tested. Women with a tendency for hypodynamia had decrease in psychophysiological tone after exercise ( $\rho = 0.38$ ;  $p = 0.036$ ). Women prone to hypodynamia showed greater anxiety ( $\rho = 0.60$ ;  $p = 0.017$ ) and emotional arousal ( $\rho = 0.56$ ;  $p = 0.030$ ) prior to aerobic classes. After training they experienced physical discomfort ( $\rho = 0.58$ ;  $p = 0.025$ ). New questionnaire is seen as valid and useful for research and practice.

15:25 - 16:55

## Slovak version of the Edinburgh Postnatal Depression scale- psychometric properties and factor structure

Z. Škodová<sup>1</sup>, M. Bašková<sup>1</sup>, Ľ. Bánovčinová<sup>1</sup>, S. Kelčíková<sup>1</sup>, E. Maskálová<sup>1</sup>, L. Mazúchová<sup>1</sup>,  
E. Urbanová<sup>1</sup>, M. Grendár<sup>2</sup>

<sup>1</sup>Comenius University, Jessenius Faculty of Medicine, Department of Midwifery, Slovakia

<sup>2</sup>Comenius University, Jessenius Faculty of Medicine, Biomedical Center Martin,  
Bioinformatic Unit, Slovakia

### Background:

The aim of this study is to examine the psychometric properties and factor structure of the Slovak version of the Edinburgh Postnatal Depression Scale (EPDS).

### Methods:

A 10-item EPDS questionnaire was administered to 584 women at the baseline (2-4th day postpartum), and 204 of respondents participated in a follow-up 6 weeks postpartum (age 30.6±4.9; 73.8% vaginal births vs 26.2% operative births; 59.9% primiparas).

### Results:

Using the cut-off score of 13 points, 6.1% of participants at baseline, and 11.6% at follow up were identified at risk of major depression. Significantly higher baseline EPDS scores were found among women after operative birth compared to physiological birth ( $t=-4.1, p\leq 0.001$ ), and among primiparas compared to multiparas ( $t=2.3, p\leq 0.05$ ), however, no significant differences regarding the mode of delivery and parity at follow up were found. Age and education showed no significant association with the EPDS scores. The internal consistency of the EPDS was 0.84, and 0.88 respectively. Three-dimensional model of the scale offered the good fit for the baseline data ( $\chi^2(df = 28)=1339.38, p<0.001$ ; CFI=0.99, RMSEA=0.02, TLI=0.99), as well as the follow up data ( $\chi^2(df = 45)=908.06, p<0.001$ ; CFI=0.93, RMSEA=0.09, TLI=0.90).

### Discussion:

The Slovak translation of the EPDS showed good consistency, convergent validity, and good model characteristics among postpartum women. Postnatal depression has a significant impact on the quality of life, nonetheless, it remains often undiagnosed and untreated. Postpartum screening could significantly help identify women with an increased risk of developing depression.

**Acknowledgement:** This work was supported by the VEGA research agency under contract no. VEGA-1/0211/19.

15:25 - 16:55

## A Scoping Review of Methods used to assess Medication Adherence in Patients with Chronic Conditions

P. Konstantinou<sup>1</sup>, O. Kasinopoulos<sup>1</sup>, C. Karashiali<sup>1</sup>, G. Georgiou<sup>2</sup>, A. Panayides<sup>1</sup>, A. Papageorgiou<sup>3</sup>, G. Wozniak<sup>1</sup>, A. Kassianos<sup>1,4</sup>, M. Karekla<sup>1</sup>

<sup>1</sup>University of Cyprus, Cyprus

<sup>2</sup>European University of Cyprus, Cyprus

<sup>3</sup>University of Nicosia, Cyprus

<sup>4</sup>University College London, United Kingdom

**Background:** Medication adherence (MA) is a serious problem for people diagnosed with chronic health conditions, contributing to increased economic burden and poor health outcomes. Implementing effective interventions depends on accurately assessing MA but no gold standard method currently exists. The present scoping review aimed to: a) describe the current methods of assessing MA, b) outline the evidence on the quality of assessment methods, and c) examine the evidence on agreement between assessment methods, in patients with chronic conditions with the highest non-adherence rates (asthma, cancer, diabetes, epilepsy, HIV/AIDS, hypertension). **Methods:** The PubMed, PsycINFO and Scopus databases were screened, and after screening 62,592 studies, 71 were included. **Findings:** Various self-report and non-self-report measures were identified, with twenty-seven self-report and ten non-self-report measures found. The Medication Event Monitoring System (MEMS) was the most accurate non-self-report, whereas the Medication Adherence Report Scale (MARS-5) corresponded to the most accurate self-report. Higher MA was reported when assessed using self-reports compared to non-self-reports, except from pill counts. **Discussion:** This review is the first examining both self-report and non-self-report methods used to assess MA across chronic conditions with the highest non-adherence rates and providing recommendations to researchers and clinicians. It highlights that in patients with epilepsy, MA assessment methods are understudied. Researchers and clinicians are suggested to examine first the quality indicators of measures and then decide appropriately. Future studies are advised to examine feasibility of self-report and non-self-report measures as there is presently a lack of evidence.

15:25 - 16:55

## “Basic Psychological Need Satisfaction and Frustration Scale”: validation of a French adaptation in health context

S. Mussel<sup>1</sup>, E. Spitz<sup>2</sup>, E. Fall<sup>3</sup>

<sup>1</sup>UNIVERSITE DE LORRAINE, France

<sup>2</sup>University of Lorraine, France

<sup>3</sup>Lorraine university, France

The aim of this study is to validate a French adaptation of the general « Basic Psychological Need Satisfaction and Frustration Scale » in the context of a chronic disease. This scale assesses the level of autonomy, competence, and relatedness need satisfaction and frustration. These basic needs are described in the self-determination theory: whenever they are satisfied, people can adopt health-adapted behavior, improving their mental and physical health, and their quality of life.

After an exploratory study about 25 patients with Chronic Inflammatory Rheumatism (CIR), we have adapted the scale in chronic disease context in agreement with authors. A pre-test step of the tool adaptation has targeted two chronic diseases with different clinical aspects (diabetes and CIR), and led to adjust the scale.

The final version was tested with an online questionnaire sent to chronic disease patients (CIR and diabetes) at two points: T0 from May to July and T1 from August to October 2020. In total, 730 patients at T0 and 406 at T1 allowed to assess the psychometric qualities, and the structural validation of the new scale. Data were analyzed according to the classical test theory (CTT) and the item response theory (IRT). Here will be presented reliability and validity results from the CTT, using SPSS statistics.

Caregiving teams search to help patients to develop resources to deal with their disease, and to involve in health self-management. Validating the BNPSFS in chronic disease context could allow assessing such as the impact of mindfulness-based interventions with chronic disease patients.

15:25 - 16:55

## The Activity Patterns Scale structure in patients with fibromyalgia: A confirmatory factor analysis approach

F. Martínez-Zaragoza<sup>1</sup>, S. López-Roig<sup>2</sup>, M. Pastor-Mira<sup>3</sup>, E. León-Zarceño<sup>4</sup>, A. Lledó-Boyer<sup>4</sup>, E. Abad-Navarro<sup>4,5</sup>

<sup>1</sup>University Miguel Hernandez, Spain

<sup>2</sup>Miguel Hernández University, Spain

<sup>3</sup>Miguel Hernández, Spain

<sup>4</sup>University Miguel Hernández, Spain

<sup>5</sup>Fibromyalgia Unit. San Vicente del Raspeig Hospital, Spain

**Background:** In chronic pain, the type of activity performed by patients (mainly avoidance, persistence and pacing) is frequently associated with their health outcomes. The Activity Patterns Scale has showed to be a good measure of activity patterns. However, in heterogeneous chronic pain samples, different models have been proposed to explain its internal structure. The objective of this study is to test the internal structure of the Activity Patterns Scale in patients with fibromyalgia.

**Methods:** A descriptive correlational design was used with a sample of women with fibromyalgia attending the Fibromyalgia Unit of the Valencian Community (n = 471). Confirmatory factor analyses with robust estimators were performed in order to search for the best dimensional structure.

**Findings:** Starting from previous research, a three, six and eight factor structure was tested (robust RMSEA= .095, .069, and not fitted because its high collinearity, respectively). The six-factor model was significantly better than the three-factor model ( $\chi^2$  diff. = 460.96,  $p < .001$ ).

**Discussion:** The results are not consistent with heterogeneous samples of chronic pain and suggest a factorial structure where the pacing items are shown grouped in only one factor and not divided by the implicit goal of pacing.

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15:25 - 16:55

## Polish Adaptation of the Stress Mindset Measure (SMM): A Reliability and Validity Study

D. Mierzejewska-Floreani<sup>1</sup>, M. Banaszkiewicz<sup>1</sup>, E. Gruszczynska<sup>2</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities in Warsaw, Poland

<sup>2</sup>University of Social Sciences and Humanities, Poland

The present study investigates the reliability and validity of the Stress Mindset Measure (Crum, Salovey, Achor, 2013) in Poland. This scale addresses the extent to which an individual adopts a mindset that the effects of stress are enhancing or debilitating.

A study was carried out with 1,303 adults (1058 women, 245 men), aged 18-84 years, from non-clinical groups and had the main purpose to examine the structure validity of the measurement tool in the Polish sample with exploratory factor analysis, and confirmatory factor analysis (one-factor model, two-factor, four-factor, bi-factor model). Convergent and divergent validity analyzes were performed.

EFA revealed that the relationship quality had a two-factor structure. However, the fit indicators of this model in the CFA were insufficient. This analysis showed that the bi-factor model provided evidence for the multidimensional nature of the scale. There was a common Stress Mindset latent variable on which all eight items loaded, and three latent variables loaded, respectively, by two different items each ( $\chi^2/df = 2.61$ ; RMSEA = 0.035; CFI = 0.997).

Previous studies already rejected the SMM's one-factor structure. So far, a four-factor structure has been suggested, but the multidimensional one is introduced for the first time. It shows not only the highest validity. Also consistency with a theory and with the nature of individual items. The first and eighth ones are formulated in a general way not to load any subscale, but only the main scale. The Polish SMM appeared as a relevant tool for estimating the Polish individuals' stress mindset.

15:25 - 16:55

## Developing a standardised measure of psychological safety

L. Morton<sup>1</sup>, N. Cogan<sup>2</sup>, J. Kolacz<sup>3</sup>, M. Nikolic<sup>2</sup>, E. Pathe<sup>4</sup>, T. Bacon<sup>5</sup>, C. Calderwood<sup>6</sup>, D. Williams<sup>2</sup>, S. Porges<sup>3</sup>

<sup>1</sup>University Of Glasgow, United Kingdom

<sup>2</sup>University of Strathclyde, United Kingdom

<sup>3</sup>Indiana University, United States

<sup>4</sup>NHS Lanarkshire, United Kingdom

<sup>5</sup>NHS Fife, United Kingdom

<sup>6</sup>Strathclyde University, United Kingdom

**Background:** Psychological safety is increasingly recognised as central to mental health and well-being. The polyvagal theory offers a 'Science of Safety' which can help inform clinical practice to promote well-being, resilience and post-traumatic growth, whilst mitigating trauma. To date, there is no standardised measure of psychological safety comprising psychological, physiological and social components. The current study aims to develop such a self-report measure.

**Methods:** The study comprised three stages: First, seven key stakeholders with expertise in trauma, applied psychology and the polyvagal theory generated 107 items using a variation of the Delphi method. The second stage aimed to reduce the number of items and assess the underlying factor structure. Participants (n = 342) completed the 107-item measure, which was disseminated via an anonymised, online Qualtrics survey. Exploratory factor analysis and Cronbach's alpha and omega coefficients guided item reduction resulting in a measure of psychological safety of 29 items. Ethical approval was granted by the University of Strathclyde ethics committee.

**Current stage of work:** Data collection began for the final phase in February 2021 and should be completed by June 2021. The 29 item 'psychological safety measure' has been disseminated via an online Qualtrics survey with five other measures for the purpose of comprehensive psychometric validation via tests of dimensionality, reliability, known groups, criterion, convergent, predictive and discriminant validity.

**Expected results:** The findings will result in a psychometrically validated measure of psychological safety.

**Discussion:** The development of a holistic, standardised measure of psychological safety will benefit both academic and clinical work.



15:25 - 16:55

## Validation of a Pandemic Fatigue Scale in a sample of Portuguese adults

I. Patrão<sup>1,2</sup>, M. C. Ferreira<sup>1</sup>, F. Pimenta<sup>1,3</sup>

<sup>1</sup>ISPA - Instituto Universitário, Portugal

<sup>2</sup>APPsyCI - Applied Psychology Research Center Capabilities & Inclusion, Portugal

<sup>3</sup>WJCR - William James Center for Research, Portugal

**Background:** Pandemic fatigue is one of the adverse consequences of the COVID-19 pandemic, posing a threat to the adoption and maintenance of protective health behaviors. To better understand this phenomenon, most studies have used instruments that were not intentionally developed to assess the specificities of pandemic fatigue. Therefore, this research aims to translate and adapt a Pandemic Fatigue Scale (PFS), based on a pre-existing measure of lockdown fatigue, and validate it in a sample of Portuguese adults. **Methods:** The PFS is a 10-item self-report questionnaire that allows to assess levels of pandemic fatigue categorically. This quantitative study was conducted on a sample of 1,854 Portuguese adults recruited online through convenience and snowball sampling. Participants' age ranges from 18 to 75 years old ( $M=37.73$ ;  $SD=10.86$ ), and 92.9% are women. Sensitivity, construct validity and internal consistency were explored. **Findings:** All items presented good psychometric sensitivity. After removing item 1 ( $\lambda_1=.29$ ;  $r^2=.08$ ), the refined model demonstrated a good fit ( $SRMR=.027$ ;  $RMSEA=.088$ ;  $p<.001$ ; 90% CI=[.081; .096];  $CFI=.964$ ;  $NFI=.962$ ;  $TLI=.952$ ). The scale showed good convergent validity ( $AVE=.588$ ), and high internal consistency ( $CR=.927$ ;  $\alpha=.925$ ). **Discussion:** Although item 1 was excluded from the analysis, we argue that it should be reworded and included in the scale because it assesses risk perception concerning COVID-19. Overall, the PFS revealed good psychometric properties, making it a useful instrument to accurately measure pandemic fatigue levels, and devise strategies to prevent and mitigate such condition.

# Health behaviour change interventions

15:25 - 16:55

Keegan Knittle

15:25 - 16:55

## Addictive disorders: Horse Assisted Therapy as a creative behavior change intervention

C. Leconstant<sup>1</sup>, E. Spitz<sup>2</sup>, M. Trousselard<sup>3</sup>

<sup>1</sup>Université de Lorraine, France

<sup>2</sup>University of Lorraine, France

<sup>3</sup>Institut de recherche biomédicale des armées (IRBA), France

**Background:** The interventions changing substance use behaviors remain a major challenge. One reason may be the high prevalence of comorbid disorders, particularly post-traumatic stress disorder. This comorbidity maintains the addictive disorder and increases the risk of relapse. This reality challenges designs for behavior change interventions.

**Method:** The results include 92 patients: Usual Care group (UCG) (n=47) and intervention group (HATG) (n=45). In addition to usual care, intervention group participate in 1 session/week of Horse Assisted Therapy (HAT) for 2 hours. Difficulties in Emotion Regulation Scale (DERS), Posttraumatic-CheckList (PCL-5) and Dissociative Experiences Scale (DES) were administered at the beginning (T1) and at the end (T2) of the stay. To compare the two groups' evolution, independent samples t-tests were performed on the difference of means between T2 and T1 within each group.

**Results:** At the end of the HAT participants' stay, difficulties engaging in goal directed behavior decreased significantly more than for the usual care group (mHATG=0.6; mUCG=0.2;  $t(90)=1.96$ ;  $p=0.05$ ). Moreover, it was found a significantly greater decrease for the HAT group in PCL-5' symptom D "negative changes in cognition and mood" (mHATG=5.5; mUCG=2.7;  $t(90)=1.96$ ;  $p=0.05$ ). Finally, a larger decrease was observed for the HAT group (mHATG=5.9; mUCG=1.4;  $t(90)=1.68$ ;  $p=0.09$ ) for amnesia and identity fragmentation (pathological dissociation).

**Conclusion:** HAT could be an interesting safe integrated approach with addictive disorders patients for the treatment of post-traumatic stress disorder and dissociative symptoms comorbid, without exposure to traumatic memories. Furthermore, HAT also helps patients to learn emotion regulation strategies preventing relapses.

## Effects of three types of planning interventions on self-reported planning: A validation study

E. Kulis<sup>1</sup>, M. Boberska<sup>2</sup>, M. Siwa<sup>3</sup>, K. Lobczowska<sup>4</sup>, A. Banik<sup>1</sup>, A. Luszczynska<sup>2</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>2</sup>University of Social Sciences and Humanities, Poland

<sup>3</sup>SWPS University of Social Sciences and Humanities, Wrocław, Poland

<sup>4</sup>SWPS Uniwersytet Humanistycznospołeczny, Poland

**Background:** The study investigated the effects of individual ('I-for-me'), dyadic ('We-for-me'), and collaborative ('We-for-us') planning interventions on self-reports of the individual and collaborative planning, measured at 2-week (T2) and at 36-week (T3) follow-up. The study was conducted in the context of physical activity changes in target person-partner dyads.

**Method:** Data from 320 target person-partner dyads were collected (target persons: 64.4% women, age: 18-90 years old,  $M = 43.86$ ; partners: 64.1% women, age: 18-84 years old,  $M = 42.32$ ). Dyads were randomly assigned to the individual ( $n = 82$ ), dyadic ( $n = 83$ ), collaborative ( $n = 79$ ) planning conditions, or to the active control condition ( $n = 76$ ). Self-reports of individual and collaborative planning were obtained at T1 (baseline, a week before planning intervention), 2-week follow-up (T2) and 36-week follow-up (T3).

**Findings:** Significant Time x Group interactions were found for target persons' collaborative planning. Regarding T1-T2 changes, those assigned to the collaborative condition forming collaborative plans significantly more often than those participating in individual, dyadic, or control conditions. At T3, target persons in collaborative condition declared more collaborative plans comparing to the control condition. Several time effects for target persons and partners were found: for example, across conditions, target persons increased their individual planning reports at T2, compared to T1.

**Discussion:** Across the three types of interventions, specific effects (i.e., a larger increase found for the respective type of self-reported planning, compared to three other conditions) were observed only among target persons enrolled in the collaborative planning intervention.

15:25 - 16:55

## Motivation by communication? A systematic review on brief motivational interviewing interventions targeting physical activity

L. Thiel<sup>1,2</sup>, L. Fleig<sup>1</sup>, N. Knoll<sup>3</sup>, J. Keller<sup>3</sup>

<sup>1</sup>Medical School Berlin, Germany

<sup>2</sup>Justus-Liebig-Universität Gießen, Germany

<sup>3</sup>Freie Universität Berlin, Germany

**Background.** Insufficient levels of physical activity are associated with a number of health risks. Motivating people to change their lifestyle in the long term requires individuals to understand the importance of change and to have the confidence to change. Motivational interviewing (MI) is a behavior change technique (i.e. subfacet of social support) which can be used to facilitate behavior change and maintenance. While research has shown that MI interventions can modify physical activity in clinical populations, there is inconsistent evidence as to whether these findings hold true for non-clinical populations.

**Methods.** To identify brief MI intervention studies from the field of physical activity, a systematic review was carried out in May 2019. Intervention studies were included if they lasted no longer than 30 minutes and addressed adults from the general population. Search terms were motivational interview, physical activity and efficacy, as well as further synonyms.

**Findings.** From 534 extracted articles, 12 articles met the inclusion criteria. Out of 12 studies, nine studies showed a significant increase in physical activity, whereas three studies reported no changes in physical activity. As common characteristics of these nine studies with positive evidence, MI sessions involved personal contact (six studies) and several follow-up sessions (eight studies).

**Discussion.** This systematic review showed positive evidence for the majority of brief MI interventions aiming to foster physical activity. Next to using self-reports, future MI studies should additionally use objective measures to assess physical activity.

**Keywords:** motivational interviewing, brief interventions, physical activity, inactive adults

15:25 - 16:55

## A randomised controlled trial to promote walking behaviour among university students

D. Caso<sup>1</sup>, M. Bianchi<sup>1</sup>, M. Capasso<sup>1</sup>, V. Carfora<sup>2</sup>, M. Conner<sup>3</sup>

<sup>1</sup>University of Naples Federico II, Italy

<sup>2</sup>Catholic University of the Sacred Heart, Italy

<sup>3</sup>University of Leeds, United Kingdom

**Background:** Walking is one of the most effective and accessible forms of physical activity, yet university students walk very little. The present study aimed to test the effectiveness of a messaging intervention composed of health messages (focused on physical health) or wellbeing messages (focused on psychological wellbeing) plus goal setting and self-monitoring strategies to promote walking activity in the university context.

**Methods:** In this study, a total of 230 university students from the University of Naples Federico II were randomly allocated to one of four conditions: health messages + self-monitoring (HSM), wellbeing messages + self-monitoring (WSM), self-monitoring (SM) and control group (no messages). All three intervention conditions were exposed to goal setting (doing at least 7000 steps a day) and were asked to monitor their daily progress through the specific step counting app. Participants' physical activity and related psychological variables (intention, attitude, subjective norms, perceived behavioural control, outcome expectancies, risk perception, self-efficacy, action planning, coping planning and action control) were assessed at Time 1 and Time 2 (two months later). Analyses were based on the N = 156 who completed all measures at both time points.

**Findings:** Results showed that the persuasive messages focused on the physical benefits of taking 7000 steps a day, combined with self-monitoring, were the most effective in changing cognitions related to walking and behaviour.

**Discussion:** Our study provides new information on which factors can be usefully targeted to promote walking activity, suggesting that future walking promotion interventions could focus on this type of persuasive messages.

15:25 - 16:55

## Sedentary behavior and depression in patient-partner dyads: longitudinal associations

M. Siwa<sup>1</sup>, E. Kulis<sup>2</sup>, M. Boberska<sup>3</sup>, M. Kruk<sup>3</sup>, Z. Szczuka<sup>2</sup>, A. Banik<sup>2</sup>, A. Luszczynska<sup>3,4</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Wrocław, Poland

<sup>2</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>3</sup>University of Social Sciences and Humanities, Poland

<sup>4</sup>University of Colorado at Colorado Springs, United States

**Background:** This longitudinal study tested the associations between sedentary behavior and depression in patient-partner dyads. In particular, we investigated the between-individual effects (e.g, the effect of depression in one person on behavior in the other person).

**Method:** Data from 320 patient-partner dyads were collected (patients: 64.4% women, age: 18-90 years old, M = 43.86; partners: 64.1% women, age: 18-84 years old, M = 42.32) at the baseline (Time 1, T1) and approximately two months later (Time 2; T2). The study was conducted in the context of a dyadic intervention enhancing physical activity. The inclusion criteria referred to patient's reports of (1) physical activity below the level recommended by World Health Organization (100%) or (2) a chronic illness (70.7%). Regression analyses were conducted.

**Findings:** Four between-individual effects were found. Patient's depression (T1) predicted partner's depression (T2). Patient's sedentary behavior (T1) predicted partner's sedentary behavior (T2). Partner's depression (T1) predicted patient's depression (T2) and sedentary behavior (T2). Additionally, four within-individual effects were found.

**Discussion:** Patient's and partner's depression (T1) had within- and between- individual predictor effects on depression (T2) and sedentary behavior (T2) more often (total of six effects). In contrast only two predictor effects of patient's and partner's sedentary behavior (T1) were found.

15:25 - 16:55

# Perceived peer drinking norms in elite rugby players before and after an alcohol intervention

A. Rault<sup>1,2</sup>, G. Décamps<sup>2</sup>

<sup>1</sup>Institut Curie, France

<sup>2</sup>University of Bordeaux, France

## Background

Perceived peer drinking norm (PPDN) is the evaluation of peers' alcohol consumption. Drinking represents a mean for individuals to comply with the standards of their teammates. However, peer consumption is generally overestimated. This misperception must be addressed in alcohol interventions and represents an important framework. The aims of the present research were to assess the PPDN on athletes and to investigate whether alcohol consumption and PPDN decrease after an alcohol intervention.

## Methods

The participants were elite rugby players (N = 794) taking part in a six months design with two measurement times including the evaluation of alcohol consumption, binge drinking and PPDN before and after two sessions of intervention.

## Findings

Elite rugby players perceived that their peers consumed two times more and experienced four times more binge drinking. Related-samples Wilcoxon signed rank tests revealed a significant decrease in binge drinking ( $W(71) = 2.75$ ;  $p < .01$ ;  $\eta^2 = .10$ ) and PPDN ( $W(71) > 2.80$ ;  $p < .01$ ;  $\eta^2 > .11$ ) after intervention. Results suggest that the alcohol intervention had an impact on binge drinking and PPDN.

## Discussion

Alcohol intervention can rectify misperception and reduce risk behavior on elite athletes. Decreasing the perceived norm for alcohol consumption is a key lever to be included in interventions aiming to reduce alcohol abuse. Results provide preliminary evidence supporting the notion that PPDN may influence alcohol consumption. The findings demonstrate support for this approach in targeting athletes' health behavior change.



15:25 - 16:55

## Effectiveness of an intervention to reduce adolescents' sedentary behaviour using a participatory approach

V. Van Oeckel<sup>1</sup>, M. Verloigne<sup>1</sup>, B. Deforche<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

**Background:** Adolescents spend on average more than 70% of their waking hours sedentary. As sedentary time is associated with adverse health effects, there is a need to develop effective interventions. Using a participatory approach, in which adolescents are actively involved in the development of the intervention, may improve effectiveness. Unfortunately, few participatory interventions have been evaluated. This study aims to evaluate the effect of a participatory intervention on adolescents' sedentary time and related determinants.

**Methods:** A three-arm clustered-randomized controlled trial will be conducted (participatory intervention, standard intervention and control condition receiving no intervention), with one Flemish secondary school in each arm. In the participatory arm, an action group including a researcher and adolescents will co-create the intervention using Intervention Mapping. In the standard arm, researchers will develop the intervention using Intervention Mapping. Sedentary time will be measured with an activPAL inclinometer and determinants with a validated questionnaire. Data will be analyzed via linear mixed models in R.

**Expected results:** We expect that sedentary time will reduce and related determinants will improve in adolescents receiving the participatory and standard intervention compared to adolescents receiving no intervention, where no changes in behaviour and determinants are expected. We also expect larger effects in adolescents receiving the participatory intervention compared to adolescents receiving the standard intervention.

**Current stage of work:** Protocol writing.

**Discussion:** Studies evaluating the effectiveness of participatory interventions are scarce. However, if such interventions are more effective, this may be a promising method to develop interventions to change health behaviour in adolescents.

15:25 - 16:55

## InterMob: a randomized controlled intervention targeting a more active and sustainable mobility in France

C. Teran Escobar<sup>1</sup>, S. Chardonnel<sup>1</sup>, H. Bouscasse<sup>2</sup>, S. Duché<sup>1</sup>, S. Mathy<sup>1</sup>, P. Sarrazin<sup>1</sup>, K. Tabaka<sup>1</sup>, C. Treibich<sup>1</sup>, L. Aubineau<sup>1</sup>, A. Chalabaev<sup>1</sup>

<sup>1</sup>Université Grenoble-Alpes, France

<sup>2</sup>INRA, France

### Background:

Regular car use is an important source of pollution and physical inactivity. The objectives of InterMob are to a) Evaluate the efficacy of a theory-based intervention aiming active and sustainable mobility and b) Identify levers and barriers to mobility change from interdisciplinary approaches (psychology, geography, and economics). InterMob responds to methodological limitations of past interventions (e.g., self-reported measures, short follow-ups, lack of control groups; Arnott et al., 2014).

### Methods:

Regular car users living in Grenoble (N = 400) will be recruited and randomized to one of two arms: (1) Free transport and goals group, (2) Informational control group. The experimental phase will last 6 months. Follow-up includes 8 weeks (spread out in 24 months) of wearing a GPS, an accelerometer and a pollution sensor. Participants will complete mobility logs and questionnaires measuring psychological mechanisms (e.g., habits, intentions), and socio-economical characteristics.

### Expected results:

Car-use reduction and active commuting increases should be more important in the intervention group, and these changes should remain in the long term. Moderators (number of children, distance to work) might have a role in the efficacy of the intervention.

### Current stage of work:

The content of the intervention and the training for facilitators are almost finished. A pilot study will take place in October 2020.

### Discussion:

InterMob will assess the efficacy of an intervention aiming for mobility change within regular car users. It will also quantify the benefits of mobility change in terms of physical activity and exposure to pollution.

15:25 - 16:55

## Changing Behaviors: preventing Injuries using Theory-based Techniques (ChaBITT). Preliminary investigations in elite women team sports

A. Ruffault<sup>1</sup>, A. Le Perron<sup>2</sup>, G. Denis<sup>1</sup>, H. Joncheray<sup>1</sup>, M. Nédélec<sup>1</sup>, G. Guilhem<sup>1</sup>, J. Fournier<sup>3</sup>

<sup>1</sup>Laboratory "Sport, Expertise, and Performance" (EA 7370), French Institute of Sport (INSEP), France

<sup>2</sup>UFR STAPS, Université de Bretagne Occidentale, France

<sup>3</sup>Laboratory "Laboratoire Interdisciplinaire en Neurosciences, Physiologie et Psychologie : Apprentissages, Activité Physique, Santé (LINP2-AAPS) ", Université Paris Nanterre, France

**Background:** The risk of injury depends on a complex circular relationship between training load and physical capacities. Warm-up and recovery strategies, adopted on a daily basis, can contribute to enhance training-induced adaptations and mitigate the risk of injury. However, evidence suggests that a large proportion of elite athletes do not follow warm-up and recovery guidelines properly. The present study aimed to test the effectiveness of theory-based behavior change techniques on warm-up and recovery strategy adoption in elite athletes.

**Methods:** A single case research method has been developed in two samples of elite female athletes: 15 Basket-Ball players and 30 Rugby players. Self-report measures of determinants of behaviors based on the Health Action Process Approach for Basket-Ball players and on the Theory of Planned Behavior for Rugby players, as well as 2-week daily warm-up and recovery strategies were measured at pre-season and after each behavior change intervention module. Behavior change modules included: information on the effects of target behaviors, goal setting, coping planning, and feedback on behavior.

**Expected results:** An increase in the adoption of warm-up and recovery strategies and their determinants is expected.

**Current stage of the work:** Data collection is still ongoing; this will end at the end of the season. Tailoring the intervention modules to athletes' preferences and determinants will be made after the information phase.

**Discussion:** The applied setting of this study makes it possible to individualize the intervention modules. Measuring determinants from two different theories will provide evidence on the differential associations with the target behaviors.

15:25 - 16:55

## Increase in HPV Vaccination Rate: Using a Planning Technique and Anticipated Regret

A. Gauchet<sup>1</sup>, C. Bodelet<sup>2</sup>, G. Vareilles<sup>3</sup>

<sup>1</sup>university grenoble alpes, France

<sup>2</sup>Université de Grenoble, France

<sup>3</sup>centre départemental de santé, France

**Background:** The vaccination rate against HPV among young girls reaches only 23.7% in France. In addition, to improve the protection of young girls, the French Ministry of Health has extended HPV vaccination recommendations to young boys. The scope of this study is to test the effect of a planning strategy and early regret on the vaccination behavior of girls and boys. **Design:** Parents with children aged 11 to 14 years are recruited over the period March-April 2020 in France. **Current stage of work:** We are looking for parents to answer this questionnaire. **Method:** A randomized control trial will be performed. The intervention group will complete a questionnaire on anticipated regret followed by the planning strategy consisting of action planning and coping planning (Health Action Process Approach). For action planning, parents will write down where, when, and how they plan to immunize their child. For coping planning, they will select the situations-obstacles to the realization of the behavior and for each selected of them they will choose one solution out of two proposed. A second questionnaire will be sent to them two months later to measure their vaccination behavior and their vaccination intention. **Expected results:** We expect the participants in the intervention group to have a significantly higher vaccination rate and intention vaccination compared to the control group. **Discussion:** Results showing the effectiveness of the intervention would be a way to encourage parents to vaccinate their children against HPV.

15:25 - 16:55

## Tackling physical inactivity through social prescribing: Developing and piloting a training package for Link Workers

S. Hotham<sup>1</sup>, A. Bates<sup>1</sup>, R. Merritt<sup>1</sup>

<sup>1</sup>University of Kent, United Kingdom

**Background:** Social prescribing (SP) involves referral of patients with social, emotional or practical needs to a Link Worker for patient-centred support. The NHS Long Term Plan includes a commitment to increase access to SP across England to over 900,000 people. As such, SP provides an opportunity to deliver health behaviour change advice to a wide-ranging population. To capitalise we need to ensure the SP workforce is knowledgeable in, and confident when, providing advice and support on health behaviours. For that reason, in collaboration with London Sport, a theory-based training package for Link Workers to support improvements in physical activity was designed and piloted.

**Methods:** The training package design was based on the COM-B model and included foundation Motivational Interviewing techniques. 51 Link Workers attended a one-day interactive workshop with a follow-up session at 6 months. Evaluation data were collected using a mixed-methods approach. Quantitative data via questionnaire at baseline (pre-workshop) and at the follow-up session, measuring knowledge, motivation and self-efficacy. Qualitative feedback via semi-structured interviews, using Framework Analysis to identify common themes.

**Expected results:** Preliminary findings suggest the training improved knowledge and understanding about physical activity and confidence to offer brief advice. Interpretations should be tentative as based on small sample (n=30).

**Current stage of work:** The training package is being rolled out by Sport England nationally. Evaluation data continues to be collected alongside and will feed in to ongoing analysis.

**Discussion:** Findings will inform the national Link Worker training programme, ensuring behavioural science approaches are embedded in SP.

15:25 - 16:55

## How and why do we prepare? An approach to forest fire preparedness from health psychology

P. Cordón<sup>1,2</sup>, J. Castañeda<sup>2</sup>, P. Repetto<sup>1,2</sup>

<sup>1</sup>Pontificia Universidad Católica de Chile, Chile

<sup>2</sup>Research Center for Integrated Disaster Risk Management (CIGIDEN), Chile

Due to events associated with climate change, such as high temperatures and droughts, the risk of forest fires has increased in recent decades. The risk to which territories are exposed depends on the interaction between threats, vulnerability and the community's capacity to prepare, respond and recover from these events. In order to contribute to the understanding of these elements, this study seeks to analyze individual preparedness behaviors for forest fires through the health belief model. For this, a structured survey was carried out with 548 inhabitants of the city of Valparaíso, in Chile; assessing risk perception, risk awareness and preparedness. Our results show that despite the high risk perception and awareness, preparedness is very low. When analyzed through the health belief model, barriers associated with socio-demographic variables such as income and educational level stand out. Based on these results, key elements for the construction of effective public policies for disaster risk reduction are discussed, as well as effective communication strategies aimed at reducing barriers to carry out the behavior. In this way, the contribution that the theoretical and practical framework of health psychology provides in understanding the behaviors of emergency and disaster preparedness is discussed.

# Individual differences impacting health

15:25 - 16:55

Christel Salewski

15:25 - 16:55

## A case-control study on physical activity preferences, motives and barriers in patients with mental disorders

M. Kopp<sup>1</sup>, C. Bichler<sup>1</sup>, M. Niedermeier<sup>2</sup>, B. Sperner-Unterweger<sup>3</sup>

<sup>1</sup>University of Innsbruck, Austria

<sup>2</sup>Innsbruck, Austria

<sup>3</sup>Medical University of Innsbruck, Austria

**Background:** Physical activity (PA) interventions for individuals suffering from mental disorders have antidepressant and anxiolytic effects. As levels of PA are still low in the targeted population, this study aimed to identify PA preferences, motives and perceived barriers in patients with different mental disorders (MD) in comparison to healthy controls (HC).

**Methods:** 230 individuals with mental disorders (age =  $39.5 \pm 14.0$  years, 80% female) with major depression (34%), anxiety disorder (38%) or post-traumatic stress disorder (28%) completed a cross-sectional online survey, assessing PA levels, PA preferences, motives and perceived barriers. Data was compared to a healthy control group matched by sex and age (n = 230).

**Findings:** 22% of MD reported insufficient PA levels with 6.7 hours sitting in MD, compared to 6% and 5.6 hours of sitting in HC. Preferences in probably more strenuous sports like running and cycling were significantly lower in MD compared to HC. PA motives were rated significantly lower with more perceived barriers in MD compared to HC.

**Discussion:** Findings of low PA levels within MD are consistent with other studies. As motives for PA were rated lower while perceived barriers were higher in MD compared to HC, offering different and individualized forms of PA may be an approach for health care providers to increase PA in MD. Easy feasibility types of PA, i.e. walking, may be a good start, because these types may address low levels of motives and help to overcome increased perceived barriers for PA.



15:25 - 16:55

## Why loneliness matters?

J. Švecová<sup>1</sup>, N. Kaščáková<sup>2,3</sup>, J. Furstova<sup>4</sup>, J. Hasto<sup>4,5</sup>, P. Tavel<sup>4</sup>

<sup>1</sup>Palacky University Olomouc, Slovakia

<sup>2</sup>UP Olomouc, OUSHI, Czech Republic

<sup>3</sup>Psychiatric-Psychotherapeutic Outpatient Clinic, Bratislava, Slovakia

<sup>4</sup>Palacky University Olomouc, Czech Republic

<sup>5</sup>Psychiatric-Psychotherapeutic Outpatient Clinic, Slovakia

**Background:** Recent researches confirm that loneliness is a risk factor, which impacts our physical and mental health. The aim of this study is to find associations between loneliness and selected chronic health complaints.

**Methods:** A cross-sectional study with a representative sample of the adult population in the Slovak Republic (N=1018, mean age 46.24 years, 48.7 % men) collected data on subjectively perceived loneliness status (scale question), the health status (questions on selected chronic complaints and The SF-8 Health Survey), and the psychopathology (The Brief Symptom Inventory, BSI-53). Dichotomization divided respondents into group feeling loneliness in last year (N=244, mean age: 52.16 years, 40.2 % men), which was compared with participants who did not feel lonely (N=774, mean age 44.38 years, 51.4 % men). Results were analysed by nonparametric ANOVA and multinomial logistic regression model, adjusted for gender and age.

**Findings:** Respondents who felt loneliness have significantly worse general health, the mental component summary score, the physical component summary score and higher score of the psychopathology compared to the group who did not feel lonely ( $p < 0.001$ ). The population feeling lonely had significantly higher odds of reporting ischemic heart disease (OR 2.4,  $p = 0.047$ ), obesity (OR 3.2,  $p < 0.001$ ), hypertension (OR 2.5,  $p < 0.001$ ) and depression and anxiety (OR 10.7,  $p < 0.001$ ), compared to those respondents who did not feel lonely.

**Discussion:** Knowledge of the links between subjectively perceived loneliness in adulthood and chronic health problems is calling for more therapeutic prevention in this area.

**Key words:** loneliness, mental health, physical health

15:25 - 16:55

## The relationship among Quality of Life, character strengths, and physical activity experiences in Japanese children

S. Endo<sup>1</sup>, N. Ueta<sup>2</sup>, T. Matsuo<sup>3</sup>, K. Oishi<sup>3</sup>

<sup>1</sup>National Institution for Youth Education, Japan

<sup>2</sup>National Recreation Association of Japan, Japan

<sup>3</sup>Rikkyo University, Japan

In recent years, declines of Quality of Life (QOL) have been a problem in the generation of the child. It has been reported that character strengths which have attracted attention in positive psychology, and physical activity improve QOL of the children. However, it is not clear how these variables are related. Additionally, although the experiences during physical activities (e.g., challenges and achievements) have been suggested to be important, few studies have focused on this point. The purpose of this study was to examine the relationships among QOL, character strengths, and physical activity experiences using a longitudinal approach in Japanese children.

The 146 children (76 males and 70 females; mean age = 10.5, SD = 0.5) participated in two-wave questionnaire survey. They responded the Japanese version of KIDSCREEN-10 (Nezu et al., 2016) which assessed their QOL levels. They also responded the Japanese version of children's character strength scale and physical activity experience scale which evaluated their character strength levels and the frequency of physical activity experience respectively based on the former studies. The interval of the two surveys (Time 1 and 2) was two months.

The result of correlation analyses showed that there were positive relationships among QOL (Time 2), character strengths (Time 2), and the physical activity experience (Time 1). Mediation analyses indicated that the relationship between the experience (Time 1) and QOL (Time 2) was partially mediated by character strengths (Time 2).

These results suggested that physical activity experiences strengthened character strengths, resulting in improved QOL in the children.

15:25 - 16:55

## Conscientiousness and self-perceived and calculated life expectancy

Y. Takahashi<sup>1</sup>, T. Kusumi<sup>1</sup>

<sup>1</sup>Kyoto University, Japan

Life expectancy means the number of average years that individuals of a given age will be expected to live if current mortality rate in their country continues to apply. Previous research demonstrated higher conscientiousness was linked to living longer life (e.g., Kern & Friedman, 2008). This study investigated the relations between conscientiousness and both calculated and self-perceived (i.e., subjective) life expectancy in a younger Japanese sample aged from 18 to 35 ( $M = 27.20$ ,  $SD = 5.07$ ,  $N = 873$ ). Individual differences in conscientiousness were assessed with the Abridged Big Five Circumplex items of the International Personality Item Pool (Goldberg et al., 2006). Life expectancy was obtained by self-perceived reports and calculating with the survey version of LivingTo100's assessment (Rodemann & Arigo, 2018). Results showed that Japanese people generally tend to underestimate their longevity (Cohen's  $d = -.25$ ), and that conscientiousness was positively correlated with both calculated and self-perceived life expectancy even after controlling age and gender ( $r_s = .26$  and  $.18$  respectively), which means conscientious individuals may be more likely to live a longer life. Also, we interestingly found individuals with higher conscientiousness have a bigger gap between calculated and self-perceived life expectancy, indicating that individuals with lower conscientiousness have more an optimistic (or accurate, in this sample) view on their longevity. This study replicated a positive relation between higher conscientiousness and (expected) longer life, and suggests the possibility that conscientiousness may play a vigilant role in health-consciousness.

15:25 - 16:55

## Men's health behaviour obstructed: The role of social identification with men and proving one's masculinity

A. Van Rossum<sup>1</sup>, C. van Laar<sup>1</sup>, D. Scheepers<sup>2,3</sup>

<sup>1</sup>KU Leuven, Belgium

<sup>2</sup>Leiden University, Netherlands

<sup>3</sup>Utrecht University, Netherlands

**Background:** Previous research has indicated that some masculinity norms encourage unhealthy behaviour, which might make men's identification with their gender group a potential risk to their wellbeing. More specifically, men seek less medical care than women, and certain unhealthy dietary habits (e.g., drinking alcohol) and risky behaviours (e.g., smoking) might be ways to express masculinity. Such behaviours have been linked to the well-documented observation that men have a shorter life expectancy than women. From a social identity perspective, we examine the role of how central being a man is to men's identity (i.e., gender identification) and the belief that their masculinity is easily lost and therefore needs to be socially proven (i.e., precarious manhood beliefs) in men's health-related behaviour.

**Methods:** Using self-report scales, we measure 305 male students' gender identification, precarious manhood beliefs, health behaviour (i.e., healthiness of diet and alcohol consumption), risk behaviour, likelihood of and barriers to seeking medical help. We conduct regression analyses.

**Expected results:** We hypothesize that stronger gender identification and precarious manhood beliefs interact and predict more unhealthy and risky behaviour, lower likelihood of seeking medical help, and more barriers to do so.

**Current stage of the work:** Data collection will be finished in the next weeks.

**Discussion:** By pointing to the social aspects of health behaviour we aim to define the conditions under which men's health behaviour may be impeded, and we suggest how social beliefs may be target points for interventions to improve men's health and wellbeing.

15:25 - 16:55

## Relationship between smartphone addiction and flow experience among Japanese university students

Y. KIYONO<sup>1</sup>

<sup>1</sup>Graduate School of Psychology, J. F. Oberlin University, Japan

Various studies have reported correlation between excessive smartphone usage and a variety of problems with school achievement, interpersonal relations, physical health problems, and addictive behaviors.

One of the factors that contribute to smartphone addiction among college students is the use of problems as stress coping.

Previous studies suggest that the higher the level of immersion in the smartphone, the higher the tendency to depend on it.

On the other hand, Csikszentmihalyi's flow experience theory views immersion in things positively, and positive results have been obtained, such as a reduction in anxiety, an increase in affirmation, and a decrease in depression.

The purpose of this study is to examine how flow experience is influencing smartphone usage.

To date, no studies have investigated such studies in Japan. Wan (2006) reported that the relationship between flow experience and online game dependence was negative correlated. Participants will be 350 University Students in Japan.

Using the Flow Experience Checklist, we plan to conduct an analysis of variance on the Flow Experience, its subscales "Confidence in Ability," "Challenge to Goals," and "Immersive Consciousness Experience," as well as the Smartphone Dependence Tendency Scale and the Stress Response Scale. The face sheet will include attributes (gender, faculty, health status, and usual exercise time).

Students with higher flow experience would be expected to have lower stress levels and lower smartphone dependency.

The survey will be conducted in April using the google forum. A new program to prevent smartphone addiction could be created by educating the flow experience.

15:25 - 16:55

## Profile of adults seeking voluntary HIV testing and counseling in Portugal

E. C. V. Costa<sup>1</sup>, P. Sá<sup>1</sup>, M.G. Pereira<sup>2</sup>

<sup>1</sup>Portuguese Catholic University, Portugal

<sup>2</sup>University of Minho, Portugal

Users of publicly funded HIV Counseling and Early Detection Centers (CDCs) in the Portuguese National Service have been found to have higher rates of HIV risk behavior than the general population, but data concerning their specific socio-demographic, behavioral, and cognitive profile are limited. In this primary health center-based study, we document profiles of adults seeking voluntary testing and counseling and analyze correlates of HIV testing. A cross-sectional study was conducted in a sample of 308 Portuguese users of CDCs (98 women and 210 men) using interviewer-administered fully structured questionnaires. Significant gender differences were found for consistent condom use in vaginal sex, number of lifetime sexual partners, and barriers towards safer sex, with men showing higher results, and for consistent condom use in anal sex, with women showing higher results. In a multivariate analysis, correlates of HIV testing were being male, being younger, having a higher educational level, living in urban areas, and having higher HIV transmission and prevention knowledge. Hierarchical regression analyses also showed that being younger, having a higher perception of negotiation self-efficacy in condom use, having higher HIV knowledge and lower barriers towards safer sex were the main factors associated with safer sex practices among CDC's users. This study provides baseline data on this understudied population and identifies variables associated with HIV testing, factors that would allow developing effective interventions to reduce risk behavior targeting the identified variables.

## Self-compassion's relationship with cardiovascular disease risk factors in community women: Depression, physical inactivity and frailty

B. Semenchuk<sup>1</sup>, K. Boreskie<sup>1,2</sup>, T. Tutkaluke<sup>1</sup>, T. Duhamel<sup>1,2</sup>, S. Strachan<sup>3</sup>

<sup>1</sup>University of Manitoba, Canada

<sup>2</sup>Institute of Cardiovascular Sciences, St. Boniface General Hospital, Canada

<sup>3</sup>University of Manitoba, Canada

**Background:** Cardiovascular disease (CVD) is the leading cause of death in women. Women characterized as pre-frail or frail are at greater CVD risk, as compared to robust women. Depression and inactivity increase CVD and frailty risk. Self-compassion – care for oneself during challenging times - may benefit women's health given its negative association with depression and positive association with physical activity. No research has examined self-compassion and frailty. We sought to replicate past findings regarding self-compassion's relationship with depression and physical activity, and be the first to examine whether self-compassion is associated with frailty.

**Methods:** We conducted a cross-sectional secondary analysis of a prospective cohort, which examined CVD risk in community women with no prior history of CVD (N = 1030). A subset of women (n = 425, Mage = 65.23, SD = 6.22) self-reported their self-compassion, depression and physical activity. Frailty was assessed using the Fried phenotype model. Correlations and logistic regressions were employed.

**Results:** Self-compassion was negatively associated with depression ( $r = -.38, p < .001$ ) but not related to physical activity ( $r = .05, p = .30$ ). Self-compassion was treated as a continuous variable; for every unit increase in self-compassion the odds of being frail decreased (OR = .42,  $p < .001$ ; Lower CI = .26, Upper CI = .67).

**Discussion:** Being self-compassionate may have health benefits for women. Self-compassion was negatively associated with depression symptoms and decreased the likelihood of being frail among community women. Future research should confirm these findings using longitudinal and randomized designs.

15:25 - 16:55

## Factors influencing family decision about organ donation of a deceased relative in emergent donation procedures

J.S. López Martínez<sup>1</sup>, R. García-Sánchez<sup>2</sup>, M. Soria-Oliver<sup>3</sup>, M. Beyebach<sup>3</sup>, M.J. Martín<sup>2</sup>, R. Lamelas<sup>2</sup>, J.M. Martínez<sup>2</sup>

<sup>1</sup>Universidad Pública de Navarra, Spain

<sup>2</sup>Autonomous University of Madrid, Spain

<sup>3</sup>Public University of Navarre, Spain

**Background:** Organ procurement organizations have developed alternative donation procedures to improve deceased organ donation rates. Intensive Care to facilitate Organ Donation (ICOD) is an emergent procedure that implies the initiation/continuation of life-sustaining measures with the purpose of allowing organ donation in patients in whom curative treatment has considered futile. Families experience and decision process about ICOD is already an unexplored phenomenon, since potential donor relatives have to decide about the possibility of donating before death is declared. This study represents the first phase of a research program that aims to characterize family decision and best family support practices in the context of ICOD.

**Methods:** Semi-structured interviews were performed with a stratified probabilistic sample of 21 Transplant Coordination Teams (TCTs) of Spanish hospitals. Interviews were recorded after informed consent and included, TCTs' perception about those conditions that are more relevant for family consent to ICOD. Interviews were transcribed and analysed by means of Content Analysis.

**Results:** Most relevant conditions influencing family consent for ICOD (non-exclusive) include: Adequate information by TCTs about patients situation and the possibility of donating (n=14); Positive family climate (n=9); Positive relationships of relatives with healthcare personnel before interview (n=5); Previous positive will towards donation of potential donor (n=5); Private and quiet physical place available to perform consent interview (n=5); Positive likelihood of relatives toward donation (n=4); Knowledge of donors/transplant receptors by relatives (n=4)

**Discussion:** key elements conditioning standard procedures of deceased organ donation seem to be also relevant factors for the obtention of family consent to ICOD.



# Youth and family health

15:25 - 16:55

Karolina Zarychta

15:25 - 16:55

## Sexual behavior in women attempting pregnancy

J. Roseman<sup>1</sup>, G.(. Stadler<sup>2</sup>

<sup>1</sup>Charité – Universitätsmedizin Berlin, Germany

<sup>2</sup>Charité - Universitätsmedizin Berlin, Germany

**Background:** Many couples experience difficulties in conceiving. Sexual behavior and its predictors are therefore of great relevance for developing personalized interventions to improve fertility. The current study seeks to describe sexual behavior in women at different stages of attempting pregnancy. **Methods:** Women (N = 1183, age: M = 31.36) attempting pregnancy completed a questionnaire regarding their current stage in the fertility journey, the frequency of sexual intercourse per month and frequency of intercourse on fertile days. **Findings:** Women who were planning for a pregnancy but had not yet stopped contraceptives reported lower sexual frequency (M = 2.46) than those actively pursuing pregnancy (M = 7.30, t = 14.58, p < .05). Women who had informed themselves, considered, or decided to pursue fertility treatment reported higher sexual frequency (M = 7.51) than those who had not considered treatment (M = 6.08, t = -4.54, p < .05). Women who had more sex in general were more likely to have intercourse on fertile days (r = .26, p < .05). Women who had taken more active steps towards pregnancy were slightly more likely to have more sex generally (r=.14, p<.05) and more likely to have sex on fertile days (r = .26, p < .05). **Discussion:** Sexual behavior in women seeking pregnancy differs at the various stages of their fertility journey. Our findings demonstrate a need for personalized interventions that integrate natural ways of seeking pregnancy with fertility treatment.

## The effectiveness of weight-loss interventions for improving fertility in women and men: systematic review update

E. Hunter<sup>1</sup>, A. Avenell<sup>1</sup>, A. Maheshwari<sup>2</sup>, D. Best<sup>3</sup>, G. Stadler<sup>4,5</sup>

<sup>1</sup>University of Aberdeen, United Kingdom

<sup>2</sup>Aberdeen Fertility Centre, United Kingdom

<sup>3</sup>The University of the West Indies, Barbados

<sup>4</sup>Charite University, Germany

<sup>5</sup>The University of Aberdeen, United Kingdom

Overweight and obesity, common in both women and men of reproductive age, can have a negative impact on fertility outcomes. This systematic review updates randomised controlled trial (RCT) findings on the effectiveness of weight loss interventions in reducing weight and improving reproductive outcomes of women and men with overweight or obesity and infertility.

RCTs involving any type of lifestyle intervention were considered. Eight additional RCTs were identified and included with seven RCTs from the previous review.

Meta-analyses revealed women randomised to receive a combined diet and exercise intervention were significantly more likely to become pregnant, risk ratio, RR = 1.63, 95% CI (1.08, 2.46), intervention: n = 455 vs. control: n = 463, have a live birth, RR 1.66, 95% CI (1.04, 2.64), intervention: n = 427 vs. control: n = 433 and experience ovulation improvement, RR 4.52, 95% CI (1.66, 12.30), intervention: n = 44 vs. control: n = 43, compared to women in control groups. Data was largely obtained from small scale studies. Risk of bias assessment showed the studies to be of moderate quality. No eligible randomised trials involving men were identified.

Better designed, robust randomised trials, adequately powered to detect meaningful differences, are needed to better understand the effect of weight loss interventions on reproductive outcomes in both women and men. Where necessary, future studies should consider involving both partners to fully explore the impact of weight reduction on fertility outcomes.

15:25 - 16:55

# Happy meals are healthy meals: Family mealtime routines and their relation to child nutritional health

V. Knobl<sup>1</sup>, M. Dallacker<sup>2</sup>, R. Hertwig<sup>2</sup>, J. Mata<sup>2,3</sup>

<sup>1</sup>Universität Mannheim, Germany

<sup>2</sup>Max Planck Institute for Human Development, Germany

<sup>3</sup>University of Mannheim, Germany

## Background

Family meals are associated with healthier child nutrition. But what about family meals is “healthy”? Previous meta-analyses based mostly on cross-sectional, observational studies identified six family mealtime routines associated with healthier nutrition, including positive mealtime atmosphere, TV off, and parental role modeling. However, longitudinal field studies on endorsement of such routines in daily meals, their intercorrelations, and their predictive value for children’s nutritional health are missing to date. We hypothesize that a more frequent engagement in such routines is related to healthier nutrition in day-to-day settings.

## Methods

During seven consecutive days, N=310 parents described their most important family meal of the day, food intake for a target child (mean age 9 years), and indicated which mealtime routines were present during the family meal. On average, each parent responded to 5.6 (SD=1.4) of 7 daily surveys.

## Findings

Correlations between mealtime routines were small ( $r_s < .30$ ), suggesting distinct behaviors. The most endorsed mealtime routines were creating a positive atmosphere (91% average endorsement) and turning TV and Smartphone off (90% average endorsement). Best predictors of higher nutritional quality (i.e., higher amounts of vegetable and fruits consumed) were parent’s fruit and vegetable intake ( $p < .001$ ) and creating a positive mealtime atmosphere ( $p = .03$ ).

## Discussion

These results suggest that the mealtime routines deduced from independent studies are distinct routines, are actually endorsed by families in their everyday meals, and predict healthier nutrition in daily family meal settings. Importantly, more experimental research is needed. Family routines are a potentially effective low-cost intervention to improve child nutrition.

15:25 - 16:55

## Differences in perceptions of obesogenic environment between parent-child dyads with excessive and normal body mass

K. Zarychta<sup>1</sup>, A. Banik<sup>1</sup>, E. Kulis<sup>1</sup>, M. Boberska<sup>2</sup>, K. Lobczowska<sup>1</sup>, M. Siwa<sup>3</sup>, A. Luszczynska<sup>2,4</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>2</sup>University of Social Sciences and Humanities, Poland

<sup>3</sup>SWPS University of Social Sciences and Humanities, Wrocław, Poland

<sup>4</sup>National Institute for Human Resilience, University of Colorado at Colorado Springs, United States

**Background:** The aim of this study was to verify possible differences between parent–child dyads with excessive and normal body mass in obesity determinants, derived from social-ecological models. It was hypothesized that parents and their 5–11 years-old children with excessive body mass would (1) report lower availability of healthy food at home, (2) perceive fewer school/local community healthy eating promotion programs, (3) report lower persuasive value of food advertising.

**Methods:** This longitudinal study (T1, baseline; T2, 10-month follow-up) enrolled n = 129 parent–child dyads with excessive body mass and n = 377 parent–child dyads with normal body mass. Self-reported data and objective assessment of body mass were collected from both parents and children. General linear models were performed to test the hypotheses.

**Findings:** Compared to dyads with normal body mass, dyads of parents and children with excessive body mass perceived lower availability of healthy food at home and fewer healthy eating promotion programs at school/local community (T1 and T2). No significant differences in persuasive value of food advertising were found.

**Discussion:** Perceptions of availability of healthy food at home and healthy nutrition promotion may be relatively low in parent–child dyads with excessive weight which, in turn, may constitute a risk factor for maintenance of obesity.

## Body composition and family affluence contribute to difference between self-reported and measured weight

V. Karchynskaya<sup>1</sup>, J. Kopcakova<sup>2</sup>, D. Klein<sup>3</sup>, A. Gaba<sup>4</sup>, A. Madarasova Geckova<sup>5</sup>, J.P. van Dijk<sup>6</sup>, S.A. Reijneveld<sup>7</sup>

<sup>1</sup>PJ Safarik University in Kosice, Slovakia

<sup>2</sup>P J Safarik University, Kosice, Slovakia, Slovakia

<sup>3</sup>Institute of Mathematics, Faculty of Natural Sciences, PJ Safarik University in Kosice, Slovakia

<sup>4</sup>Department of Natural Sciences in Kinanthropology, Faculty of Physical Culture, Palacky University in Olomouc, Czech Republic

<sup>5</sup>University of Pavol Jozef Safarik in Košice, Slovakia

<sup>6</sup>Department of Community and Occupational Medicine, University Medical Center Groningen, University of Groningen, Groningen, Netherlands

<sup>7</sup>Department of Community and Occupational Medicine, University Medical Center Groningen, University of Groningen, Groningen, Netherlands

**Background:** The screening of overweight and obesity in adolescents is mostly based on the body mass index (BMI) calculated from self-reported height and weight. However, accuracy of self-reported height and weight may vary, depending on several factors. This may result in an underestimation of the prevalence of overweight and obesity prevalence. The aim of this study is to explore the degree to which age, gender, family affluence and body composition contribute to discrepancy between self-reported and measured weight.

**Methods:** The sample consisted of 782 Slovak adolescents aged from 11 to 15 years old (mean age=13.5; 55.8% boys) who participated in the Health Behaviour in School-aged Children cross-sectional study conducted in 2018. The contribution of age, gender, family affluence, and overweight and obesity (by proportion of fat) to differences between self-reported and measured weight was analysed using the generalized linear model.

**Findings:** Self-reported weight was significantly lower than measured weight in overweight and obese adolescents (B/95% CI: -2.49/-1.91 – -3.06, mean weight difference/SD in kilograms: -2.71/3.93) as well as in adolescents from high affluent families (B/95% CI: -0.60/0.02 – -1.17, mean weight difference/SD in kilograms: -0.95/3.11) in comparison to other children. We did not confirm a significant contribution of age or gender to difference between self-reported and measured weight.

**Discussion:** Screening of overweight and obesity among adolescents using solely BMI based on self-reported height and weight might lead to a bias particularly in overweight and obese adolescents and adolescents from high affluent families. Both groups report to be lighter.

15:25 - 16:55

## Is sufficient physical activity and good health associated with cardiorespiratory fitness among adolescents?

J. Kopcakova<sup>1</sup>, D. Husarova<sup>2</sup>, P. Bakalár<sup>3</sup>, J. Michal<sup>4</sup>, S. Stranavska<sup>4</sup>, N. Halmova<sup>5</sup>, J. Kanasova<sup>5</sup>

<sup>1</sup>P J Safarik University, Kosice, Slovakia, Slovakia

<sup>2</sup>PJ Safarik University in Kosice, Slovakia

<sup>3</sup>University of Prešov, Faculty of Sports, Slovakia

<sup>4</sup>Faculty of Arts, Matej Bel University in Banska Bystrica, Slovakia

<sup>5</sup>Faculty of Education, Constantine The Philosopher University, Nitra, Slovakia

**Background:** Healthy active living during adolescence supports optimal health and growth of the individual. Regular physical activity is important aspect of the health behaviour of adolescents. Moreover, self-rated health is a relevant construct for a healthy lifestyle and is used to capture a person's perception of their overall health status. Poor cardiorespiratory fitness increases the risk of morbidity and mortality. In addition, cardiorespiratory fitness can be improved by increasing the amount or intensity of physical activity. Therefore, the aim of this study is to examine the association of physical activity and self-rated health with cardiorespiratory fitness.

**Methods:** The sample consisted 888 Slovak adolescents aged from 11 to 15 years old (mean age 12.97; SD 1.20; 56.0 % boys) who participated in physical fitness measurement within the Health Behaviour in School-aged Children study conducted in 2018 in Slovakia. We used binary logistic regression models adjusted for age and gender to examine the associations of objectively measured cardiorespiratory fitness with subjectively measured moderate-to-vigorous physical activity and self-rated health.

**Findings:** Results showed that sufficient moderate-to-vigorous physical activity (Odds ratio/95% confidence interval: 0.89/0.85- 0.93,  $p < .001$ ) and good self-rated health (Odds ratio/95% confidence interval: 0.94/0.90-0.99,  $p < .05$ ) are associated with level of cardiorespiratory fitness among Slovak adolescents.

**Discussion:** Better cardiorespiratory fitness of adolescents is associated with sufficient level of physical activity and good self-rated health. Improvement of cardiorespiratory fitness might be helpful in prevention of selected health-related behaviour among adolescents.

15:25 - 16:55

## Associations between asthma and traumatization in childhood

M. Petrikova<sup>1</sup>, N. Kaščáková<sup>1,2</sup>, J. Fürstová<sup>1</sup>, J. Hašto<sup>1,2</sup>, P. Tavel<sup>1</sup>

<sup>1</sup>Olomouc University Social Health Institute, Palacky University Olomouc, Univerzitni 22, 77111 Olomouc, Czech Republic, Czech Republic

<sup>2</sup>Psychiatric-Psychotherapeutic Outpatient Clinic, Heydukova 27, 81108 Bratislava, Slovakia, Slovakia

**Background:** Some studies show links between childhood traumatization and asthma in adulthood. The aim of this study is to assess the associations between various types of abuse and neglect and asthma.

**Methods:** Using a cross-sectional data from Slovak representative sample (N = 1018, mean age 46.24 years, 48.7 % men) we collected data on health status and the Childhood Trauma Questionnaire (CTQ). The selected group of respondents reporting asthma (N = 45, mean age 57.36 years, 42.2 % men) was compared with participants reporting no chronic conditions (N = 375, mean age 36.6 years, 57.6% males) and with participants reporting other chronic conditions than asthma (N = 598, mean age 51.4 years, 43.6% males). Results were analysed by multinomial logistic regression model, adjusted for gender and age.

**Findings:** The results indicate that reporting various types of abuse and neglect, and reporting of more than 3 types of childhood trauma was associated with a higher odds of reporting asthma compared to a population reporting no chronic disease (OR's from 2.3 to 9.5;  $p < 0.001$ ). Reporting of emotional and physical abuse as well as more than 3 types of childhood trauma was associated with a higher odds of reporting asthma compared to a population reporting other chronic conditions than asthma (OR 2.5,  $p = 0.011$ ; OR 3.3,  $p < 0.001$ ; OR 3.3,  $p = 0.004$ ).

**Discussion:** Knowledge of the links between traumatization in childhood and asthma in adulthood can help to better understanding of psychosomatic aspects of health and to better planning of therapeutic strategies in asthma.



15:25 - 16:55

## Anxiety in young adults before dental surgical procedures and its effect on postoperative pain intensity

T. Sbirikova<sup>1</sup>, R. Massaldjieva<sup>1</sup>, D. Neychev<sup>1</sup>, R. Raycheva<sup>1</sup>

<sup>1</sup>Medical University in Plovdiv, Bulgaria

The aim of this study is to assess the anxiety in young adults before surgical procedure of removal of impacted mandibular third molars and its effect on postoperative pain intensity. We studied 40 clinically healthy patients with no pain in the area of the tooth to be extracted, 12 males and 28 females. Screening interview for psychopathology, measurement of physiological parameters; VAS scale for pain intensity and Bulgarian version of STAI, Form Y-1, were used. No correlation was found between the intensity of pain after the first procedure and the anxiety before the procedure. In the second procedure, we found a significant moderate positive correlation between preoperative anxiety and postoperative pain at 6, 24, 48 hours in females ( $r=0.56, r=0.41$  and  $r=0.45$ ,  $p < 0.05$ , respectively), but not in males. The mean pain intensities measured at hour 6 after the first and the second surgical procedure were significantly different - lower intensity after the second intervention. There was a clear trend to a significant decrease in the total score for anxiety before the second procedure, in both sexes (paired t-test,  $t=2.13$ ,  $p=0.059$ , in males and  $t=1.14$ ,  $p=0.263$  in females). Our results showed lower anxiety before the second surgical procedure that we explain with the experience during first removal and its impact on the attitude towards the forthcoming new procedure. Patients' awareness before the surgery and the individual experience gained from the surgical procedure are factors which modify anxiety and intensity of postoperative pain and are of paramount importance during surgery.

15:25 - 16:55

## Young adults' attitudes towards people with depression: gender matters

V. Šičienė<sup>1</sup>, K. Žardeckaitė-Matulaitienė<sup>1</sup>

<sup>1</sup>Vytautas Magnus University, Lithuania

**Background.** Research indicates that stigmatizing attitudes towards people with mental illness, including depression, affect their help-seeking behaviour. Moreover, negative public attitudes towards these people might impair their treatment and emotional well-being. As prevalence of depression is increasing in all age groups, including young adulthood, the goal of this study was to analyse the attitudes of young males and females towards both gender with depression.

**Methods.** A quasi-experiment with two types of vignettes presenting men or women with depression was used. Participants had to express three types of attitudes (cognitive, emotional and behavioural) towards a person in vignette. 101 young adult (49 men, 52 women; age ranged 18-40, mean age - 30.47) participated in this study.

**Findings.** Results showed that women expressed a negative emotional reaction and negative beliefs towards people with depression more often than men; however, they also expressed more positive behavioural reactions towards such people than men. The study also showed that young adults tended to express their negative emotional reaction and beliefs about women with depression more often than about men, but their behavioural reactions towards men and women with depression did not differ. Personal experience with people with depression is related with more positive attitudes towards these people.

**Discussion.** Unequal attitudes towards men and women with depression should be targeted in planning and implementing the prevention against discrimination of people with depression, as well as in changing the society's attitude towards such people.

15:25 - 16:55

## Gender-based stereotypes, the family environment, and food intake among adolescents in Costa Rica

B. Reyes Fernandez<sup>1</sup>, R. Monge-Rojas<sup>2</sup>

<sup>1</sup>University of Costa Rica, Costa Rica

<sup>2</sup>Instituto Costarricense de Investigación y Enseñanza en Salud, Costa Rica

**Background:** the aim was to examine the association between family environment variables (parenting styles, family meal atmosphere), gender-based stereotypes, and food intake in Costa Rican adolescents.

**Methods:** Cross-sectional data was collected from a sample of adolescents (n = 813; 13-18 y. o) living in urban and rural sites in Costa Rica (multistage sampling). Validated measures for gender-based stereotypes, and family environment variables were used as inputs, and a consumption assessment of five food groups was used as output in Structural Equation Models.

**Findings:** Data suggest associations between gender stereotypes and intake of fruits and vegetables (FV) ( $\beta = 0.20$ ), fast food (FF) ( $\beta = -0.24$ ), and ultra-processed foods (UPF) ( $\beta = -0.15$ ) among urban girls; intake of legumes among rural girls ( $\beta = 0.16$ ) and intake of sugar-sweetened beverages (SSB) among rural boys ( $\beta = 0.22$ ). Family meal atmosphere was associated with legume intake ( $\beta = 0.19$ ) among rural girls. Authoritative parenting style was associated with FV ( $\beta = 0.23$ ) among urban boys and FF ( $\beta = 0.17$ ) among urban girls. Authoritarian style was associated with FV ( $\beta = 0.19$ ) among rural boys, and with SSB and FF ( $\beta = 0.21$ ;  $\beta = 0.14$  respectively) among urban girls. All these associations were, at least,  $p < .05$ .

**Discussion:** Findings are the first to describe associations between family environment, gender stereotypes and food intake within the complex cultural Costa Rican context, and have implications for public health policies and psychosocial interventions. Further research is required.

# eHealth and mHealth

15:25 - 16:55

15:25 - 16:55

## Increasing self-regulation technique use in a health app with reminders and feedback: Factorial N-of-1 RCT

J. Nurmi<sup>1,2</sup>, K. Knittle<sup>1</sup>, A. Haukkala<sup>1,3</sup>

<sup>1</sup>Discipline of Social Psychology, University of Helsinki, Finland

<sup>2</sup>Behavioural Science Group, University of Cambridge, United Kingdom

<sup>3</sup>Helsinki Collegium for Advanced Studies, University of Helsinki, Finland

**Background:** The use of self-regulatory behaviour change techniques is consistently linked with increased physical activity, but what helps individuals to use these techniques is less well-known. The 'Precious' app was built to examine specific intervention elements in individuals. This study explores if individuals do more goal setting and action planning and take more steps on the days they receive reminders to their smartphone. The reminders consist of (1) prompts to set a step goal and to make an action plan, and (2) feedback on steps, step goal progress and goal achievement.

**Methods:** Twelve participants will use the Precious app and activity bracelet for six weeks during which they receive repeated, randomly-timed reminders to set goals and make plans, and feedback on their activity. Participants were recruited with a newspaper advertisement. Healthy adults were accepted if they provided the consent to install the study app in their phones and to wear an activity bracelet during the 6 week study. Those with low activity and low motivation were prioritised. The intervention effects on individuals' daily steps and goal setting will be analysed with within person N-of-1 time-series analysis and multilevel models. This trial was registered on DRKS under DRKS00012277, Universal trial number: U1111-1200-6057.

**Expected results:** We expect the data to reveal increased goal setting, action planning, and steps on the days participants received interventions.

**Current stage of work:** Six participants have completed the trial.

**Discussion:** Understanding the determinants of self-regulation may help increase goal setting and action planning, and future intervention effectiveness.

15:25 - 16:55

## Exploring behavioural predictors of psychological distress among adults with and without diabetes using digital phenotyping

A. Mc Inerney<sup>1</sup>, N. Schmitz<sup>2</sup>, M. Matthews<sup>1</sup>, S. Deschênes<sup>1</sup>

<sup>1</sup>University College Dublin, Ireland

<sup>2</sup>McGill University, Canada

**Background:** Symptoms of psychological distress are common in diabetes and pose a significant threat to functioning and health. Early identification of those at high risk of distress is essential but is hindered by lengthy between-assessment durations in most clinical and research settings. For optimal preventive strategies, understanding the influence of modifiable lifestyle factors within and across hours and days is necessary. This is achievable with digital phenotyping, by examining longitudinal behavioural data inferred from smartphone sensors and ecological momentary assessments (EMAs: daily self-report behaviour and mood). This study aims to identify the digital phenotypes most associated with changes in distress in diabetes compared to controls.

**Methods:** Adults in Ireland with (n=50) and without (n=50) diabetes are recruited. Two months of daily EMAs and phone sensor data indicative of movement, screen-time, and social interaction are collected. Psychosocial, health, and lifestyle questionnaires are completed at baseline, 1-month, and 2-months follow-up. Correlations between digital phenotypes and trajectories of distress over time will be examined using hierarchical linear modelling and compared for those with and without diabetes.

**Expected Results:** Reduced movement and sleep, more screen-time, and fewer interactions are expected to predict greater distress with a stronger association expected for those with diabetes.

**Current Stage of Work:** Approval was granted by University College Dublin's Ethics Committee. Data collection began in February 2021 and is expected to be completed by June 2021.

**Discussion:** This study will help elucidate the behavioural ethology of psychological distress in diabetes with potential implications for health monitoring in the community.

15:25 - 16:55

# Online Self-Care Training Programme to reduce Burnout and promote Work Engagement in Psychologists: MAGO Study

P. Hernández Lillo<sup>1</sup>, S. Cipolletta<sup>1</sup>, C. Novara<sup>1</sup>, I. Wolnitzky<sup>2</sup>, F.A. Gálvez Sánchez<sup>2</sup>

<sup>1</sup>Università degli Studi di Padova, Italy

<sup>2</sup>Universidad de Chile, Chile

## Background:

The aim of this study is to determine the efficacy of MAGO (Online Self-care Training Program for Psychologists), a new person-directed, individual, occupational intervention via videoconference in six weekly sessions. By promoting self-care behaviors, it is expected to reduce burnout levels and to increase work engagement in clinical psychologists working in Chile.

## Methods:

It is a parallel, two-armed Randomized Controlled Trial with three assessment points (baseline, post-intervention, and six-month follow-up). Chilean clinical psychologists working in the public sector will be randomized for the program or a no-treatment group. The sample size has been estimated in 72 participants (36 for each group). Web-delivered measures are Beck Anxiety Inventory, Beck Depression Inventory, Maslach Burnout Inventory Human Services, Utrecht Work Engagement Scale, Self-Care Assessment for Psychologists, General Health Questionnaire, and Multidimensional Scale of Perceived Social Support.

## Analysis:

Differences between groups will be assessed using Chi-square tests for categorical variables and ANOVA for continuous data, both baseline and differences between groups at the end of the intervention. The evaluation of the pre / post-intervention differences will be carried out by repeated measures ANOVA (Baseline, post-intervention, and follow-up).

## Expected results:

The experimental group will enhance work engagement and reduce burnout, specifically emotional exhaustion subscale, as well as increasing general health and perceived social support (secondary outcomes).

## Current state of the work:

Intervention is being held.

## Discussion:

This study is the first Randomized Controlled Trial on burnout in Chile, representing a step forward in testing the effectiveness of new treatments.

## Validation of the Digital Literacy Scale with both Portuguese adolescents and adults

M. M. Dias<sup>1</sup>, M. C. Ferreira<sup>1</sup>, I. Patrão<sup>1,2</sup>, F. Pimenta<sup>1,3</sup>

<sup>1</sup>ISPA-Instituto Universitário, Portugal

<sup>2</sup>APPsyCI - Applied Psychology Research Center Capabilities & Inclusion, Portugal

<sup>3</sup>WJCR-William James Center for Research, Portugal

**Background:** Indiscriminate use of the internet exposes people to risks, which can lead to harmful biopsychosocial consequences. Digital literacy might be an important tool to prevent online dangers and their negative repercussions, as well as promote resilience and better access to online health and information. The present study aims to validate the Portuguese version of the Digital Literacy Scale (DLS) in two samples of Portuguese adolescents and adults from Madeira Islands. **Methods:** The DLS is a self-report scale consisting of 28 items that assess digital literacy skills, (e.g., Critical Skill, Informational Skill). The sample gathers 1,586 adolescents and 817 adults. Their ages vary between 12 and 19 years ( $M=14.78;SD=1.89$ ) with 52.6% being women, and 25 and 68 years ( $M=45.02;SD=6.137$ ) of which 80.7% are female, respectively. Construct validity, sensitivity and reliability were explored. **Findings:** DLS items presented good psychometric sensitivity in both samples. The refined model supported a six-factor structure with a good fit, for both the youth ( $\chi^2/df=4.805$ ;  $RMSEA=.049$ ;  $P(rmse\leq.05)=.714$ ;  $CI\ 90\%=[.046;.052]$ ;  $NFI=.955$ ;  $CFI=.964$ ;  $TLI=.958$ ) and adult ( $\chi^2/df=3.584$ ;  $RMSEA=.056$ ;  $P(rmse\leq.05)=.003$ ;  $CI\ 90\%=[.053;.060]$ ;  $NFI=.920$ ;  $CFI=.941$ ;  $TLI=.931$ ) sample. Of the six-factors, Personal Security, Devices Security and Critical factors showed convergent validity in both samples. For the adolescents sample, only 7 of the 15 paired factors presented discriminant validity, and only 5 of the 15 paired factors for the adult sample. The scale showed good internal consistency for both samples. **Discussion:** The Portuguese version of the DLS demonstrates promising evidence of validity, sensitivity and reliability to assess both Portuguese adolescents and adults' digital literacy.



15:25 - 16:55

## An evaluation of a functionality based positive body image intervention in students

E. Urvelytė<sup>1</sup>, A. Perminas<sup>2</sup>

<sup>1</sup>Vytautas Magnus university, Lithuania

<sup>2</sup>Vytautas Magnus University, Lithuania

Positive body image is a multidimensional construct that includes love and respect for the body (Tylka & Wood-Barcalow, 2015). Body functionality means everything that body is able to do, including physical capacities, bodily senses, sensations and internal processes. (Alleva, Martijn, Van Breukelen, Jansen, & Karos, 2015).

This study investigated the effects of a functionality based positive body image online program. Female students from Kaunas city (N=117, M age= 22,08) were randomised to one week online programme or control group. Respondents completed measures of body appreciation, body functionality, body objectification, body image quality of life at pretest and posttest.

The results of this study showed that, compared to control group students in functionality based positive body image program experienced improvements in body appreciation, body functionality and body image quality of life. Contrary than we expected, program did not lead to lower body objectification.

The result of the present study demonstrate that short term, online, functionality based positive body image intervention could be effective to increase female students body positivity and quality of life related to body image.

15:25 - 16:55

## Individual and environmental determinants of physical activity and sedentary behavior: an ecological momentary assessment

J. Delobelle<sup>1</sup>, E. Lebuf<sup>1</sup>, T. Vetrovsky<sup>2</sup>, G. Crombez<sup>1</sup>, F. De Backere<sup>1</sup>, J. Van Cauwenberg<sup>1</sup>, D. Van Dyck<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Charles University, Czech Republic

**Background:** Ecological momentary assessment (EMA) is an innovative monitoring strategy, involving repeated sampling of behaviors and experiences in their natural environment. The aim of the present study is to determine the dynamic nature of individual and environmental determinants of physical activity (PA) and sedentary behavior (SB), using event-based EMA. This methodology is novel in this research domain.

**Method:** An observational study with 140 healthy older adults (65+) will be conducted. Participants will be monitored with a Fitbit during seven consecutive days. The Fitbit will trigger a smartphone application (HealthReact) when a participant is moderately physically active (for 5 minutes, >60 steps/minute) or sedentary (for 30 minutes, <10 steps/minute). Subsequently, the HealthReact application will prompt a questionnaire on the smartphone. A maximum of six prompts per day will be set. The HealthReact software/application has been specifically developed for time- and event-based EMA studies, to determine the time- and context-dependency of determinants of PA and SB. Data will be analyzed using multi-level analyses with a time-dependent correlation structure.

**Expected results:** We expect to capture the time-varying and context-varying fluctuations of the psychosocial and contextual determinants of PA and SB in real time.

**Current stage of work:** Currently, no results are available yet. The EMA study will take place between September 2021 and March 2022.

**Discussion:** This EMA study is a first step in the development of more effective behavioral change interventions to increase PA and decrease SB. The findings will have important implications for developing just-in-time-interventions.

15:25 - 16:55

## What Do You Find When Searching for Online Cancer-Related Information: Two Experimental Studies

S. Chopard<sup>1</sup>, J. Tscherrig<sup>2</sup>, K. Ledermann<sup>1,3</sup>, F. Fasseur<sup>4</sup>, O. Abou Khaled<sup>2</sup>, T. Berger<sup>5</sup>, C. Martin-Soelch<sup>1</sup>

<sup>1</sup>Department of Psychology, Unit of Clinical and Health Psychology, University Fribourg, Switzerland

<sup>2</sup>Department of Informatics, University of Applied Sciences of Western Switzerland, Switzerland

<sup>3</sup>Department of Consultation-Liaison Psychiatry and Psychosomatic Medicine, University Hospital Zurich, University of Zurich, Switzerland

<sup>4</sup>Faculty of Social and Political Sciences, University of Lausanne, Switzerland

<sup>5</sup>Department of Psychology, Clinical Psychology and Psychotherapy, University of Bern, Switzerland

**Background:** Although health-related information is the most frequently sought information online, there are increasing concerns about the quality of the information and the patients' ability to identify and interpret it. Here, we aimed to investigate the online search behavior regarding cancer-related information of students in order to understand the satisfaction with and the perceived quality of the information found.

**Methods:** We performed two studies investigating the online search behavior regarding cancer-related information in two samples of healthy university students using an innovative tracking system. In the first pilot study (N = 65), we investigated the perceived satisfaction with and the perceived reliability of the information found. In the second study (N = 49), we explored more in depth the reasons for the lack of satisfaction and the type of information sought online using the same tracking system.

**Results:** Results showed that satisfaction with and perceived reliability of online-cancer related information was low when healthy participants searched for this information. We found that the level of usefulness, credibility, and quality perceived toward the information found is higher if websites display a certification label. The most frequently visited websites were the official websites of recognized organizations. Furthermore, the level of Internet skills was significantly correlated with information understanding.

**Discussion:** The main findings suggested that satisfaction with cancer-related information is generally low and that the presence of a certification label represents a relevant guide for users. Furthermore, users' Internet skills predicted their ability to find quality information and helped to understand it better.

15:25 - 16:55

## The degree of self-imposed goal achievement and levels of attainment within family members in SMARTFAMILY

K. Wunsch<sup>1</sup>, J. Fiedler<sup>1</sup>, T. Eckert<sup>1</sup>, A. Woll<sup>1</sup>

<sup>1</sup>Karlsruhe Institute of Technology, Germany

**Background:** Addressing behavioral changes embedded in daily family life by means of collective goal-setting approaches might be promising for facilitating an individual's behavior change and corresponds to assumptions of family-as-systems approaches (Cox & Paley, 2016). Aim of the current investigation is to examine the degree of self-imposed goal achievement for physical activity (PA) and fruit and vegetable intake (FVI) during the three-week intervention period in the SMARTFAMILY trial and to explore family members' individual attainment.

**Methods:** Mean number of steps taken and FVI are compared to self-imposed goals to quantify goal achievement which is defined as the relative relation of actual PA/ FVI to set goals of respective categories. Moreover, to examine whether goal achievement was driven by either parents or children, results will be explored regarding the degree to which individuals contributed to goal achievement (i.e. goal attainment).

**Expected results:** Preliminary results revealed that goal achievement, i.e. the relative ratio of set goals and achieved behavior outcome, was lowest in the last week of the intervention. In a next step, contributions of children and parents will be analyzed separately to explore attainment levels of family members.

**Current stage of work:** Until today, 16 families (28 children, 31 adults) completed the intervention described elsewhere (Wunsch et al., 2020).

**Discussion:** The contribution of children and/or parents to behavioral outcomes can not be calculated yet and will be presented at the conference. Results will have direct implications for target-group-specific implementation of future mHealth interventions.

15:25 - 16:55

# Fitbit's accuracy to measure short bouts of physical activity and sedentary behavior: a validation study

E. Lebuf<sup>1</sup>, J. Delobelle<sup>2</sup>, T. Vetrovsky<sup>3</sup>, D. Van Dyck<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Universiteit Gent, Belgium

<sup>3</sup>Charles University, Czech Republic

## Background:

Sedentary behavior (SB) and insufficient physical activity (PA) are known to have unfavorable effects on our mental and physical well-being. Nevertheless, physical inactivity and SB levels are still alarmingly high worldwide. Appropriate e- and mHealth interventions (e.g. just-in-time-adaptive interventions (JITAs)) using wearables like Fitbit could counter this health problem. To ensure Fitbits are suitable devices to trigger just-in-time notifications, it is important to examine the accuracy of the Fitbit to measure short bouts of SB (sitting 30 minutes) and PA (walking 5 minutes).

## Methods:

25 adults (18-65y) and 25 older adults (65+) will be recruited. Four different motion trackers will be worn for three consecutive days: a Fitbit Ionic and a Fitbit Inspire 2 at the wrists, an ActivPal for SB at the thigh and an Actigraph for PA at the hip. Correlation analysis and Bland-Altman plots will be used to compare the Fitbits with the two validated devices, as well as the data of the two Fitbits themselves.

## Expected results:

To gain knowledge about whether the Fitbits are valid to measure short bouts of SB and PA. We hypothesize that the data of the different Fitbit models will be comparable.

## Current stage of work:

Data collection takes place between March and June, results can be presented during EHPS.

## Discussion:

If shown valid, Fitbits have great potential to act as a self-monitoring device in behavior change interventions. Furthermore, questionnaires or supporting messages could be initialized following a(n) (un)favorable event (eg sitting 30 minutes; event-based ecological momentary assessment).

15:25 - 16:55

# Older adults' experiences and perceptions of immersive virtual reality: a systematic review and thematic synthesis

D. Healy<sup>1</sup>, A. Flynn<sup>1</sup>, O. Conlan<sup>2</sup>, J. Mc Sharry<sup>1</sup>, J. Walsh<sup>3</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>Trinity College Dublin, Ireland

<sup>3</sup>NUI Galway, Ireland

**Background:** In the current digital age, new opportunities arise to support healthy ageing in older adults as frailty and immobility become more prominent. Immersive virtual reality (IVR), which can be defined as a fully computer-generated environment that is displayed through a head-mounted display, is one of these technologies. Recently, there has been an increase in the number of qualitative studies exploring the potential for IVR in assisting older adults – providing opportunities in health promotion and tackling social isolation and loneliness. This review aims to explore the following research questions: (1) What are older adults' experiences and perceptions of IVR? (2) What are the specific barriers and facilitators to older adults' use of IVR? (3) Do older adults find IVR acceptable?

**Methods:** A systematic review and thematic synthesis will be conducted. Two reviewers will complete title, abstract and full-text screening and, data extraction and quality appraisal. The lead author will complete data analysis.

**Expected results:** So far, initial coding has identified key barriers and facilitators to older adults use of IVR as well as rich qualitative data detailing their experiences and perceptions of IVR. The next step involves organising these codes into themes.

**Current stage of work:** Data analysis.

**Discussion:** This study is part of a PhD project which is developing an IVR behaviour-change intervention to reduce prolonged sedentary behaviour in older adults, which it will have direct implications for. The outputs of this study will provide guidance for the use of IVR in health psychology research and beyond.

15:25 - 16:55

# The road from interviews and focus groups to a digital eHealth tool

A. Looijmans<sup>1</sup>, M. Tuinman<sup>1</sup>, M. Hagedoorn<sup>2</sup>

<sup>1</sup>University Medical Center Groningen, Netherlands

<sup>2</sup>University of Groningen, Netherlands

**Background:** Informal caregivers care for their incurably ill loved-ones with love, although it can be very burdensome. Caregivers experience struggles in balancing caregiving tasks and their social life, work or hobbies, and often fail to set boundaries. We aimed to develop a digital tool to support informal caregivers of patients in the palliative phase, to balance their personal wishes with caregiving demands, and to think about their boundaries. This presentation highlights the practical steps during the development process, and we provide examples of challenges and our solutions.

**Methods:** We developed the tool according to the CeHRes (Centre for eHealth & Wellbeing Research) roadmap of the University Twente, starting with qualitative interviews, focus groups and user testing with low fidelity and usability testing with high fidelity prototypes, with caregivers and experts.

**What went wrong:** During interviews, how do you balance between being open to all information provided by caregivers, and taking into account that you will develop a digital tool? How to deal with focus group participants who envision different things in discussing 'a digital tool'? What does it take to collaborate with software developers?

**Possible solutions** Decide in advance the boundaries that you set when interviewees drift away from the topic or are already too much focused on a digital solution. Prior to the focus group, we shared three examples of digital tools and evaluated these tools. First of all, chat with many software developers and pick the one who speaks the same (your) language.

**Conclusions:** Keep breathing, keep talking.

15:25 - 16:55

# A Systematic Review of Ontologies in the context of Physical Activity

M. Braun<sup>1</sup>, S. Carlier<sup>2</sup>, F. De Backere<sup>2</sup>, A. De Paepe<sup>1</sup>, G. Crombez<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Ghent University - imec, Belgium

**Background:** Many adults intend to lead a more active lifestyle, but often fail in translating that intention into behavior. Planning in particular has been shown to help people in achieving their goals, but creating high quality plans can be challenging. M-Health interventions can support users in creating plans, and provide opportunities to personalize and contextualize suggestions. We will develop an ontology-based application, which combines knowledge from various sources into a computer-readable system. For this, we first need to identify relevant profile and context factors on an individual level, as well as relevant plan characteristics.

In a first step, we will review the literature for ontologies that have been used to increase physical activity, and in particular focus on the used ontologies for “activity type”, “time”, “personal profile”, “physical environment” and “social context”. These ontologies may help us in addressing “What plans work for whom under which circumstances?”.

**Methods:** : A scoping review will be conducted to identify existing ontologies, describe their development and assess their quality. Then, relevant papers will be categorized depending on which aspect of our research question they address. We will also report concepts that do not fit our domains and discuss their relevance.

**Expected results:** We expect to identify relevant categorizations of the domains “activity type”, “time”, “personal profile”, “physical environment” and “social context”.

**Current stage of work:** We are currently developing the protocol.

**Discussion:** This review paves the way for innovative approaches to personalization by identifying relevant ontologies as well as gaps in the literature.



# Stress, physiology and health

15:25 - 16:55

Jutta Mata

15:25 - 16:55

## On the effect of cardiac interoceptive biofeedback on interoceptive abilities and emotion regulation

G. Karanassios<sup>1</sup>, C. Schillings<sup>1</sup>, D. Schultchen<sup>1</sup>, O. Pollatos<sup>2</sup>

<sup>1</sup>Ulm University, Germany

<sup>2</sup>University of Ulm, Germany

**Background:** Interoception can be described as the sensing of internal bodily signals. Interoception plays an important role for the processing and regulation of emotions. Therefore, it is a relevant marker for mental health. Interoceptive cardiac biofeedback is a new approach of training interoceptive abilities. So far, only short-term effects for the training of interoception were assessed and data on long term effects are still missing. The aim of the study was to investigate if cardiac interoceptive feedback can lead to a long-term increase in interoceptive abilities and emotion regulation through a three-week intervention.

**Methods:** 40 healthy participants were randomly assigned to either the intervention or control group. Participants of the intervention group underwent the cardiac interoceptive biofeedback training as suggested by Meyerholz et al. (2019) and two additional body-related online modules. Participants of the control group watched a documentary instead. During the four time points of measurement assessed variables were interoceptive abilities, using the heartbeat tracking task, self-report questionnaires and emotion regulation abilities via questionnaires.

**Findings:** For the intervention group a short-term effect for cardiac interoceptive biofeedback on interoceptive abilities could be found. Regarding the long-term effect over four weeks, the results showed a more complex pattern between different interoceptive domains. Furthermore, a trend towards the increase in emotion regulation abilities over the time course could be found.

**Discussion:** Our study suggests that cardiac interoceptive biofeedback might be a promising tool in the training of interoceptive abilities presumably both as short-term effect as well as in the long-term time range.

15:25 - 16:55

## Effects of a cardiac interoceptive biofeedback training on interoceptive abilities and stress

C. Schillings<sup>1</sup>, G. Karanassios<sup>1</sup>, D. Schultchen<sup>1</sup>, O. Pollatos<sup>2</sup>

<sup>1</sup>Ulm University, Germany

<sup>2</sup>University of Ulm, Germany

**Background:** Interoception is defined as the ability to detect internal bodily signals and related to different health-related variables such as stress. Due to impaired interoception in diverse mental disorders and high stress levels in the general population, improving interoceptive abilities and reducing stress is of great importance. First results showed promising short-term effects of a cardiac interoceptive biofeedback training on interoceptive accuracy. The aim of the study was to investigate the effects of a three-week cardiac interoceptive biofeedback training on interoceptive abilities and stress.

**Methods:** 40 healthy participants were randomized to the intervention group or the control group. The intervention consists of three cardiac interoceptive biofeedback training sessions as suggested by Meyerholz et al. (2019) and two complementary body-related online modules. The control group watched a documentary instead. Measurements took place in the laboratory before and after the training sessions as well as one week after the last session. Interoceptive abilities were assessed via the heartbeat perception task (interoceptive accuracy) and confidence ratings (interoceptive sensibility). Perceived stress was assessed via questionnaires.

**Findings:** Interoceptive accuracy was significantly increased in the intervention group as compared to the control group after the first training session. A descriptive trend of improved interoceptive abilities over time were found. There were no significant effects on stress levels.

**Discussion:** Single sessions of cardiac interoceptive biofeedback training seem to be a promising approach to improve interoceptive accuracy. Future research should further investigate the effects of diverse biofeedback trainings varying in frequency and intensity of the training sessions.

15:25 - 16:55

## The role of anxiety in changes of dietary behaviour among acute coronary syndrome patients

F. Brivio<sup>1</sup>, A. Greco<sup>1</sup>, P. Steca<sup>2</sup>

<sup>1</sup>University of Bergamo, Italy

<sup>2</sup>University of Milan-Bicocca, Italy

**Background:** The Health Action Process Approach (HAPA; Schwarzer, 2008) represents one of the most recognized models to explain the change in health behaviours in different population, highlighting a process that consists of at least a motivation phase and a volition phase. However, scant attention is given to barriers that could play a role during the different phase of change. Different studies highlight the adverse link between anxiety and lifestyle changes. This is a two-year longitudinal study aimed to test the efficacy of the HAPA model in explaining diet changes in patients affected by Acute Coronary Syndrome (ACS) and to investigate the role of anxiety on changes.

**Methods:** The study involved 275 patients (84% men; mean age=57.0), following the first ACS event. Dietary behaviour and anxiety were assessed during four timepoints (baseline, 6-month, 1 year and 2 years). The effects of anxiety on the links among variables of the HAPA model were explored using multi-group path analyses models.

**Findings:** The results showed adequacy of the HAPA model in explaining changes in dietary behaviour among ACS patients ( $\chi^2 = 68.54$ ,  $p < .01$ , RMSEA = .068, SRMR = .096). Moreover, the results of the multi-group path analyses models also showed that anxiety act indirectly on behavioural change, exerting negative effects among variables, both during motivation and volition phases.

**Discussion:** The findings obtained could be used in clinical practice to facilitate the implementation of diversified tailored intervention programs to improve dietary behaviour of ACS patients.

15:25 - 16:55

## Affective Cognitive Flexibility predicts Examination Stress

E. Grimm<sup>1</sup>, S. Agrigoroaei<sup>1</sup>

<sup>1</sup>Universite Catholique de Louvain, Belgium

**Background:** With the stress-cognition literature being largely focused on stress-related cognitive impairments, less is known about the opposite direction of this relationship: cognitive functioning as a resilience factor of stress. The current study aim was to investigate the role of cognitive flexibility in the presence of emotional material in predicting not only student examination stress, but also worry, threat and challenge appraisals, and coping strategies ahead of the exams.

**Method:** First-year undergraduate students (N=134, aged 19 to 39, M=20.66, SD=2.29) completed a cognitive task online at home one month before the June exam period, as well as an online questionnaire one week before. The Affective Cognitive Task was used to measure four different switch costs, namely negative affective, negative non-affective, positive affective, and positive non-affective. We also measured the extent to which individuals (a) worried about their upcoming exam, (b) perceived the exam as challenging or threatening, and (c) applied adaptive and maladaptive strategies to cope.

**Findings:** Longer switch costs when switching towards the non-affective rule in the presence of positive material significantly accounted for greater exam-related stress ( $\beta=0.24$ ,  $p<.010$ ), when accounting for worry, appraisal, and coping. Larger switch costs when switching away from negative material ( $\beta=0.21$ ,  $p<.050$ ) was associated with a greater tendency to perceive the examination period as challenging. Affective flexibility did not predict worry, coping, nor threat appraisal.

**Discussion:** Our findings highlight the role of affective cognitive flexibility for stress regulation. They further indicate the interest for developing adapted cognitive interventions to help individuals approach stressful situations.

15:25 - 16:55

## Opposing emotion-mediated effects of stress on body mass index for healthy- and over-weight Latvians

I. Salina<sup>1</sup>, M. Grundmane<sup>1</sup>, E.L. Gibson<sup>2</sup>

<sup>1</sup>Department of Sports and Nutrition, Rīga Stradiņš University, Latvia

<sup>2</sup>Department of Psychology, University of Roehampton, London, United Kingdom

**Background:** In Latvia, 26% of adults are obese. We investigated associations of stress, emotional eating, work demands and diet with body mass index (BMI) in working Latvian adults, and examined whether associations of stress and emotional eating with BMI vary with weight status.

**Methods:** A cross-sectional online survey assessed psychosocial experiences of work (Copenhagen Psychosocial Questionnaire III; COPSOQ), self-reported weight, height, weight changes, eating attitudes (DEBQ), appetite changes due to COVID-19, working situation, negative affect (DASS-21) and diet (EPIC FFQ) in Latvian adults. Participants were recruited by e-mailing companies, and through social media cooperating with Latvian influencers. Analyses included 874 currently working adults (808 women), mean age = 32.1 years, range 21 to 65. A stress scale was derived from relevant COPSOQ items. Mediation analyses tested whether associations between stress and BMI may be mediated by emotional eating, and separately for healthy-weight adults (HW: 18.5<math>\leq</math>BMI<math>\leq</math>25; n=575) vs. those with BMI>25 (OWOB; n=268).

**Findings:** For HW, higher stress predicted lower BMI (standardised coefficient  $\beta=-0.113$ ,  $p=0.01$ ) despite stress predicting higher emotional eating (DEBQ-E;  $\beta=0.347$ ,  $p<0.0001$ ), which in turn predicted higher BMI (indirect effect  $\beta=0.058$ , bootstrapped 95% CI, 0.028 to 0.091). By contrast, in OWOB, stress predicted higher BMI ( $\beta=0.133$ ,  $p=0.029$ ) and strongly predicted emotional eating ( $\beta=0.535$ ,  $p<0.0001$ ), which in turn fully mediated the effect of stress on BMI (indirect effect  $\beta=0.08$ , 0.008 to 0.154).

**Discussion:** Emotional eating is a risk factor for body weight gain in Latvian adults, but stress has independent suppressive effects on weight gain in healthy-weight adults only.

15:25 - 16:55

## Adult attachment styles and tolerance to distress

M. Kénesy Túnyiová<sup>1</sup>, M. Popelková<sup>2</sup>, M. Túnyiová<sup>3</sup>

<sup>1</sup>Institute of Experimental Psychology, Centre of Social and Psychological Sciences, Slovak Academy of Sciences, Slovakia

<sup>2</sup>Department of Psychological Sciences, Faculty of Social Sciences and Health Care, Constantine the Philosopher University in Nitra, Slovakia

<sup>3</sup>MAIG, s.r.o., Slovakia

The aim of this work was to describe the relationship between two dimensions of attachment – anxiety and avoidance, and distress tolerance in all its components - tolerance, absorption, appraisal and regulation. 104 participants (60 women, mean age 24.25 years and 44 men, mean age 24.31 years) participated in the research. The attachment in adulthood was measured by The Experience on Close Relationships – Revised (Bieščad, Hašto, 2010) and the distress tolerance by The Distress Tolerance Scale (Simons, Gaher, 2005). The results show that anxiety is significantly related to distress tolerance. On the other hand, avoidance is only weakly related to tolerance to distress. We observed differences between men and women, which indicate that men are better at tolerating distress than women, but in group of men, low distress tolerance is more strongly correlated with sense of worthlessness and fear of rejection in relationships than in group of women.

15:25 - 16:55

## Physiological pain regulation and the buffering effect of social support in patients with chronic pain

M. Neubert<sup>1</sup>, M. Kleinstäuber<sup>2</sup>, E. Garland<sup>3, 4</sup>

<sup>1</sup>Philipps University of Marburg, Department of Clinical Psychology and Psychotherapy, Germany

<sup>2</sup>University of Otago, Dunedin School of Medicine, Department of Psychological Medicine, New Zealand

<sup>3</sup>University of Utah, College of Social Work, United States

<sup>4</sup>University of Utah, Center on Mindfulness and Integrative Health Intervention Development, United States

**Background:** Chronic pain leads to alteration in the cardiac system, associated with further medical conditions. Findings also suggested that patients with chronic pain show impaired cardiovascular regulation in response to acute pain. Meta-analytic findings indicated that social support during acute pain decreases pain intensity and related physiological arousal in healthy participants. In this study, we seek to investigate cardiovascular regulation in response to acute pain and the buffering effect of social support in patients with chronic pain compared to healthy participants.

**Methods:** We aim to include 80 chronic pain patients and 80 healthy participants. Participants are randomly assigned to either the experimental group (social support) or the control group (no support). Social support is given by a confederate. Pain is induced using the cold pressor task. Cardiovascular regulation (i.e., blood pressure, heart rate, and heart rate variability) is measured during rest and in response to pain stimulation.

**Expected results:** We expect that patients with chronic pain will exhibit elevated blood pressure, increased heart rate, and decreased heart rate variability in response to acute pain compared with healthy participants. Furthermore, we hypothesize that social support will buffer cardiovascular regulation in response to acute pain in chronic pain patients and healthy controls.

**Current stage of work:** We have started testing participants and plan to complete data collection by June.

**Discussion:** A better understanding of the underlying mechanisms and moderating factors of cardiovascular changes as a consequence of chronic pain could help improve patients' treatment and consequently their general health status.



15:25 - 16:55

## Minority stress, ways of coping with stress and depression in non-heterosexual persons in Poland

P. Stawiarska<sup>1</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

The research focuses on minority stress in the context of experiencing depression and coping with stress among non-heterosexual people in Poland. The group of respondents included 309 people who were examined by questionnaire methods. The aim of the research was to determine a relationship between individual factors of minority stress and the occurrence of depressive symptoms and ways of coping with stress in non-heterosexual people. Analyses have shown a relationship between experiencing minority stress, depression level, and the use of ways of coping with stress. The results showed a relationship between internalized homophobia, expectation of rejection, concealment, experiencing negative events and higher levels of depression. At the same time, the use of stress coping mechanisms, i.e. active coping with stress, acceptance, sense of humour and seeking support, was associated with a lower level of depression. A greater number of depressive symptoms were associated with avoidance behaviours and helplessness. Men were exposed to the higher incidence of minority stress and presented higher scores in comparison to women. Being in a stable relationship was associated with a lower level of depression. The obtained results show the complexity of life of non-heterosexual people in the context of experienced minority stress, its relationship with mental health and the ways of coping with stress. These results can be considered to be particularly inspiring for further research. The obtained results have important practical implications for health promotion and prevention programmes.

15:25 - 16:55

## Facets of COVID-19 stress and their relationship to various aspects of well-being

C. Saalwirth<sup>1</sup>, B. Leipold<sup>1</sup>

<sup>1</sup>Universität der Bundeswehr München, Germany

**Background:** Research has shown that COVID-19 stress has a negative impact on people's mental health. In the present study, we distinguish several facets of COVID-19-related stress and examine the associations with aspects of well-being.

**Methods:** We conducted an online questionnaire study (22/10/ - 11/11/2020). Our data included 382 (49% male; 18-67 years,  $M = 28.7$ ,  $SD = 12.07$ ) German participants. Well-being measures included positive and negative affect (PANAS), satisfaction with life (SWLS), general stress (PSS10), and sleep quality (PSQI). To assess different facets of COVID-19 stress, ten items were created regarding the fear of infection, worries about the future, and the negative impact on lifestyle and social life (daily life).

**Findings:** Factor analysis revealed a three-factor solution for COVID-19 stress. Limitations of daily life were more often reported than fear of infection and worrying about the future, respectively. Lower degrees of all three COVID-19 stressors were associated with better satisfaction with life, affect, sleep quality, and less general stress, except for fear of infection which was not associated with positive affect and sleep quality. Overall, the stressor "daily life" showed the highest correlations, and reached higher mean values in young adulthood.

**Discussion:** In fall 2020 people in Germany were most affected by negative impacts on their daily life, which also showed the strongest relationships with various aspects of well-being. We discuss the results on the basis of the transactional stress theory.

15:25 - 16:55

## Psychological predictors of stage fright in the health context

H. Wrona-Polanska<sup>1</sup>, M. Polański<sup>2</sup>, M. Polańska<sup>2</sup>

<sup>1</sup>University of Economy, Bydgoszcz, Poland

<sup>2</sup>Academy of Music, Cracow, Poland

**Background:** The theoretical base the researches is Functional Model of Health (FMH, Wrona-Polańska 2003), in which health is a function of creative coping with stress. A study on the relationship between level of stage fright, coping styles, personal resources and health of musicians is presented. Examined persons were: 210 students of music schools.

**Methods:** The questionnaires examining fears, coping styles, personal resources, and grading scales of health.

**Findings:** Statistical analyses showed that psychological predictors of stage fright were: instrumental style, level of personal resources: sense of coherence and self esteem and good instrumental preparation for the performance. The level of stage fright is a function of creative coping and personal resources.

**Conclusion:** To promote health should: increase personal and social resources, teach relaxation methods.

**Keywords:** stage fright, coping styles, personal resources, health

# ROOM COVID-19 Session

15:25 - 16:55

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## Investigating associations between health beliefs and COVID-19 vaccine hesitancy in Ireland

A. Lawlor<sup>1</sup>, J. Gouin<sup>2</sup>, S. Deschênes<sup>1</sup>

<sup>1</sup>University College Dublin, Ireland

<sup>2</sup>Concordia University, Canada

**Background:** Health beliefs play an important role in general vaccine hesitancy. This study examined

individual differences in COVID-19 vaccine hesitancy in Ireland by exploring associations with

susceptibility and severity health beliefs.

**Methods:** In this cross-sectional study, N=809 adult participants living in Ireland were recruited using

convenience sampling (modal age group=35-44 years, 86% female). Participants completed an online

self-report questionnaire on vaccine hesitancy and COVID-19 health beliefs during the COVID-19

pandemic (January 2021). Willingness to take a safe and effective COVID-19 vaccine and health

beliefs (perceived severity and susceptibility for the self, loved ones, and the community) were each

measured on a Likert scale (1-5). Linear regressions controlling for age, sex, and essential worker

status were conducted.

**Findings:** Perceived susceptibility for the self (B=.11, p=.008, 95% CI=.03-.20) and for the community

(B=.12, p=.014, 95% CI=.03-.22), and perceived severity for loved ones (B=.08, p=.026, 95% CI=.010-

.15) and for the community (B=.12, p=.008, 95% CI=.03-.22) were predictors of vaccine hesitancy.

However, when controlling for shared variance among all predictors, only perceived severity for the

community (B=.12, p=.047, 95% CI=.001-.20) remained significant.

**Discussion:** Individuals were more willing to receive a COVID-19 vaccine if they believed that they

and their community were at risk of infection, that if infected the virus would be dangerous for their

loved ones, and that the virus was dangerous for their community. However, perceived personal

severity and susceptibility for loved ones were not independent predictors. Findings highlight the

importance of health beliefs related to the community in vaccine hesitancy.

15:25 - 16:55

## Containment measures against COVID-19 in Italy: the role of Protection Motivation and Values

C. Di Gesto<sup>1</sup>, G.R. Policardo<sup>1</sup>, C. Matera<sup>1</sup>, A. Nerini<sup>1</sup>

<sup>1</sup>University of Florence, Italy

**Background.** During the COVID-19 pandemic a lockdown was imposed, and individuals were forced to stay at home with strong limitations in their lives. In this period, the adherence to several anti-contagion measures was the only way to contain the pandemic and overwhelmed healthcare systems until vaccines would be available. Protection Motivation Theory might offer a valid theoretical framework to identify significant predictors of individuals' motivation to protect themselves from the COVID-19. Through this study we aimed to examine the role of both threat and coping appraisals, together with personal values, in predicting the intention to follow anti-contagion measures among Italian citizens.

**Method.** A total of 415 participants (mean age=33 years; SD=11.67) completed an online survey assessing threat appraisal (perceived threat severity and vulnerability), coping appraisal (perceived response efficacy and self-efficacy), fear of COVID-19, intentions to follow government measures, personal values. Path analysis was performed to examine the relationships among variables.

**Findings.** According to our findings, threat appraisal was positively associated with intentions to follow anti-contagion measures via fear of COVID-19. Coping appraisal and personal values showed a direct and positive association with the intention to follow government measures to avoid the spread of COVID-19.

**Discussion.** Our findings suggest that public health communications might enhance threat and coping appraisal in order to increase the intentions to follow anti-contagion measures among Italian individuals. The role of fear in mediating the relationship between threat appraisal and intentions was confirmed. Furthermore, appeals to values could be useful to increase compliance with COVID-19 behavioral guidelines.

15:25 - 16:55

## Title: Emotional Distress, Treatment and Lifestyle Adherence Among People With Diabetes During the COVID-19 Pandemic

E. Heckenberger-Nagy<sup>1</sup>, I. Tiringner<sup>1</sup>

<sup>1</sup>University of Pécs, Hungary

Title: Emotional Distress, Treatment and Lifestyle Adherence Among People With Diabetes During the COVID-19 Pandemic.

Author: Evelyn Heckenberger-Nagy, Dr. István Tiringner, Ph.D.

E-mail: [nagyevelyn@hotmail.com](mailto:nagyevelyn@hotmail.com)

Institution of affiliation: University of Pécs

### Background:

Diabetes is a chronic illness, which requires a strict adherence to the daily treatment regimen, and to the lifestyle itself. In regards to the patient's quality of life, it is essential for them to comply with their diet and treatment. This condition is very often associated with emotional distress. Chronic illnesses make people more vulnerable to the COVID-19 infection, and the risks of complications as well as the chances of mortality are furtherly escalated.

### Methods:

So far, a cross-sectional survey was conducted by distributing online questionnaires to 100 adults with diabetes type 2. The data collection is in progress at the moment. The questionnaire included items on COVID-19-specific concerns, sociodemographic and health status, diabetes distress, treatment and lifestyle adherence.

Responses are analysed with descriptive statistics, with independent samples T-tests, analysis of variance (ANOVA), and chi-squared tests.

### Expected results:

Our hypothesis is that the pandemic has significant effects on people with concerns, diabetes distress, and it causes increased adherence among them.

### Current stage of the work:

The data collection and processing are in progress at the moment.

### Discussion:

We suppose this study will be an essential research to map the impact of COVID-19 infection to people living with diabetes, to their adherence and to their diabetes distress.



15:25 - 16:55

## Protecting children's wellbeing during public health emergencies: positive parental communication strategies about the COVID-19

A. Pepe<sup>1</sup>, E. Biffi<sup>1</sup>, D. Bianchi<sup>1</sup>

<sup>1</sup>University of Milano Bicocca, Italy

**Background:** The pandemic health emergency related to COVID-19 (Coronavirus disease) has forced national states to adopt strict actions to prevent or limit the virus's spread. Communication is a crucial facet of health management since ways of communicating emergencies can dramatically impact behavioral (i.e., following safety rules) and psychological (i.e., symptoms of distress and trauma) health of children. In keeping with nomothetic paradigms (Robinson, 2011) and adopting a multi-method approach (Denzin, 2012), the present study explores how parents communicated to their underage children the COVID-19 health emergency during the full lockdown.

**Method:** A sample of 246 parents answered a semi-structured Computer Assisted Web Interview (CAWI). Most of them resided in Lombardy (91%, the epicenter of Italy's COVID-19 outbreak) and were mothers (93%). Two-parent families represented 81% of the sample. The mean age was 41.9 (SD=6.01). Textual data were quantitatively analyzed by adopting cluster methods and analysis of correspondence. Ethic Review Board of the approval N.0034537/20 (University of Milano-Bicocca)

**Findings:** Analysis of textual data revealed that parents used various strategies to communicate to their children the COVID-19 outbreak and the health crises, modeling their communication according to their ages. Also, approximately 20% selected video materials (from websites or television) to communicate.

**Discussion:** The study's result underlined the importance of being truthful, sincere, and age-specific in communicating to children the health emergency. Communication strategies should inform what is happening to explain reasons for following general safety rules. Recommendations for policymakers in addressing communication during health crisis were discussed.

15:25 - 16:55

# Quality of Life and Psychological Resilience of Turkish Psychologist in Times of the COVID-19 Pandemic

G. Filazoglu Cokluk<sup>1</sup>, F. Alkan<sup>2</sup>, A. Duran<sup>2</sup>, İ. Yeşilkaya<sup>2</sup>, C. Seçmen<sup>2</sup>

<sup>1</sup>Istanbul Okan University, Turkey

<sup>2</sup>Hatay Psychologist Association, Turkey

## Background

Coronavirus disease (COVID-19) pandemic has been affecting people's psychosocial health and well-being through various complex pathways. The purpose of this study is to investigate quality of life and psychological resilience levels of Turkish psychologist.

## Methods

This cross-sectional survey was carried out online and SF36 Quality of Life Scale and The Resilience Scale for Adults questionnaire used during April 2020. 288 psychologist with the age range of 25-48 were included in the analysis.

## Results

Turkish psychologist showed satisfactory HRQoL, with seven of the 10 SF-36 scores being within 1 Sd of population mean. Correlations indicated that psychological resilience were positively associated with all HRQoL dimensions ( $p < 0.05$ ). Psychological resilience scores differ significantly between male and female psychologists ( $p < 0.05$ ). Psychological resilience was found higher in female psychologists than in men. Here, while the structural style was low in female psychologists, the total scores of future perception, family adaptation, social competence and social resources were found to be high in male psychologists. Being married was associated with lower psychological resilience among men psychologist. in the highest level of annually housed income had the high level of resilience for both man and women psychologist.

## Conclusions

Psychological resilience positively affects the quality of life. These findings may be significance to learn the impact of the pandemic on psychologist. It is of great importance to know the effects of pandemic on our lives as a traumatic process. It is a matter of curiosity for everyone how to resist spiritually during the Covid-19 pandemic days.

15:25 - 16:55

## Covid-19 stress, burnout and risk perception among health and social care workers in Scotland

N. Cogan<sup>1</sup>, G. MacIntyre<sup>1</sup>, G. Tanner<sup>2</sup>, L. Morton<sup>1,3</sup>, Z. Beck<sup>1</sup>, L. McInnes<sup>1</sup>, C. Kennedy<sup>1</sup>, J. Kolacz<sup>4</sup>

<sup>1</sup>University of Strathclyde, United Kingdom

<sup>2</sup>University of Strathclyde/NHS, United Kingdom

<sup>3</sup>University of Glasgow, United Kingdom

<sup>4</sup>Kinsey Institute, University of Illinois, United States

**Background:** Rapid studies published during the COVID-19 pandemic have reported that the mental wellbeing of health and social care workers (HSCWs) has been adversely impacted. Research has yet to explore what specific factors relating to the pandemic are having a detrimental impact on HSCW's mental wellbeing and what may help mitigate such adversities.

**Methods:** This study consisted of a cross-sectional online survey exploring the impact of COVID-19 on the mental wellbeing of HSCWs (n= 1400+). The survey included both open and close-ended questions exploring psychometrically valid measures of COVID-19 perceived risks, stress, burnout, trauma and mental wellbeing. Coping, help-seeking and team resilience were also measured as potential protective factors. Descriptive and inferential statistics and inductive content analysis of the survey data was conducted.

**Expected results:** Preliminary analysis suggested that adaptive coping strategies, increased help-seeking behaviour and perceived team resilience and peer support helped mitigate against COVID-19 related stressors, burnout and trauma. Readily accessible personal protective equipment helped reduced perceived risks.

**Current stage of work:** Data collection began in December 2020 and data collection and analysis is due for completion in June 2021.

**Discussion:** The implications of these findings are discussed, emphasising the importance of adaptive coping skills training, reducing barriers to help-seeking behaviours and both peer and team-based support in alleviating the negative impact that COVID-19 has on HSCW's mental wellbeing. Visible and supportive leadership was found to be beneficial in helping staff gain access to current and accurate information on COVID-19 and in helping workers adapt to constant change.

15:25 - 16:55

## Trajectories of depression in Japanese undergraduates during COVID-19

M. Matsumoto<sup>1</sup>

<sup>1</sup>Kobe Shinwa Women's University, Japan

**Background:** The COVID-19 pandemic has resulted in psychological, social, economic, and political upheavals worldwide. Undergraduates, in particular, have been forced to take online classes at home and could increase depression as a result. However, the lack of evidence about factors that predict undergraduates' depression during the COVID-19 pandemic limits the development of targeted psycho-education programs to support their short- and long-term health outcomes during this crisis.

**Objectives:** This study was designed to examine the growth trajectories of depression in Japanese undergraduates during three months in the COVID-19 pandemic and identify the determinants of depression.

**Methods:** A longitudinal survey was conducted in five waves with 129 Japanese undergraduates from 12 October 2020 to 12 January 2021. They completed self-report questionnaires every three weeks to assess depression and other variables, including rumination, self-control, the need for autonomy, and lifestyle as predictors of depression.

**Findings:** High levels of depressive symptoms were identified during three months of the COVID-19 pandemic (score  $\geq 16$ ), which decreased from 70.8% (95% CI: 62.7% to 78.1%) in October 2020 to 65.12% (95% CI: 56.2% to 73.3%) in January 2021. Latent growth curve modeling indicated insufficient sleep and high levels of rumination at baseline predicted depression ( $p < 0.05$ ). Rumination was also associated with the depression's slope ( $p < 0.05$ ).

**Discussion:** We conclude that decreasing rumination is crucial for reducing and preventing undergraduates' depression. This study's findings highlight the need to develop interventions and preventive psycho-education programs to address undergraduates' depression.

15:25 - 16:55

## Cognitive Emotion Regulation Strategies in the Relationship between the Fear of Covid-19 and Psychological Distress

H.N. Koçak<sup>1</sup>, S. Sayınta<sup>1</sup>, B. Gürül<sup>1</sup>, E. Tuna<sup>2</sup>

<sup>1</sup>Çankaya University, Turkey

<sup>2</sup>Cankaya University, Turkey

The Covid-19 pandemic poses a considerable threat to individuals' physical and psychological well-being. People all around the world have been experiencing intense fear related to Covid-19 due to the uncontrollable spread of the virus in the society. Empirical studies have indicated that the fear of Covid-19 contributes to an increased level of psychological distress and may play a role in the initiation of psychological disorders. However, the mechanisms linking Covid-19 fear and psychological distress has not been understood. One mechanism explaining this link may be the way individuals regulate their negative emotions. The aim of the present study was to investigate the role of cognitive emotion regulation (CER) strategies in the relationship between fear of Covid-19 and psychological distress among Turkish adults.

The sample consisted of 587 Turkish adults with a mean age of 37 (SD = 15.25) who completed online self-report questionnaires on the fear of Covid-19, CER strategies and psychological distress. A multiple mediation model was tested by using the PROCESS macro. The model predicting psychological distress from the fear of Covid-19 and CER strategies was significant. Among CER strategies; acceptance, rumination, catastrophizing and blaming others partially mediated the relationship between fear of Covid-19 and psychological distress.

These findings indicate that the more individuals use acceptance, rumination, catastrophizing and blaming others when coping with Covid-19 fear, the more vulnerability they have for experiencing psychological distress. Therefore, targeting individuals' problematic regulation of negative emotions related to Covid-19 might be an effective way of improving psychological well-being among adults.

15:25 - 16:55

## Substance Use During the Covid-19 Pandemic: The Role of Covid-19 Fear, Emotion Regulation and Loneliness

S. Işık<sup>1</sup>, S. Oya<sup>1</sup>, N. Yaşar<sup>1</sup>, E. Tuna<sup>2</sup>

<sup>1</sup>Çankaya University, Turkey

<sup>2</sup>Cankaya University, Turkey

The uncontrollable and rapid spread of Covid-19 has been a considerable threat to individuals' physical and psychological well-being. Research suggests that the consumption of alcohol and other substances has been increasing during the Covid-19 pandemic. However, psychological factors that contribute to the increase in substance consumption during the pandemic are not well-understood. In the present study we wanted to examine the role of Covid-19 fear, emotion regulation difficulties and loneliness in substance consumption and addiction symptoms among Turkish adults.

Participants of the study consisted of 974 Turkish adults 56.7% (N = 552) of whom were substance users and 43.3% (N = 422) were non-users during the Covid-19 pandemic. Data was collected via an online survey which consisted of UCLA Loneliness Scale-Short Form, Fear of Covid-19 Scale, Difficulties in Emotion Regulation Scale Brief Form and Addiction Profile Index. Results indicated that those who use substances during the pandemic experience more problems in regulating their emotions and have lower levels of Covid-19 fear as compared to non-users. Among substance users, being male and difficulties in emotion regulation predicted the level of addiction symptoms.

These findings showed that targeting difficulties in emotion regulation in prevention and intervention programs appears to be crucial to reduce problematic substance use during the pandemic. Our findings also suggest that especially men should be included in these programs. Interestingly, a certain level of Covid-19 fear may be functional in terms of reducing substance consumption. Strengths and limitations of the study will be discussed.

## Disordered eating symptoms and body image among Polish women with different levels of COVID-19-related stress

K. Czepczor-Bernat<sup>1</sup>, J. Modrzejewska<sup>2</sup>, A. Modrzejewska<sup>3</sup>, V. Swami<sup>4,5</sup>

<sup>1</sup>Institute of Psychology, University of Wrocław, Poland

<sup>2</sup>Institute of Pedagogy, University of Bielsko-Biała, Poland

<sup>3</sup>Department of Psychology, Katowice Business University, Poland

<sup>4</sup>School of Psychology and Sport Science, Anglia Ruskin University, United Kingdom

<sup>5</sup>Centre for Psychological Medicine, Perdana University, Malaysia

**Background:** Emergent research shows that greater COVID-19-related stress is associated with eating disorder symptomatology and body image outcomes. Here, we examined differences in disordered eating symptoms and negative body image as a function of levels of COVID-19-related stress.

**Methods:** Polish women ( $N = 671$ ,  $M_{age} = 32.50 \pm 11.38$ ) completed a measure of COVID-19-related stress along with the body dissatisfaction, drive for thinness, bulimia symptomatology subscales of the Eating Disorders Inventory (EDI), and the appearance evaluation, overweight preoccupation, and body areas satisfaction subscales of the Multidimensional Body-Self Relations Questionnaire (MBSRQ). A median split was used to categorise participants as high or low in COVID-19-related stress.

**Findings:** A multivariate analysis of variance (MANOVA) indicated a significant effect of stress on all disordered eating,  $V = 0.03$ ,  $F(3, 667) = 6.45$ ,  $p < .001$ , and body image variables,  $V = 0.03$ ,  $F(3, 667) = 6.73$ ,  $p < .001$ . ANOVAs revealed that women with higher stress had significantly higher body dissatisfaction,  $F(1, 669) = 16.75$ ,  $p < .001$ , drive for thinness,  $F(1, 669) = 12.69$ ,  $p < .001$ , bulimia symptomatology,  $F(1, 669) = 4.90$ ,  $p < .05$ , appearance evaluation,  $F(1, 669) = 17.80$ ,  $p < .001$ , and overweight preoccupation,  $F(1, 669) = 9.16$ ,  $p < .01$ , and lower body areas satisfaction,  $F(1, 669) = 13.30$ ,  $p < .001$ .

**Discussion:** Women with higher levels of COVID-19-related stress have greater disordered eating symptoms and more negative body image. COVID-19-related stress may diminish coping resources to manage threats to body image and symptoms of disordered eating.

15:25 - 16:55

# Prenatal mental and physical health, health behaviours, and maternity care experiences during the COVID-19 pandemic

J. Pope<sup>1</sup>, E. Olander<sup>2</sup>, S. Leitao<sup>3</sup>, S. Meaney<sup>3</sup>, K. Matvienko-Sikar<sup>1</sup>

<sup>1</sup>School of Public Health, University College Cork, Ireland

<sup>2</sup>Centre for Maternal and Child Health Research, School of Health Sciences, City, University of London, United Kingdom

<sup>3</sup>National Perinatal Epidemiology Centre | Department of Obstetrics and Gynaecology, University College Cork, Ireland

**Background.** Pregnant women's mental and physical health, health behaviours, and maternity care experiences significantly impact maternal and child health. This study aimed to examine these factors during the COVID-19 pandemic. **Methods.** An international survey was conducted online in June and July 2020. 573 pregnant women self-reported their general stress (Perceived Stress Scale), pregnancy-specific stress (Prenatal Distress Questionnaire), and COVID-19 related stress, as well as mental and physical health (the 12-item Short Form Survey), general health behaviours (Prenatal Health Behaviour Scale), and pandemic-related health behaviours. Maternity care experiences were reported using closed (e.g. Quality of Prenatal Care Questionnaire) and open-ended questions. Quantitative data were analysed using descriptive statistics, Spearman's correlation coefficients, Chi-square tests of independence, and hierarchical multiple regressions. Open-ended responses were examined using content analysis. **Findings.** Participants reported low levels of mental and physical health, and high levels of pregnancy-specific and pandemic-related stress. Stress was predicted by mental ( $B = -.59, p < .001$ ) and physical health ( $\beta = -.11, p = .003$ ), with sources of stress including public health restrictions on in-person antenatal care, restrictions on partner attendance at care appointments, and the lack of information on COVID-19 and pregnancy/birth. Encouragingly, participants did report high levels of adherence to health advice, including abstinence from alcohol (87.2%) and use of masks (76.3%). **Discussion.** The pandemic is having significant adverse effects on pregnant women's mental and physical health. Interventions targeting pregnancy- and pandemic-specific stress and antenatal care are essential to support mental health and minimise adverse health outcomes during the pandemic.



15:25 - 16:55

# Psychological challenges and the coping strategies during COVID-19 in 2020: A systematic review

M. Vijayan<sup>1</sup>, A.N.H. Kilivanan<sup>1</sup>, K. Morgan<sup>1</sup>, M.A.A. Miah<sup>1</sup>

<sup>1</sup>Perdana University, Malaysia

**Background:** Mental health is an important aspect of an individual's wellbeing that is impacted by the current pandemic. This systematic review aims to: 1. Identify the psychological challenges faced by people during the outbreak. 2. Investigate how these difficulties were dealt with.

**Methods:** The following electronic resources were searched: (PubMed, COCHRANE, APA PsycINFO, and MEDLINE) from 18 August 2020 - 28 August 2020. Two researchers independently screened 63 potentially relevant full-text articles. Following that, 26 articles consisting of 2 qualitative studies, 23 quantitative studies, and 1 mixed-method study met the inclusion criteria that were set.

**Findings:** Prevalence of the most common psychological challenges reported include anxiety (16.92% - 65%), depression (11% - 72.6%), sleep disorders (20.6%- 88.34%) and stress (10% - 24.67%). Considerable heterogeneity in methods of prevalence reporting was seen. Methods used by healthcare workers (n=8), general population (n=16), and college students (n=2) to cope with these psychological challenges were grouped into 2 main themes of coping strategies, adaptive (n=17) and maladaptive (n=11). The most consistent finding that predisposes a population to psychological challenges is being female (n=5).

**Conclusion:** This review suggests the COVID-19 pandemic is associated with high levels of psychological challenges and the coping strategies used varied from person to person. Hence, more studies need to be conducted to identify data that is representative of the population.

15:25 - 16:55

## The effects of physical activity on the psychosocial well-being of Italians during the Coronavirus lockdown

A.R. Donizzetti<sup>1</sup>

<sup>1</sup>University of Naples "Federico II", Italy

**Background.** Numerous studies have shown the psychological damage resulting from the condition of isolation caused by the Covid-19 lockdown, including post-traumatic and depressive symptoms, stress and anxiety. Little attention was paid, however, to protective factors. In the literature there are numerous recommendations regarding the lifestyles to be adopted during quarantine, such as performing regular physical activity, but there are no studies that have actually evaluated its effects. The primary objective of this study was, therefore, to investigate the protective factors of the psychosocial well-being of the participants during quarantine from a social health psychology perspective and in particular, an attempt was made to understand the role of physical activity (moderate or intense) and the use of social media.

**Methods.** 1061 subjects with an average age of 37.30 years were contacted (SD = 14.13, range = 18-80 years, female: 76.2%). A self-report questionnaire was administered including the following measures: Mental Health Continuum – Short Form, Perceived Physical Activity Self-Efficacy Scale, COVID-19 Risk Perception Scale, sports habits, use of social media and socio-demographic data. In addition to the analysis of variance and correlations, a structural equations model will be presented to verify the relationship between the investigated variables.

**Findings.** The analyzes revealed the protective role of moderate physical activity, in addition to the negative role of the COVID-19 Risk Perception on emotional well-being ( $\chi^2=436.206(59)$ ;  $p=0.000$ ; RMSEA=.08; SRMR=0.06).

**Discussion.** Finally, the importance of these results will be discussed for the definition of strategies for promoting healthy behaviors during the emergency period.

## Short-term psychological outcomes in post Covid-19 patients

L. Ranucci<sup>1</sup>, M. Maffoni<sup>2</sup>, V. Torlaschi<sup>2</sup>, M. Vigorè<sup>2</sup>, C. Bruschi<sup>3</sup>, P. Crotti<sup>3</sup>, M. Lovagnini<sup>4</sup>, M. Bussotti<sup>5</sup>, M.T. La Rovere<sup>4</sup>, A. Pierobon<sup>2</sup>

<sup>1</sup>Istituti Clinici Scientifici Maugeri, IRCCS, Psychology Unit of Montescano Institute, Italy,, Italy

<sup>2</sup>Istituti Clinici Scientifici Maugeri, IRCCS, Psychology Unit of Montescano Institute, Italy

<sup>3</sup>Istituti Clinici Scientifici Maugeri, IRCCS, Department of Pneumology of Montescano Institute, Italy

<sup>4</sup>Istituti Clinici Scientifici Maugeri, IRCCS, Department of Cardiology of Montescano Institute, Italy

<sup>5</sup>Istituti Clinici Scientifici Maugeri, IRCCS, Department of Cardiology of Milano Institute, Italy

**Background:** Covid-19 is an acute disease possibly leading to permanent respiratory and cardiovascular symptoms. This research aims to assess the impact that both the pandemic and the disease had on a psychological status in Covid-19 survivors.

**Methods:** This observational study, still in progress, involved outpatients routinely undergoing clinical check-up 2-3 months after discharge from Covid Unit. Psychological and socioanagraphic variables were collected by self-administered questionnaires: National Stressful Events Survey PTSD Short Scale (NSESSS) to assess post-traumatic stress disorder severity, Generalized Anxiety Disorder-7 (GAD-7) and Patients Health Questionnaire (PHQ-9), respectively for the assessment of anxiety and depression. Furthermore, the qualitative impact on positive and negative emotional responses had been studied during the pandemic and along the disease.

**Findings:** Preliminary data referred to 44 outpatients (63.95±10.12 years old; 27% females; 60% married; 45% retired): 40% of the sample get moderate/severe NSESSS (mean score 11.85±8.7), while depression and anxiety symptoms reached moderate-severe level, being higher than normative data, respectively (29.55% vs 17.76%, p=0.07; 36.4% vs 20.44%, p=0.019).

Concerning the emotional responses, preliminary data unveiled “worry”, “fear” and “distress” as the most reported terms during the pandemic and the experience of disease, whilst socio-relational terms (e.g. “family”) and personal resources (e.g. “hobby”) as means to deal with the challenges.

**Discussion:** These findings underline that post Covid patients often develop and maintain anxious and distress symptoms which need to be screened, monitored and recommended to undergo counselling at psychological/psychiatric local services to manage the risk of developing post-traumatic stress disorder.

# Exercise, nutrition, and risky health behaviours explained through the prism of health behaviour change models

11:35 - 12:35

Jan Keller

## Nutrition information-seeking practices as a double-edge sword in female college students

M. Omori<sup>1</sup>, Y. Yamazaki<sup>1</sup>, S. Matsumoto<sup>2</sup>, Y. Fujiwara<sup>1</sup>, M. Sugawara<sup>1</sup>, R. Akamatsu<sup>1</sup>, S. Iwakabe<sup>1</sup>, T. Kobayashi<sup>1</sup>

<sup>1</sup>Ochanomizu University, Japan

<sup>2</sup>Ochanomizu University, Afghanistan

**Objective:** The promotion of healthy eating is thought critical to improve and maintain individuals' health. Needless to say, a number of health education programs endeavor to enhance knowledge of nutrition and food systems. It is an irony, however, that knowledge of nutrition is often linked to problematic eating behaviors, i.e. extreme dieting and different forms of eating disorders, in young women. The present study examined associations among information-seeking practices with regard to nutrition, nutrition literacy, and problematic eating behaviors in female college students. Nutrition literacy was hypothesized to moderate relationships between information-seeking and problematic eating behaviors.

**Methods:** The cross-sectional data with 529 female college students was extracted from a campus wide longitudinal survey. Problematic eating behaviors were assessed in terms of eating disorders and Orthorexia. Analyses also included the degree to which individuals seek for nutrition-related information, sources of information, and nutrition-related knowledge.

**Results:** The role of information-seeking practices and nutrition literacy on eating behaviors were tested using hierarchical multiple regression analyses. Whereas non-professional information significantly predicted conventional eating problems ( $b = .17, p < .001$ ), professional information was significantly associated with Orthorexic behaviors ( $b = .13, p < .01$  for problematic healthy eating;  $b = .26, p < .001$  for commitment to healthy eating). No moderation effect of nutrition literacy was observed.

**Discussion:** The results suggested different patterns in contributions of information-seeking practices to problematic eating behaviors. Health education programs must be implemented with cautions in conjunction with the presence of problematic eating behaviors in young women.

11:43 - 11:51

## Measuring Food-Related Attentional Bias

S. Franja<sup>1</sup>, A. McCrae<sup>1</sup>, T. Jahnel<sup>2</sup>, A. Gearhardt<sup>3</sup>, S. Ferguson<sup>1</sup>

<sup>1</sup>University of Tasmania, Australia

<sup>2</sup>University of Bremen, Germany

<sup>3</sup>University of Michigan, United States

**Objective:** Food-related attentional bias (AB) has been associated with obesity, however findings remain mixed. Currently, there is no agreed upon measure (or scoring) of AB. Little is known about the stability of food-related AB over time. The present study compared AB measures generated from commonly used AB tasks and scoring protocols, and assessed the test re-test reliability of the pictorial visual probe task.

**Methods:** 69 participants completed the lexical and pictorial visual probe tasks at baseline. Reaction time (RT) bias scores for each task were calculated in three different ways: by subtracting the RTs for the trials where probes replaced (1) neutral versus all food stimuli, (2) neutral versus high caloric food stimuli, and, (3) neutral versus low caloric food stimuli. This resulted in three separate AB scores for each task which were then correlated. The pictorial visual probe task was re-administered 14-days later to assess test-retest reliability.

**Results:** Regardless of the scoring used, the correlation between the two tasks and scoring methods was relatively small ( $r = .053 - .241$ ), and test-retest reliability for the pictorial task was poor ( $r = .179 - .399$ ).

**Conclusion:** These results suggest that at least some of the variation in findings across attentional bias studies could be due to differences in the way that AB is measured. Future research may benefit from either combining eye tracking measurements in addition to RTs, or expanding the assessment of biases from visual cues, to other cues such as internal sensations and cognitions.

11:51 - 11:59

## Evaluative bias and self-regulatory control contribute to soft drink consumption

J. McGreen<sup>1</sup>, E. Kemps<sup>1</sup>, M. Tiggemann<sup>1</sup>

<sup>1</sup>Flinders University, Australia

Global consumption of soft drinks has increased rapidly over the past 50 years. This increased consumption of sugar in the form of soft drinks has become a major public health problem. Accordingly, the present study investigated the mechanisms underlying soft drink consumption to inform potential methods for reducing such consumption through empowering individuals to regulate their own behaviour. Guided by dual-process models, we investigated the roles of cognitive biases for soft drink cues (evaluative, attentional, and approach biases) and self-regulatory control in soft drink consumption and choice.

In a cross-sectional design, 128 undergraduate students (17-25 years) completed computer-based measures of the three biases (Implicit Association Task, Dot Probe Task, and Approach Avoidance Task) and self-regulatory control (Go/no-go Task). Soft drink consumption and beverage choice were measured using a taste test and a take home beverage choice task, respectively.

Evaluative bias was positively correlated with soft drink consumption,  $r = 0.18$ ,  $p = .044$ . Self-regulatory control was positively correlated with soft drink consumption, but only for men,  $r = .33$ ,  $p = .036$ .

The results support dual-process models in predicting soft drink consumption. Specifically, automatic processes (cognitive biases) and controlled processes (self-regulatory control) may each predict soft drink consumption, albeit independently and only for certain individuals. The findings provide an increased understanding of the roles of the three biases and self-regulatory in soft drink consumption, and could inform potential interventions for reducing soft drink consumption by reducing evaluative bias and/or strengthening self-regulatory control.

11:59 - 12:07

## Associations between early adversity, (risky) health behaviours and the discounting of future misery

J. Hadaschik<sup>1,2</sup>, K. Massar<sup>2</sup>, M. Stel<sup>1</sup>, R.A.C. Ruiter<sup>2</sup>

<sup>1</sup>University of Twente, Netherlands

<sup>2</sup>Maastricht University, Netherlands

**Background:** Many health behaviours, such as poor diet, substance use and risky sexual behaviours, are characterised by having hedonic value in the present at the cost of future well-being. Evolutionary-developmental theory and research indicate that adverse socio-environmental conditions during early childhood are related to lower efforts in preventative health behaviours, higher future discounting and higher risk-taking. The current study presents a comprehensive Structural Equation Model of relationships between early adversity and various health-behaviours. It further includes a novel measure of Misery Delay Discounting, (i.e. discounting of expected future misery due to serious illness).

**Methods:** An online survey collected responses from 371 adult USA residents (160 females; 210 males; one other gender; Mage = 29.98). A second-order factor of early adversity predicted increased mating effort (i.e. ideal number of sexual partners as well as pubertal onset), less preventative health-behaviour, higher risk-taking propensity and a tendency to prioritise short-term gratification over long-term health and safety. The model fit the data well (RMSEA = 0.058 [90% CI = 0.052; 0.063]; CFI = 0.968; TLI = 0.958).

**Discussion:** Results corroborate theory and previous empirical evidence and illustrate how early adversity is associated with adults' health behaviours, risk-taking as well as cognitive representations of future loss of well-being. The latter is especially informative for interventions tackling health inequalities. Individuals with low childhood socio-economic status have usually experienced early adversity and might therefore as adults discount their expected suffering from future illness.



12:07 - 12:15

# Psychosocial determinants of intention to use non-prescribed stimulants among N.Irish students: an integrated theoretical approach

E. Berry<sup>1</sup>

<sup>1</sup>Queen's University Belfast, United Kingdom

**Background:** This study examines the psychological and social determinants of intention to use non-prescribed stimulants (NPS) among students living in Northern Ireland (NI), using The Theory of Planned Behaviour and Social Cognitive Theory as an integrated theoretical framework.

**Methods:** A cross-sectional design was used, where N=300 students living in NI completed an online survey advertised on social media. Demographics, background factors (lifestyle/academic factors), and theoretical constructs including knowledge, attitudes, personal norms, social influences, self-efficacy, behavioural intention, and behaviour related to use of NPS, were measured. Theoretical construct measures were adapted from previous similar studies and the item scales had largely sound internal consistency ( $\alpha=0.67-0.96$ ). Hierarchical multiple regression was used, with behavioural intention as the criterion variable, and with demographics, background factors, and theoretical constructs entered into two blocks.

**Findings:** The majority of respondents were aged 18-24 (97.7%), were women (78%), and were studying at undergraduate university level, across a range of academic disciplines. Prevalence of use of NPS was low (6.6%). Covariates accounted for 54% of the variance in intention to use NPS. Stronger personal norms, lower perceptions of social disapproval, lower academic satisfaction, and greater alcohol consumption significantly contributed to this variance.

**Discussion:** An integrated theoretical approach facilitated exploration of the influence of various psychosocial and relevant lifestyle/academic factors on behavioural intentions towards using NPS. Results suggest low rates of use of NPS, however there is some indication of factors that may increase risk of use, which can inform NI student support needs. Limitations and future directions are discussed.

12:15 - 12:23

## Positive relationship with eating: associations with weight management and food intake

C. Sob<sup>1</sup>, M. Siegrist<sup>1</sup>, C. Hartmann<sup>1</sup>

<sup>1</sup>ETH Zurich, Switzerland

In recent years, the idea of a positive attitude towards eating is emerging to move away from restriction and concern related to food and eating behavior. To further investigate to which extent this positive eating attitude could be beneficial for one's health, the present study focuses on the associations between the Positive Eating Scale (PES), weight management, food intake, and body mass index (BMI) with regards to sex differences within a non-clinical sample of the general Swiss population.

Data from the third (2019) and fourth (2020) waves of the Swiss Food Panel 2.0 were analyzed. Participants answered questions related to their positive eating attitude, food intake, and eating behavior. Correlations, logistic regressions, and linear regressions were performed.

Cross-sectional results showed that variables related to food restriction and weight concern were negatively correlated with the PES total score and the subscale satisfaction with eating. Diet quality was positively correlated with positive eating for women but not for men. Furthermore, BMI was negatively correlated with the PES total score and the subscale satisfaction with eating for both sexes. Longitudinally, positive eating did not significantly predict change in diet quality. However, higher positive eating levels significantly decreased the likelihood of becoming overweight over time.

A positive attitude towards eating seems to be primarily associated with a healthier food choice, better diet quality, and a lower likelihood of becoming overweight over time. Promoting a positive attitude towards food and eating might, thus, be beneficial for one's health and should be further explored in interventions.

# Health behaviour change interventions

11:35 - 12:35

Gill Teen Hoor

11:35 - 11:43

## 'Let's Eat Healthy' obesity-prevention intervention to improve eating behavior for low-income children in South Korea

J. Park<sup>1</sup>, G.A. Ten Hoor<sup>2</sup>, G. Hwang<sup>3</sup>

<sup>1</sup>College of Nursing, Inje University, South Korea

<sup>2</sup>Department of Work & Social Psychology, Maastricht University, Netherlands

<sup>3</sup>College of Nursing, Yonsei University, South Korea

**Background:** Disparities in childhood obesity are a serious health issue worldwide including South Korea. Effective strategies to reduce disparities in childhood obesity need to be developed and prioritized. Community Child Care (CCC) center, which is the type of health policy in South Korea, is an important and unique environment for the health promotion of vulnerable children. In this presentation, we introduce the development process and the effects of 'Let's Eat Healthy', which is the intervention to induce environmental changes in CCC center, ultimately to improve eating behavior and to prevent obesity for low-income children in South Korea.

**Methods:** The intervention is developed applying Intervention Mapping (IM) six steps, which starts with a need assessment, uses theory and empirical research to develop a detailed intervention plan, and anticipates program implementation and evaluation. The pilot test is conducted to evaluate the intervention effects.

**Results:** 'Let's Eat Healthy' consisted of launch ceremony, cooking class, nutrition diary, nutrition education, and completion ceremony. The results showed that children's eating behavior and quality of life improved, and body mass index of obese and overweight children decreased. In addition, participants expressed that this program helped change their eating related behavior.

**Discussion:** IM provides a useful and systematic framework for program planning. 'Let's Eat Healthy' is an effective intervention to induce environmental changes in CCC center and ultimately contribute to improving eating behaviors and preventing obesity among low-income children in South Korea.

## Effect evaluation of a participatory developed healthy sleep intervention for adolescents

A. Vandendriessche<sup>1</sup>, M. Verloigne<sup>1</sup>, B. Deforche<sup>1,2</sup>

<sup>1</sup>Universiteit Gent, Belgium

<sup>2</sup>Vrije Universiteit Brussel, Belgium

**Background:** Sleep deprivation and reduced sleep quality are common in adolescents, which negatively impacts their physical and mental wellbeing and cognitive skills. This study examined the effect of a participatory developed intervention to promote healthy sleep in adolescents on their sleeping behavior and behavioral and cognitive determinants of sleep.

**Methods:** A sixteen week long intervention focusing on healthy sleep, regular sleep patterns, screen time, physical activity, nutrition and relaxation was co-created with adolescents. Data on sleep behavior and its determinants were collected in 1181 adolescents ( $15.0 \pm 0.7$  year; 54% boys) from two intervention schools and four control schools through a validated questionnaire using a pre-post design. Repeated Measures (M)ANCOVA analysis was performed in SPSS.

**Findings:** No significant intervention effects were found on adolescents' sleep duration and quality, and only a few effects were found on the determinants of sleep. There were favorable intervention effects on adolescents' knowledge of importance of sleep and sleep hygiene ( $F=13.44$ ;  $p<0.001$ ), physical activity on weekdays ( $F=5.14$ ;  $p=0.024$ ), regular sleep patterns on days off ( $F=5.11$ ;  $p=0.024$ ) and taking screens to bed ( $F=6.67$ ;  $p=0.010$ ). However, the intervention had an unfavorable effect on self-efficacy towards screen use in the evening ( $F=10.84$ ;  $p=0.001$ ) and perceived sleep behaviors of parents ( $F=4.05$ ;  $p=0.044$ ).

**Conclusion:** Although the intervention was developed in collaboration with the target group, only limited effects were found on determinants of sleep and no effects on sleep behavior itself. Future research should determine to what extent the intervention has been properly implemented and has reached everyone.

11:51 - 11:59

## Developing an intervention to improve adolescents' sleep behavior by combining participatory research and Intervention Mapping

M. Verloigne<sup>1</sup>, A. Vandendriessche<sup>2</sup>, B. Deforche<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Universiteit Gent, Belgium

**Background:** Adolescent sleep deprivation is an important health concern, urging the need to develop effective interventions. Combining a participatory approach (i.e. actively involving the adolescents) and Intervention Mapping (IM) may improve effectiveness. Therefore, the aim of this study was to describe the development of an intervention to improve adolescents' sleep behavior that combined a participatory approach with IM. Secondly, we evaluated the participatory process, based on focus group research in adolescents.

**Methods:** In three secondary schools in Flanders (Belgium), an action group with 6-8 pupils and an academic facilitator had weekly sessions with the aim to co-create an intervention, following IM. Three focus groups within each action group were organized throughout the development process. Data were thematically analyzed using NVivo 12.

**Results:** During the sessions, each action group went through the different steps of IM: identifying the problem (step 1: needs assessment), deciding on what should be changed (step 2: program objectives) and how it can be changed (step 3: methods and applications), and designing the intervention (step 4: program development). Most adolescents were positive about the content of the sessions, the methods used, the level of participation and the collaboration with the others. Still, they felt more satisfied during the final, more concrete steps. Also, they seemed to lack support from their schools.

**Conclusions:** The unique approach of combining participatory research with IM is a promising way to develop an intervention to improve adolescents' sleep. Further research needs to investigate if it leads to more effective and sustainable interventions.

11:59 - 12:07

# Quasi-randomised control trial of compassion-focused intervention to improve adolescent body image on social media

C. Mahon<sup>1</sup>, D. Hevey<sup>2</sup>

<sup>1</sup>Trinity College Dublin, Ireland

<sup>2</sup>TCD, Ireland

## Background

Body dissatisfaction is a prevalent and problematic issue for adolescents and can be heightened with

social media use. Compassionate Mind Training (CMT) (Gilbert, 2010) improves body image perceptions in adults; however, its effects on adolescents' body image in social media contexts is

unclear. This study investigates the feasibility and acceptability of a CMT approach to improve self-

compassion, self-criticism, social media comparisons and body image perceptions.

## Methods

The Digital SMART (Social Media Adolescent Resilience Training) programme will be delivered by the

primary researcher for 40 minutes once a week for five weeks. Psychoeducational, meditative and

reflective CMT practices will address body dissatisfaction on social media. This study will recruit 120

participants, 60 male, 60 female aged 15-17 years in three mixed-gender Irish secondary schools.

Class groups are randomly allocated to either commence the course immediately, or to wait for 6

weeks before commencing. Self-compassion, self-criticism, social media comparisons, and body

image perceptions will be assessed with reliable and valid questionnaires at pre, post-programme

and three-month follow up. Focus groups two weeks post-intervention and participant workbooks

containing weekly reflections and feedback about lessons, will also be assessed.

## Findings

This study has just commenced. Preliminary results suggest that body dissatisfaction and self-

criticism related to social media use are high in adolescents. Full post-intervention data will be

presented at the conference.

## Discussion

This study will be the first to assess whether CMT can positively influence body image in adolescents.



12:07 - 12:15

## Using Intervention Mapping to improve weight loss intervention content

P. Idziak<sup>1</sup>, I. Palacz-Poborczyk<sup>1</sup>, A. Januszewicz<sup>1</sup>, F. Naughton<sup>2</sup>, A. Luszczynska<sup>3</sup>, E. Quested<sup>4</sup>, M. S Hagger<sup>5</sup>, S.L. Pagoto<sup>6</sup>, S. Robinson<sup>4</sup>, D. Kwasnicka<sup>1,7</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>2</sup>University of East Anglia, United Kingdom

<sup>3</sup>University of Social Sciences and Humanities, Poland

<sup>4</sup>Curtin University, Australia

<sup>5</sup>University of California, Merced, United States

<sup>6</sup>University of Connecticut, United States

<sup>7</sup>University of Melbourne, Australia

**Background:** The increasing prevalence of overweight and obesity calls for innovative psychology-based interventions to support weight loss. The aim of this study was to inform the content of the “Choosing Health” weight loss intervention by building on existing evidence and principles of public engagement.

**Methods:** An Intervention Mapping (IM) approach was used in the content formation of the intervention. In step 1, a needs assessment was used to define the problem. In step 2, the program’s objectives were specified, and in step 3 techniques fitting the problem and objectives were chosen. User-engagement workshops were conducted to refine the intervention content in step 4. Representatives of the target population (N=40) took part in focus groups to discuss and rate intervention content; intervention content was also rated by psychology/nutrition experts (N=12). Experts and focus group participants rated clarity, how it made them feel, attractiveness and informativeness on a 1-10 scale.

**Findings:** Focus group participants' mean scores for original content were M=8.38, (clarity M=9.27, attractiveness M= 8.48, informativeness M= 8.6). Experts' mean scores were M= 7.21 (positive emotions M=6.95, attractiveness M= 7.23 and informativeness M= 7.47). All messages rated below 4.5 were excluded or adjusted. Overall, based on the content evaluation, we adapted the intervention content included in the majority of 109 emails and 759 text messages to be delivered in the “Choosing Health” weight loss intervention.

**Discussion:** Using IM and community-engagement procedures proved to be insightful and improved the intervention content.

12:15 - 12:23

## Users' support of various nudging strategies intended to increase fruit and vegetable purchase in cafeteria

S. Yi<sup>1</sup>, P. Brauer<sup>1</sup>

<sup>1</sup>University of Guelph, Canada

There has been a recent surge of field studies aimed to implement nudging-based intervention strategies intended to increase healthy foods, especially fruits and vegetables, in mass-eating contexts, such as school or university cafeterias and work-site canteens. However, the majority of field studies are short in duration, and interventions are typically implemented on a one-time basis, and therefore they are rarely incorporated into day-to-day operation of cafeterias or canteens after studies are over. One of the reasons for cafeteria operators' unwillingness to adopt nudge strategies is the suspicion that their customers (i.e., cafeteria users) may object to daily exposure to nudge intervention strategies, especially the ones that appear to be intrusive or of manipulative intent. Although recent surveys reported that general public tends to support the use of nudge in public domains (e.g., Sunstein, Reisch, & Kaiser, 2019), their support of specific nudge strategies designed to increase fruit and vegetable purchase and consumption has not been thoroughly investigated. Our survey study was conducted in order to address this gap of research.

About 250 university students were recruited to fill out our survey, which asked their degree of support of 20 nudge strategies that have been proposed to increase fruit and vegetable consumption in mass eating contexts. They were further asked to indicate perceived effectiveness of each strategy, if introduced to their university food locations, as well as perceived intrusiveness. Overall, participants indicated moderate to strong support to the majority of nudges except for a few notable exceptions.

12:23 - 12:31

## Can social media nudge healthy eating? An online pilot intervention study

L. Hawkins<sup>1</sup>, C. Farrow<sup>1</sup>, J. Thomas<sup>1</sup>

<sup>1</sup>Aston University, United Kingdom

**Background:** Exposure to social norms about fruit and vegetable intake has been shown to increase individuals' consumption of these foods. Further, exposure to socially endorsed 'healthy' food posts can increase consumption of low energy-dense (LED), compared to high energy-dense (HED) food. This study aimed to investigate whether actively following healthy eating (vs. control) social media accounts can shift normative perceptions about what others eat, and consequently eating intentions and self-reported food consumption.

**Methods:** In a 2 (condition) x 2 (type of food consumed) mixed factorial design, 52 male and female students were asked to follow additional healthy eating (intervention) or interior design (control) Instagram accounts over a two-week period. Pre- and post-intervention measures assessed self-reported consumption and intentions to consume fruit, vegetables (LED foods), HED snacks and sugar sweetened beverages (HED foods), and perceptions of Instagram users' consumption of these foods.

**Findings:** ANCOVA demonstrated that the healthy eating intervention (vs. control) significantly increased participants consumption of LED foods by 1.37 servings per day over two-weeks,  $F(1) = 6.34$ ,  $p = .02$ ,  $\eta^2 = .12$ . Mediation analysis also demonstrated that normative perceptions mediated the increase in LED food consumption, for those in the intervention condition (vs. control; all  $ps < .05$ ).

**Discussion:** This novel pilot study demonstrates that a social norm-based social media intervention can successfully encourage healthier eating, over two-weeks. Social media may therefore be a viable tool for nudging healthy eating and weight-based behaviour change interventions. Further work aims to replicate findings in a larger and more diverse sample.

# Coping and adjustment to Chronic Disease

11:35 - 12:35

Angelos Kassianos

11:35 - 11:43

# Living with Type 2 Diabetes: A qualitative study in India

N. Kharsati<sup>1</sup>, M. Kulkarni<sup>1</sup>

<sup>1</sup>Indian Institute of Technology Bombay, India

## Background:

Rapid socio-economic transitions along with genetic vulnerability have led to an upsurge in a diabetes epidemic among Indians living in urban as well as rural areas. The aim of the study is to explore the lived-experiences of individuals with diabetes from different social, cultural and contextual backgrounds.

## Methods:

Semi-structured interviews were conducted with 25 adults (13 women and 12 men), above the age of 40, who have been living with Type 2 Diabetes for at least 6 months. The participants were interviewed at a multi-disciplinary clinic in India, using purposive sampling technique. The narratives were transcribed and analysed using the grounded theory method.

## Results:

Dominant themes with respect to living with diabetes include the meaning ascribed to it as “a silent killer that weakens everything” and “a challenge given by God”. Other themes like acceptance of diabetes as “a part of me”, cognitive adaptation such as “I feel better when I take care” and self-efficacy such as “I know how to take care” also emerged. A theoretical model linking cognitive, affective and behavioural factors in managing physiological changes is proposed.

## Conclusion and implications:

Gender, socio-cultural and contextual factors influence diabetes perception and management. Understanding these lived-experiences in diabetes can aid in developing more personalized interventions.

11:43 - 11:51

## Exploring and redefining Refractory Inflammatory Arthritis: Delphi study with patients and multi-disciplinary healthcare professionals

H. Chaplin<sup>1</sup>, A. Bosworth<sup>2</sup>, J. Meehan<sup>1</sup>, R. Moss-Morris<sup>1</sup>, H. Lempp<sup>1</sup>, S. Norton<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

<sup>2</sup>National Rheumatoid Arthritis Society, United Kingdom

**Background:** Various definitions are proposed to define Refractory Disease; however, none were generated involving multidisciplinary healthcare professionals and patients, ignoring any discrepancies between inflammation and persistent symptoms. This study aims to redefine Refractory Disease, through mixed methods using Delphi methodology.

**Method:** Three rounds were conducted voting on: a) name preferences, b) treatment and inflammation statements, c) domains regarding symptoms and impact. Items were derived from previous qualitative interviews, a systematic review and health psychology frameworks. A predetermined cut off was applied to identify which items for inclusion, until final consensus was reached. Full NHS ethical approval granted (18/LO/1171).

**Results:** Participants (n=106) included Patient Representatives, Rheumatologists, Nurses, GPs, Psychologists, Physiotherapists, Researchers, Pharmacist, Podiatrist, Occupational Therapist and a Social Worker.

The most popular name was Refractory Inflammatory Arthritis (RIA) with Persistent Symptoms or Inflammation to differentiate between absence or presence of inflammation.

This three part definition covers the core elements of treatment, inflammation, and symptoms and impact, with consideration of wider protective and perpetuating factors in an conceptual model, including 1) Disease Activity, 2) Joint Involvement, 3) Pain, 4) Fatigue, 5) Functioning and Quality of Life, and 6) Drug Treatment Experiences. Within these, 18 components were identified as important to capture multi-faceted presentation and experience of RIA covering biological and psychological processes.

**Conclusion:** A broader definition and model for RIA incorporating Persistent Symptoms or Inflammation has been generated through a Delphi method to capture experiences of rheumatologists, patients, and multi-disciplinary healthcare professionals. This definition needs further validation to assess clinical/research utility.

# The Sense of Grip on chronic disease in the experience of adults with Hereditary Angioedema

A. Maiello<sup>1</sup>, L. Savarese<sup>2</sup>, R. De Luca Picione<sup>3</sup>

<sup>1</sup>Università degli Studi di Napoli "Federico II", Italy

<sup>2</sup>University of Naples "Federico II", Italy

<sup>3</sup>Università "Giustino Fortunato", Italy

**Background.** Due to the vast diffusion of chronic diseases, Clinical Psychology is manifesting a growing interest in developing interventions addressed to the improvement of the quality of life of people affected.

**Objective.** The objective of this study is to adapt an ad hoc clinical interview "Sense of Grip on the Disease" (SoGoD - Freda et al. 2019; Savarese et al.2020) and its coding grid, which is aimed at expanding our understanding of the everyday experience of chronicity in a group of adults affected from a rare chronic condition, Hereditary Angioedema (C1-INH-HAE). SoGoD is a conceptual framework developed to detect the narrative dynamics of the sensemaking of the disease between normative, regulative and agentive processes.

**Method.** Within a mixed-method methodology, we adapted the SoGoD interview for adults from the previous pediatric version (Freda et al,2019). The interview has been administered to n.28 adults with C1-INH-HAE from Italian referral centers. We then formulated the coding grid by a narrative-semiotic analysis of the interviews (Freda et al. 2019; Salvatore, 2016; Valsiner, 2013). Subsequently, through a Multiple Correspondence analysis and a Cluster Analysis we identified three SoGoD profiles.

**Results.** Five macro-categories have been identified: 1. Temporal articulation; 2. Interpretation; 3. Emotion naming; 4. Disease Management; 5. Social support. Three SoGoD Profiles emerged from the cluster interpretation: "Combative"; "Adempitive"; "Dynamic".

**Conclusion.** Each profile is useful for the identification of person-centered cognitive and affective needs related to their health which are functional to the implementation of interventions aimed at fostering SoGoD in a stepped care perspective.

## Effects of physical activity on mild Alzheimer's disease patients through cognitive performances

T. Mitanovska<sup>1</sup>, D. Jordanova Peshevska<sup>2</sup>

<sup>1</sup>Labyrinth-Skopje, Macedonia [FYROM]

<sup>2</sup>University American College Skopje, Department of Psychology, Macedonia [FYROM]

**Background:** Striking is the fact that despite decades of ongoing research on Alzheimer's disease (AD), as progressive neurodegenerative disease, there is still no cure provided. Hence, recent research focus has been on identifying preventive strategies. Physical activity (PA) was found to reduce the risk of developing the disease, as well as to retain cognitive vitality and quality of life in those living with the disease. The main objective of the study was to examine the effect of PA on cognitive performances in both groups.

**Methods:** A cross-sectional study design included a hundred (100) Macedonians, aged from 64 to 85 years old ( $M=73.3$ ). A score over 23 in the Mini-Mental State Examination was used as inclusion criteria for the healthy group, while the other group was chosen based on their official clinical diagnosis of mild AD. Both groups completed the same neuropsychological tests (Trial Making Test Part A; Trial Making Test Part B; Digit Span Forward; Digit Span Backward; and Verbal Fluency Test), and a questionnaire for PA.

**Findings:** The results showed significant correlations between PA and AD patients' on TMT-A ( $r=-.364$ ,  $p=.009$ ), and TMT-B ( $r=-.491$ ,  $p=.013$ ), indicating that physically active patients had better mental processing and executive functions. PA also was found as an important predictor for working memory ( $\beta=-.202$ ;  $t=-2.158$ ;  $p < .05$ ) in the other group.

**Discussion:** The results are consistent with previous studies where engaging in physical activities improves cognition. However, longitudinal research is needed to determine whether such lifestyle interventions can truly reduce the likelihood of AD.



12:07 - 12:15

## Protective effects of relationship quality on psychological health among patients with cardiovascular disease and partners

K. Bouchard<sup>1</sup>, A. Gareau<sup>2</sup>, K. Lalande<sup>1</sup>, P. Greenman<sup>3</sup>, K. Sztajerowska<sup>4</sup>, H. Tulloch<sup>1,4</sup>

<sup>1</sup>University of Ottawa Heart Institute, Canada

<sup>2</sup>Laval University, Canada

<sup>3</sup>Université du Québec en Outaouais, Canada

<sup>4</sup>University of Ottawa, Canada

**Background:** Couples' relationship quality has been associated with psychological health, yet how relationship quality is linked to psychological outcomes in couples where one member has established cardiovascular disease (CVD) is less understood. This research is required as reductions in relationship quality post-cardiac event are pervasive and psychological distress has been independently linked to CVD incidence, morbidity, and mortality. **Method:** To assess the association of relationship quality on depression and anxiety, patients with CVD and their partners completed questionnaires measuring four dimensions of relationship quality (cohesion, consensus, satisfaction, and affective expression), anxiety, and depression. Data was analyzed using an Actor-Partner Interdependence Model with hierarchical moderation analyses examining protective and dyadic synergistic effects of relationship quality on psychological health. **Findings:** 181 dyads (N=362) comprised the study sample (66.3% coronary artery disease; 25.9% female patients). Patients and partners reported similar relationship cohesion, consensus, and affectional expression. Patients reported higher relationship satisfaction and lower anxiety symptoms than partners. Patient perception of cohesion was protective of partner psychological health, and vice versa, and patient and partner concordant views of relationship consensus and affective expression predicted lower symptoms of anxiety and depression. **Discussion:** Patients' and partners' perceptions of their relationship cohesion can be protective of one another's psychological health and concordant views of relationship consensus and affective expression has psychological health benefits for patients with CVD and their partners. Psychosocial interventions that aim to improve relationship-quality, and that are dyadically focused, may be warranted to stem the burden of CVD in patients and partners.

12:15 - 12:23

## How codependency affects dyadic coping and life satisfaction

Z. Happ<sup>1</sup>, Z. Bodó-Varga<sup>1</sup>, K. Csókási<sup>1</sup>

<sup>1</sup>University of Pécs, Hungary

The quality of our relationships, the stress connected to them and our coping mechanisms may influence our health, and satisfaction with life. Furthermore in case of an illness one's relationship, which is being considered as a primary resource, has outstanding significance. Relying on the association between satisfaction with life and dyadic coping, we aimed to explore the influence of codependency on those two variables. We hypothesized that codependency -considered as a sum of personal characteristics and behavioral patterns- has negative correlation with life satisfaction and positive correlation with Supportive dyadic coping by oneself and Delegated dyadic coping by oneself. In our cross-sectional, questionnaire-based study we measured codependency with Spann-Fischer Codependency Scale, dyadic coping with Dyadic Coping Inventory, and satisfaction with life with Satisfaction With Life Scale, in a sample of 277 adults living in a relationship. Our results show that codependency correlates negatively with life satisfaction ( $p < 0,01$ ;  $r = -0,27$ ), and as opposed to our hypothesis has no significant correlation with Supportive or Delegated dyadic coping, but correlates positively with both Negative dyadic coping by oneself ( $p < 0,01$ ;  $r = 0,304$ ) and Negative dyadic coping by partner ( $p < 0,01$ ;  $r = 0,298$ ). Furthermore codependency predicts the value of satisfaction with life ( $p < 0,01$ ;  $R^2 = 0,0847$ ), both directly and also with the mediation of the Common dyadic coping. Thus people with higher level of codependency tend to be less cooperative in dyadic coping situations and to perceive their partners as less cooperative, and they are less satisfied with their lives.

## Depression, anxiety, and progression from normoglycemia to prediabetes and diabetes: preliminary findings

S. Deschênes<sup>1</sup>, A. Mc Inerney<sup>1</sup>, F. Nearchou<sup>1</sup>, N. Schmitz<sup>2</sup>, A. Nouwen<sup>3</sup>

<sup>1</sup>University College Dublin, Ireland

<sup>2</sup>McGill University, Canada

<sup>3</sup>Middlesex University, United Kingdom

**BACKGROUND:** Emerging research suggests that depression and anxiety influence the progression from prediabetes to diabetes, however evidence has been limited by small samples and less is known about the progression from normoglycemia to prediabetes.

**METHODS:** Adults without diabetes at baseline from the Lifelines Cohort Study in the Netherlands were included (58% female; mean age=45). The Mini-International Neuropsychiatric Interview screened for major depression and generalized anxiety. Glycated hemoglobin (HbA1c) levels determined prediabetes status at baseline (2007-2013) and incident prediabetes and diabetes at follow-up (2014-2017). Separate logistic regressions controlling for age and sex examined associations between depression/anxiety and incident prediabetes (N=64,273); and associations between four groups from baseline and incident diabetes (N=94,130): depression/anxiety with prediabetes, depression/anxiety only, prediabetes only, and neither (reference).

**FINDINGS:** N=976 (1.0%) developed diabetes and N=5,518 (8.6%) developed prediabetes during follow-up. Preliminary analyses showed that anxiety was associated with an 18% increased likelihood of incident prediabetes (95% CI=1.02,1.37). Depression was not significantly associated with incident prediabetes (OR=1.14; 95% CI=0.94,1.41). While baseline prediabetes without depression was associated with incident diabetes (OR=21.08; 95% CI=16.48,26.97), those with combined prediabetes and depression had the highest likelihood of diabetes (OR=28.65; 95% CI=17.44,47.06). Similar results were found for those with combined prediabetes and anxiety (OR=25.99; 95% CI=17.13,39.45), compared to prediabetes alone (OR=21.29; 95% CI=16.59,27.33).

**DISCUSSION:** Preliminary findings from this large sample suggest that anxiety is associated with progressing from normoglycemia to prediabetes and that depression/anxiety may play a role in progressing from prediabetes to diabetes, with highest odds found for those with prediabetes and depression/anxiety.

# Understanding interventions in chronic disease

11:35 - 12:35

Wendy Hardeman

## Understanding determinants of community cardiac rehabilitation attendance: a qualitative study using the Theoretical Domains Framework

O. Meade<sup>1</sup>, M. Carvalho<sup>1</sup>, M. Byrne<sup>1</sup>, D. Dunne<sup>2</sup>, E. Kenny<sup>1</sup>, J. Mc Sharry<sup>3</sup>, C. Noone<sup>1</sup>, I. Gibson<sup>1,2</sup>

<sup>1</sup>NUI Galway, Ireland

<sup>2</sup>Croí Heart and Stroke Charity, Ireland

<sup>3</sup>National University of Ireland, Galway, Ireland

**Background:** Cardiac rehabilitation programmes are highly effective in improving health outcomes for those who have experienced cardiac events. However, attendance at cardiac rehabilitation programmes is sub-optimal. This study aimed to understand barriers and facilitators to attending and completing a community-based cardiac rehabilitation programme from the perspective of patients who were referred to the programme.

**Methods:** Individuals who were referred to a community-based cardiac rehabilitation were invited to take part in semi-structured qualitative interviews to discuss their reasons for attending or not attending the programme and for completing or not completing the full programme. Participants were sampled to obtain variation in age, gender, and level of engagement with the programme. Interviews were transcribed verbatim and analysed using framework analysis guided by the Theoretical Domains Framework (TDF). Determinants of initial attendance and programme completion were identified.

**Findings:** Sixteen participants took part in the interviews. Nine TDF domains were relevant to participants' initial programme attendance: skills, knowledge, emotions, goals, intentions, beliefs about consequences, social-professional role and identity, environmental context and resources and social influences. Seven of these domains were also found to be relevant to participants' completion of the programme. However, goals and intentions were not found to be relevant to programme completion. Beliefs about consequences and reinforcement were identified as additional determinants relevant to programme completion.

**Discussion:** The results suggest that interventions to enhance attendance at community-based cardiac rehabilitation need to address multiple factors related to capability, opportunity and motivation.

11:43 - 11:51

## An evaluation of a narrative pedagogy knowledge translation tool in the National Health Service (NHS)

F. Leggat<sup>1</sup>, R. Wadey<sup>1</sup>, M. Day<sup>2</sup>, S. Winter<sup>1</sup>, P. Sanders<sup>3</sup>

<sup>1</sup>St Mary's University, United Kingdom

<sup>2</sup>University of Chichester, United Kingdom

<sup>3</sup>Changing Minds UK, United Kingdom

**Background:** Stories circulate in narrative environments. Within such environments, specific narratives are dominant, and others are marginalised. In major lower limb amputation (MLLA) rehabilitation, limited narratives of recovery circulate, whilst those dominating have been reported as unrealistic. Such scant narrative resources have left individuals with MLLA with feelings of uncertainty and apprehension, unable to make sense of their experience or map their lives looking forwards. However, the provision of multiple, alternative narratives offers individuals greater flexibility and opportunity to map their lives in socio-culturally inclusive way.

With narratives of MLLA recently identified, this study formed part of a wider programme of research to translate knowledge to broaden the rehabilitation narrative environment. This study aimed to evaluate the use of a narrative pedagogy intervention to translate narrative knowledge to individuals with MLLA in the NHS.

**Methods:** The narrative pedagogy intervention comprised of two phases: presentation of five multimedia stories of MLLA recovery and a narrative exchange. The intervention was delivered to individuals with MLLA as a focus group activity, forming part of their routine care within NHS prosthetic rehabilitation. Underpinned by the RE-AIM framework, qualitative methods, including qualitative surveys and observation, were employed to evaluate the intervention. Data was analysed using an abductive thematic analysis.

**Findings:** Findings will be presented.

**Discussion:** Narrative pedagogy offers a new, accessible tool for translating narrative knowledge to clinician and patient populations. For patients, narratives may foster sense-making, and the ability to map their future. For clinicians, narratives may enhance patients' autonomy and engagement in rehabilitation.

# Impact of bariatric surgery on depressive symptomatology in patients with non-alcoholic fatty liver disease

J. Funuyet-Salas<sup>1</sup>, A. Martín-Rodríguez<sup>1</sup>, M.Á. Pérez-San-Gregorio<sup>1</sup>, M. Romero-Gómez<sup>2</sup>

<sup>1</sup>Faculty of Psychology. Department of Personality, Assessment, and Psychological Treatments. University of Seville, Spain

<sup>2</sup>Digestive Diseases Unit. Virgen del Rocío University Hospital. SeLiver group at Institute of Biomedicine of Seville (IBIS). University of Seville, Spain

## Background:

This study compared depressive symptomatology in patients with non-alcoholic fatty liver disease (NAFLD) by whether or not they had undergone bariatric surgery.

## Methods:

The sample of 243 biopsy-proven NAFLD patients was evaluated using the HADS and BDI-II, and divided into three groups balanced for age and gender: 81 obese patients who had undergone bariatric surgery (G1), 81 obese patients who had not undergone surgery (G2), and 81 non-obese patients (G3). Snedecor's F and Welch's U were computed to compare the depressive symptomatology between groups. Tukey's HSD, Games–Howell, and Bonferroni corrected Mann–Whitney U tests ( $0.05/2=0.025$ ) were applied for post hoc multiple comparisons. Cohen's d was used to measure effect size.

## Findings:

The most important differences (medium effect size) were that G2 had higher scores in depressive symptomatology than G1 ( $p=0.005$ ,  $d=-0.500$ , HADS;  $p=0.005$ ,  $d=-0.503$ , BDI-II) or G3 ( $p=0.004$ ,  $d=0.516$ , HADS;  $p=0.001$ ,  $d=0.605$ , BDI-II). Specifically, the items with the most statistical weight in these differences were related to slowing down (G1-G2:  $p<0.001$ ,  $d=-0.775$ ; G2-G3:  $p<0.001$ ,  $d=0.609$ ), loss of interest in appearance (G1-G2:  $p<0.001$ ,  $d=-0.562$ ; G2-G3:  $p<0.001$ ,  $d=0.636$ ), past failure (G1-G2:  $p<0.001$ ,  $d=-0.545$ ; G2-G3:  $p<0.001$ ,  $d=0.723$ ), fatigue (G1-G2:  $p<0.001$ ,  $d=-0.782$ ; G2-G3:  $p<0.001$ ,  $d=0.571$ ), and loss of energy (G1-G2:  $p<0.001$ ,  $d=-0.669$ ; G2-G3:  $p<0.001$ ,  $d=0.737$ ).

## Discussion:

Bariatric surgery was associated with better mental health, as obese patients who had not undergone bariatric surgery reported more intense depressive symptoms than those who had undergone surgery or non-obese patients. Obese patients therefore require special attention when designing multidisciplinary intervention strategies for NAFLD.

11:59 - 12:07

# Experiences of psychological interventions in neurodegenerative diseases: a systematic review and thematic synthesis

C. Pinto<sup>1</sup>, A. Geraghty<sup>1</sup>, L. Yardley<sup>1,2</sup>, L. Dennison<sup>1</sup>

<sup>1</sup>University of Southampton, United Kingdom

<sup>2</sup>University of Bristol, United Kingdom

**Background:** Psychological interventions for managing emotional distress in people with neurodegenerative diseases are needed, but progressive worsening of symptoms and increasing disability might pose difficulties with engagement. The aim of this review is to explore experiences of psychological interventions for neurodegenerative diseases, and identify barriers and facilitators to engaging with these interventions.

**Methods:** Systematic searches were conducted in 6 electronic databases (MEDLINE, PsycINFO, CINAHL Plus, Web of Science, AMED, CENTRAL). Qualitative and mixed methods studies reporting patient or family carers' perspectives of psychological interventions were included. Qualitative data were extracted and thematically synthesized.

**Results:** 30 papers were included and reviewed, covering a range of diseases (e.g. Alzheimer's disease, Parkinson's disease, Motor Neuron Disease, Multiple sclerosis) and interventions (e.g. mindfulness, cognitive behavioural therapy, acceptance and commitment therapy, psychoeducational programmes). Across interventions, people with neurodegenerative diseases and carers experienced benefits, including increased self-awareness, increased sense of control over responses to difficult situations, and re-prioritization of valued activities and self-care. Physical disability and cognitive strain was often reported as barriers. Engaging with interventions was a demanding process that required large amounts of time, planning, and homework. Engagement was facilitated by flexible intervention format and structure, tailoring content to the specific needs of people with neurodegenerative conditions, and opportunities to connect with people in similar situations.

**Discussion:** People with neurodegenerative diseases and their family carers experience benefits from psychological interventions. However, some adaptations to their structure and format are required so that they are easy to engage with and perceived as relevant.



## Subjective impact of ventilatory self-management in Obstructive Sleep Apnea patients: a prospective study

M. Vigorè<sup>1</sup>, V. Torlaschi<sup>2</sup>, M. Maffoni<sup>2</sup>, E. Taurino<sup>3</sup>, R. Maestroni<sup>3</sup>, F. Fanfulla<sup>3</sup>, A. Pierobon<sup>2</sup>

<sup>1</sup>ICS Maugeri Spa SB IRCCS, Psychology Unit of Montescano Institute, Italy

<sup>2</sup>Istituti Clinici Scientifici Maugeri IRCCS, Psychology Unit of Montescano Institute, Italy

<sup>3</sup>Istituti Clinici Scientifici Maugeri IRCCS, Respiratory Function and Sleep Medicine Unit of Montescano Institute, Italy

**Background:** Obstructive Sleep Apnea (OSA) is a sleep breathing disorder that can be considered as a chronic disease. In literature patients with OSA show several comorbidities, anxiety, depression and unsatisfactory quality of life. The aim of this study is to evaluate the subjective impact and efficacy of a multidisciplinary adaptation to PAP therapy with or without psychological intervention at 1-year follow-up.

**Methods:** OSA patients with recent diagnosis, admitted at Istituti Clinici Scientifici Maugeri of Montescano (PV) for adaptation to PAP therapy according to Apnea Hypopnea Index (AHI) (younger than 75 years old, without severe clinical conditions or serious psychiatric disorders), will be considered eligible. Participants are divided into two groups: the control group (GC) underwent to routine activities while the experimental group (GΨ) are added an individual psychological and psychoeducational intervention.

**Results:** At baseline 59 not sleepy patients (58.7±10.4 years old, BMI:30.6±4.9) with AHI of 104.4±38.8 were recruited. At 1-year follow-up in the whole sample, AHI significantly decrease ( $p<.0001$ ) as anxiety (6.6±3.7 vs 5.3±3.8,  $p=.003$ ) and pessimism (8.4±3.5 vs 7.5±3.4,  $p=.036$ ) while sleep quantity/quality and mood satisfaction (51.5±31.9 vs 71.4±26.2,  $p<.0001$ ; 47.3±29.9 vs 70.8±27.1,  $p<.0001$ ; 57.5±25.8 vs 71.0±25.6,  $p<.0001$ ) increase. Furthermore, EuroQol VAS, high at baseline, significantly increases (70.8±19.1 vs 79.2±20.2,  $p<.002$ ). GΨ (n=22) vs GC (n=37) reported substantially same results except for management PAP therapy satisfaction (87.2±13.7 vs 79.9±24.8,  $p=.032$ ) at follow-up.

**Discussion:** Psychological evaluation and intervention of OSA patient treated with PAP therapy provides useful data for the optimization of rehabilitation intervention and holistic management at long term.

12:15 - 12:23

## Do positive psychology interventions have beneficial effects on chronic pain? a systematic review and meta-analysis

C. Braunwalder<sup>1,2</sup>, R. Müller<sup>1,2</sup>, M. Glisic<sup>1,3</sup>, C. Fekete<sup>1,2</sup>

<sup>1</sup>Swiss Paraplegic Research, Switzerland

<sup>2</sup>University of Lucerne, Switzerland

<sup>3</sup>University of Bern, Switzerland

Chronic pain is a highly prevalent health condition and medical interventions often fail to achieve satisfactory treatment results. Positive psychology interventions (PPI) may provide a beneficial option in chronic pain treatment. Given that the beneficial effects of PPI are still unclear, the objective of this systematic review and meta-analysis was to summarize and evaluate evidence on the effect of PPI on pain and physical and emotional functioning in individuals with chronic pain. Four electronic databases and additional references were searched for randomized controlled trials (RCTs) published between 1990 and 2020. Of 16 included RCTs, half included a PPI delivered as self-help, online intervention which lasted mostly 8 weeks. Results from meta-analyses show less average pain intensity, improved functioning in fibromyalgia, fewer depressive symptoms, more positive and less negative affect, and less anxiety and pain catastrophizing at posttreatment for participants receiving PPI compared to a control group. Findings support the notion that PPIs have beneficial effects on pain and emotional functioning for individuals with chronic pain, whereas evidence on its effectiveness on physical functioning is limited.

12:23 - 12:31

## Diabetes Community Champions: Local implementation and impact

J. Huber<sup>1</sup>, A. Sawyer<sup>1</sup>, T. Fossaluzza<sup>2</sup>, N. Sherriff<sup>1</sup>, S. Tomlinson<sup>3</sup>

<sup>1</sup>University of Brighton, United Kingdom

<sup>2</sup>NHS Surrey Heartlands CCG, United Kingdom

<sup>3</sup>NHS Medwyn Surgery, United Kingdom

**Background:** The main role of Community Champions is to educate and raise awareness of diabetes and Diabetes UK (national charity) by organising stalls, talks, presentations and healthy living days at community centres, health fairs and local festivals. The aim of this study was to evaluate the delivery and outcomes of a regional implementation of the Diabetes UK Community Champions project, focusing on Black and Minority Ethnic (BAME), Gypsy Roma Travellers, and student populations, in a Southern England health region.

**Methods:** A mixed-methods evaluation approach was adopted, incorporating routinely collected data and interviews with champions and stakeholders.

**Findings:** The number of Community Champions recruited (n=27) exceeded target (n=20). Champions were very satisfied with their training. They raised awareness through organised events and informally through conversations with members of their family and community. However, COVID-19 put a halt to all in-person awareness raising events. Overall, the Diabetes UK Community Champions project was successfully implemented in the chosen region. Some weaknesses of the project included its scale and extent of monitoring; namely, behaviour change or clinical data could not be recorded. However, interview data suggested that Champions themselves made a range of lifestyle changes. Interviews suggest a lack of confidence in organising events without the help of the coordinating project manager.

**Conclusions:** Champions, as a form of community health workers, require ongoing support to facilitate and foster initiative and a sufficient level of independent working in the community.

# Mobile health and digital innovations

11:35 - 12:35

Diana Taut

## A smartphone application for adherence to inhaled corticosteroids in young adults with asthma: Feasibility study

J. Murphy<sup>1</sup>, J. McSharry<sup>1</sup>, L. Hynes<sup>2</sup>, G.J. Molloy<sup>1</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>Croi, The West of Ireland Cardiac Foundation, Ireland

**Background:** Technology-enabled digital supports including asthma smartphone applications (apps) have potential to support adherence to inhaled corticosteroids (ICS) and asthma self-management in young adults. Feasibility studies are needed to determine the usability, acceptability, and feasibility of these interventions, to plan efficacy and effectiveness trials and establish evidence-based asthma apps. This study aimed to determine the usability, acceptability, and feasibility of the AsthmaMD app to support ICS adherence in a population of young adults with asthma.

**Methods:** A mixed methods feasibility study was conducted. Young adults (18-30 years) with asthma were eligible to participate. Participation involved completing a baseline questionnaire, using AsthmaMD for 2 weeks and completing a follow-up assessment based on participants' user experience. Primary outcomes included participant recruitment and retention, and usability, acceptability, and feasibility of using AsthmaMD. Quantitative and qualitative data were analysed using descriptive statistics and inductive, reflexive thematic analysis, respectively.

**Findings:** Overall, 122 young adults (82.8% female) with a mean age of 24.35 years (SD=3.8) were recruited and completed baseline measures. Of these, 59/122 (48.36%) completed the study. AsthmaMD received a mean System Usability Score of 63.11 (SD=20.10) and overall user satisfaction score of 5.82/10 (SD=2.22). In total, 49 (83.1%) participants used AsthmaMD >1day per week. Three main themes were identified in qualitative user experience data: 'Learning experience', 'App usefulness', and 'Valuable additions'.

**Discussion:** AsthmaMD is usable, acceptable, and feasible to support ICS adherence in a population of young adults with asthma, and it is feasible to examine its efficacy and effectiveness in a future trial.

11:43 - 11:51

## An App a Day: feasibility trial of a food-specific inhibition training app for families

L. Porter<sup>1</sup>, K. Wright<sup>1</sup>, F. Gillison<sup>2</sup>, N. Lawrence<sup>1</sup>

<sup>1</sup>University of Exeter, United Kingdom

<sup>2</sup>University of Bath, United Kingdom

**Background:** Food-specific inhibition training (FSIT) is a computerised task requiring response inhibition to high-energy foods within a reaction time game. It encourages healthier food choices among children in single-session experiments. This project investigated whether a FSIT app (FoodT) used at home could reduce intake of high-energy snacks among children aged 4-11 by reducing liking for “inhibited” foods. We aimed to assess feasibility of trial procedures, and obtain preliminary estimates of retention rates and effect sizes.

**Methods:** fifty parent-child dyads were randomised to Intervention or waitlist-Control. Children’s baseline eating behaviours were assessed via parent-report (e.g., Food-Frequency Questionnaire) and child-report measures (e.g., food liking ratings). Intervention children were asked to play FoodT for five minutes a day for two weeks. After two weeks, outcome measures were repeated. Descriptive statistics were calculated for feasibility outcomes (e.g., app usage) and effect sizes were calculated using ANCOVAs (baseline scores as covariate).

**Results:** forty-nine families participated at baseline and follow-up (98% retention). Intervention children played 0-10 games over two weeks (target = 14 games). There was a negligible between-groups difference on parent-reported follow-up Food-Frequency scores (fruit and vegetables  $n2p = .004$ ; high-energy food  $n2p = .007$ ). A medium effect size was observed for children’s reduced liking of inhibited high-energy foods compared to controls ( $n2p = .065$ ).

**Discussion:** the procedures and intervention are highly feasible and acceptable. Initial findings suggest a limited effect of the intervention, however baseline data indicates children were already eating a balanced diet. Future work should expand the diversity of the sample.

11:51 - 11:59

## Non-usage attrition of adolescents in a mobile health promotion intervention

L. Maenhout<sup>1</sup>, C. Peuters<sup>2</sup>, G. Cardon<sup>1</sup>, G. Crombez<sup>1</sup>, A. DeSmet<sup>3</sup>, S. Compernelle<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>UGent, Belgium

<sup>3</sup>Université libre de Bruxelles, Belgium

### Background:

mHealth is increasingly popular for delivering health promotion interventions, especially in adolescents. Despite adolescents' high interest, non-usage attrition is very high. As a result, mHealth interventions lose potential, and effective evaluation becomes challenging. For the future utility of mHealth interventions, it is important to explore when, which, and why adolescents stop using the intervention.

### Methods:

From October 2020 to April 2021, 206 adolescents (12-15y) were enrolled in a 12-week mHealth intervention. The attrition pattern will be analysed using survival analysis. To compare characteristics (i.e., demographics, behavioural status at the start and psychosocial determinants) of non-completers with those of completers, logistic regression analyses will be used. Reasons for non-usage attrition will be collected using a questionnaire, and analysed using descriptive statistics.

### Findings:

Preliminary findings show that 82% of the adolescents stopped using the app before the end of the 12-week study period, 57% even stopped in the first week. The most common reasons for non-usage attrition seem to be that their behaviour did not change by using the app, that they were already using other apps to track and/or improve their lifestyle, or that they reported already living a sufficiently healthy life.

More detailed results about 1) the pattern, 2) predictors and 3) reasons of non-usage attrition will be available at the time of the conference.

### Discussion:

Results about patterns, predictors and reported reasons for non-usage attrition will provide valuable information to develop future mHealth interventions for adolescents in such a way that attrition rates could be reduced.

11:59 - 12:07

## An EMA study in older adults: the variability of emotions, physical complaints, intention and self-efficacy

I. Maes<sup>1</sup>, L. Mertens<sup>1</sup>, L. Poppe<sup>1</sup>, G. Crombez<sup>1</sup>, T. Vetrovsky<sup>2</sup>, D. Van Dyck<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Charles University in Prague, Czech Republic

**Purpose:** Many theoretical frameworks have been developed to understand health behaviors. Determinants within these frameworks are usually considered relatively stable over time. However, in reality individual-level determinants vary over time, within and between individuals. In order to personalize health behavior change interventions more, information on the time-dependent variations of determinants is needed. The COM-B framework can be used as a dynamic framework, including reflective (conscious) as well as automatic (unconscious) processes that may vary over time. Consequently, this study examined the time-dependent variability of emotions, physical complaints, intention and self-efficacy using Ecological Momentary Assessment (EMA).

**Methods:** Observational data were collected in 67 Belgian older adults, using time-based EMA. Participants answered questions regarding emotions, physical complaints, intention and self-efficacy towards physical activity six times a day using a smartphone-based questionnaire. Generalized linear mixed models were estimated using R.

**Results/findings:** Emotions vary within individuals within days (approximately 49% of the total variance), except for enthusiasm which rather varies between individuals (54.4%). Physical complaints vary between individuals (approximately 60%), but less within individuals within days. However, tiredness and dizziness vary within individuals within days (51.8% and 46.6%). Intention and self-efficacy both vary more within days within individuals (64.5% and 51.1%). The between days variance was limited for all determinants. Detailed findings will be presented at EHPS2021.

**Conclusions:** This study shows that several determinants are strongly time-dependent, and should be treated as 'dynamic' determinants. This study provides important insights concerning the development of more personalized health behavior change interventions, anticipating real-time dynamics of determinants.



12:07 - 12:15

## Using a diabetes self-management app to increase health literacy and diabetes self-management: Pilot implementation

D. Taut<sup>1</sup>, C. Chițu<sup>2</sup>, M. Andreia<sup>3</sup>, C. Vonica<sup>3</sup>, C. Bala<sup>4</sup>, M. Popa<sup>5</sup>

<sup>1</sup>Babes-Bolyai University, Romania

<sup>2</sup>Babeș-Bolyai University, Romania

<sup>3</sup>Diabetes, Nutrition and Metabolic Diseases Center, Cluj County Emergency Hospital, Cluj-Napoca, Romania

<sup>4</sup>Diabetes, Nutrition and Metabolic Diseases Center, Cluj County Emergency Hospital, Cluj-Napoca, Afghanistan

<sup>5</sup>Institute of Hygiene, "Iuliu Hațieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania

**Background:** Patients facing the threat of well-known chronic diseases like Type 2 Diabetes Mellitus (T2DM) may encounter difficulties in a range of skills, from reading information written on drug packages to scheduling drug doses, reading and interpreting blood sugar values, informational brochures etc. This is why poor health literacy skills cast serious threats to adherence to treatment plans.

**Objective:** We aimed to test the feasibility of implementing a newly designed mobile diabetes app (Gluco) in T2DM patients' routine self-management. We also aimed to assess its usefulness in increasing health literacy and boosting self-care behaviours.

**Methods:** 21 participants (patients with T2DM, caregivers, healthy volunteers), aged 25-47 were recruited via snowballing technique and agreed to use the newly developed app for 2 weeks. Diabetes and nutritional literacy and self-efficacy related to different aspects of self-care were assessed. We also assessed for the perceived functionality, enjoyment and willingness to use the app in the future.

**Results:** Twelve participants (out of 21) did not know what carbohydrates were, whereas 9 considered that it was safe to drink fresh fruit juices in whatever quantities. The app was evaluated very favourably: 19 participants thought it was „very helpful” and „helpful”. The most used features were the informational articles, calories counter (food diary), exercise module/step counter, and the graphic summaries of glycemic indices, calories and steps, respectively.

**Conclusion:** Using this diabetes self-management is a promising intervention tool to boost self-management behaviours but also to alleviate the stress associated with diabetes care in T2DM.

12:15 - 12:23

## Social Robots for Long-Term Speech-Based Health Interventions

G. Laban<sup>1</sup>, A. Kappas<sup>2</sup>, V. Morrison<sup>3</sup>, E.S. Cross<sup>1,4</sup>

<sup>1</sup>University of Glasgow, United Kingdom

<sup>2</sup>Jacobs University, Germany

<sup>3</sup>Bangor University, United Kingdom

<sup>4</sup>Macquarie University, Australia

This study is aimed at testing the viability of introducing social robots as speech-based health interventions. Through the use of an online experiment, this research will examine people mood change throughout 10 interactions with a robot for 5-weeks. Moreover, we examined people's expressions when communicating with social robots, as well as how people disclose information and emotions to social robots via online video chat across time. By measuring peoples' emotions and mood change (via self-reported instruments), disclosures (in terms of content), expressions (including vocal and facial expressions), and perceptions (via self-reported questionnaires), this study will provide a detailed and nuanced perspective on how people's interactions with social robots develop over time, affect people's mood, and how accordingly, these can be introduced in health settings as a speech-based intervention.

The experiment followed a between-subjects (i.e., conversations about Covid-19 experiences vs. general topics) repeated measures (i.e., 10 testing sessions across 5-weeks) experimental design. Participants were randomly assigned to one of two conditions, where they were engaged with the social robot Pepper (SoftBank Robotics) via video chats discussing either (1) their Covid-19 experiences; or (2) general everyday topics. In each interaction session, the robot asked 3 questions. After each interaction, participants completed short questionnaires evaluating their perceptions of the robot and their own current emotions. Facial and vocal expressions were extracted and analysed from the recordings, as well as the content of the interactions. We are now amid data collection and are expecting to finish collecting data by late March 21.

12:23 - 12:31

## Development of a collaborative interactive digital graphic novel

K. Stiehl<sup>1,2</sup>, I. Stacher<sup>1,2</sup>, G. Mittmann<sup>1,2</sup>, K. Woodcock<sup>3</sup>

<sup>1</sup>Karl Landsteiner University of Health Sciences, Austria

<sup>2</sup>Ludwig Boltzmann Gesellschaft, Austria

<sup>3</sup>University of Birmingham, United Kingdom

**Background:** During early adolescence many challenges arise. Among others, adolescents are confronted with the onset of puberty, a new school environment, finding and maintaining peer relationships, and bullying. It is therefore of primary importance to facilitate adequate skill development to promote well-being and prevent mental- and physical health issues. This study aims to develop a visual novel that incorporates collaborative decision making, to scaffold peer-peer engagement around issues that are highly relevant for adolescents during the school transition period. Within the novel adolescents have the option to choose from a variety of strategies to overcome challenging situations and observe different outcomes, while discussing these decisions with a peer. **Methods:** To get a better understanding of adolescents' fears at school transition, data from group discussions with 886 students (M age =10.40, SD =.839) as part of 52 arts-based workshops were collected. The data were analysed using thematic analysis and served as the basis for the story. Subsequently, relevant literature was screened for strategies to overcome the described issues. The novel was iteratively developed via participatory workshops with adolescents to further adolescents' understanding of the strategies, and increase acceptability and usability. **Findings:** Adolescents described three major fears (fear of victimisation, fear of being alone, fear of academic failure). Indications during the participatory workshops point towards the graphic novel being acceptable and feasible. **Discussion:** The interactive digital graphic novel is a novel tool to discuss challenges at school and has the potential to increase meta-cognitive skills relevant for a healthy development.

# COVID-19 session

11:35 - 12:35

Matti Heino

## Can lifestyle behaviors prior to the pandemic predict adherence to behaviors to reduce COVID-19 transmission?

G. Nudelman<sup>1</sup>, S. Peleg<sup>2</sup>, S. Shiloh<sup>3</sup>

<sup>1</sup>The Academic College of Tel Aviv-Yaffo, Israel

<sup>2</sup>Tel-Aviv University, Israel

<sup>3</sup>Tel Aviv University, Israel

**Background:** Transmission of the novel coronavirus can be reduced by behavioral means. Consequently, it is important to uncover predictors of adherence to these behaviors. By combining insights from research on cross-behavioral associations and temporal stability, we expected that practicing a healthy lifestyle prior to the pandemic would be related to adherence to behaviors to reduce transmission of COVID-19. In addition, this relationship was expected to be stronger for people with higher health status.

**Methods:** During the first coronavirus lockdown, a cross-sectional sample (N = 463) completed online questionnaires that measured adherence to behaviors to reduce COVID-19 transmission (e.g., wearing a face mask and practicing social distancing), engagement in lifestyle behaviors prior to the epidemic (exercising regularly and eating fruits and vegetables), and self-assessed health.

**Findings:** As expected, higher engagement in healthy lifestyle behaviors was related to higher adherence to behaviors to reduce COVID-19 transmission ( $r = .34, p < .001$ ), and self-assessed health moderated this relationship (moderation coefficient 95% CI [.04, .20]). In addition, self-assessed health was correlated with lifestyle behaviors ( $r = .13, p < .01$ ), but not with behaviors to reduce transmission ( $r = .02, p > .05$ ).

**Discussion:** The findings highlight the importance of enhancing public health in regular life in order to promote adherence in times of pandemics, as well as the need to facilitate engagement in lifestyle behaviors to persons with lower health status. Moreover, the results demonstrate the potential effects of conscious and unconscious facilitating processes across behaviors and time.

11:43 - 11:51

## The impact of COVID-19 on health behaviours of the UK population: a cross-sectional study

E. Ruddy<sup>1</sup>, A. Rodrigues<sup>2</sup>, V. Araujo-Soares<sup>3</sup>, O. Idowu<sup>4</sup>, M. Birch-Machin<sup>1</sup>

<sup>1</sup>Newcastle University, United Kingdom

<sup>2</sup>Northumbria University, United Kingdom

<sup>3</sup>University of Twente, Netherlands

<sup>4</sup>Hexis Lab, United Kingdom

**Background:** The study aimed to determine the effect of the COVID-19 lockdown on sun exposure and sun protection behaviours, alcohol consumption and physical activity levels.

**Methods:** A cross-sectional study (n=522) with a self-reported questionnaire. Tests of differences were used to identify significant differences between groups and a two-tailed p value of <0.05 was considered statistically significant. Multiple linear regression analysis was performed to test the prediction variables of sun protection behaviours.

**Findings:** Furloughed individuals were more likely to spend time outdoors in comparison to those working from home (p=0.028) and students (p=0.017); however, those who spent more time outdoors did not show a significant increase in sun protection behaviours (p=0.175). Individuals within the 18-30 years group engaged in more vigorous physical activity in comparison to those >50 years (p=0.007) and males engaged in more vigorous (p=0.028) and moderate (p<0.001) physical activity. Those who did not increase their alcohol consumption during lockdown engaged in more vigorous (p=0.042) and moderate (p=0.044) physical activity. A significant increase in sun protection behaviours was not seen in those whose physical activity levels increased (p=0.305). Multiple regression analysis showed that 25.6% of variance in sun protection behaviours can be accounted for by 5 predictors,  $F(5,513)=36.558$ .

**Discussion:** Those who spent more time outdoors as well as those with increased physical activity levels did not have increased sun protection behaviours. Individuals who engaged in higher levels of physical activity were those between 18 and 30 years, males and individuals who did not increase their alcohol consumption during lockdown.

11:51 - 11:59

## Diet, alcohol, physical activity, and BMI during the COVID pandemic, among cancer survivors

P. Lally<sup>1</sup>, A. Roberts<sup>1</sup>, V. Ireland<sup>1</sup>, R. Conway<sup>1</sup>, S. Esser<sup>1</sup>, H. Croker<sup>1</sup>, A. Fisher<sup>1</sup>, R.J. Beeken<sup>2</sup>

<sup>1</sup>UCL, United Kingdom

<sup>2</sup>University of Leeds, United Kingdom

**Background:** This study aimed to investigate whether cancer survivors are meeting the World Cancer Research Fund recommendations during the COVID pandemic, and whether they perceived that this changed during the first UK lockdown (23rd March - 4th July 2020).

**Methods:** ASCOT is a Randomised Controlled Trial of a brief health behaviour intervention in breast, colorectal and prostate cancer patients. Participants were recruited between 2015 and 2019. In September 2020 participants were invited to complete an additional questionnaire to capture the impact of COVID on their behaviours, including moderate-vigorous physical activity (MVPA, measured using the GLTEQ), fibre, fat (scales adapted from the DINE), fruit and vegetable consumption, and alcohol intake (items adapted from the AUDIT-C). Weight and height were collected to calculate BMI. 754 participants completed this questionnaire.

**Findings:** Most participants are not meeting guidelines for BMI (57%), fruit and vegetables (63%), fibre (81%) or MVPA (57%). For fat and alcohol, the proportions not adhering were lower (42% and 10% respectively). The majority of participants reported that they had not experienced a change during the first UK lockdown. However 21%, 28% and 19% reported an increase in savoury snack, sweet snack and alcohol consumption respectively (compared to 10%, 9%, and 10% reporting a decrease), and 33% reported an increase in weight (17% a decrease). For MVPA 29% reported a decrease and 21% reported an increase.

**Discussion:** Understanding which cancer survivors experienced unhealthy changes in their behaviours could support targeted interventions.

11:59 - 12:07

## Is it time to stock up? Understanding panic buying during the COVID-19 pandemic in Australia

K. Rune<sup>1</sup>, J. Keech<sup>1</sup>

<sup>1</sup>The University of the Sunshine Coast, Australia

A side effect of lockdowns to reduce the spread of COVID-19 has been a sharp increase in consumer purchasing behaviour, labelled panic buying by the media. Panic buying has detrimental consequences as it leads to product shortages, which affects the most vulnerable, and frontline workers, who have less opportunities to stock up. It also disrupts supply chains, forcing retailers to adopt quotas and price increases. Developing an understanding of the psychological correlates of panic buying can help to identify targets for public messaging aimed at curbing the behaviour.

Applying social-cognitive and dual-processing models of human behaviour, the study aimed to identify the psychological and individual difference factors associated with increased purchasing of a) non-perishable, b) cleaning, and c) personal hygiene products during COVID-19 lockdowns in Australia.

The study used a cross-sectional design, recruiting 790 participants across Australia during April 2020. Measures included demographics, social cognition and individual difference factors, and purchasing behaviour.

Structural equation models revealed that 1) attitudes, subjective norms and risk perceptions predicted increased purchasing of non-perishable food items; 2) attitudes, risk perceptions, social anxiety sensitivity, and the non-impulsivity facet of trait self-control predicted increased purchasing of hygiene products; and 3) attitudes and risk perceptions predicted increased purchasing of cleaning products.

The findings provide an understanding of the social cognition and individual difference factors that are associated with panic buying during COVID-19 lockdowns. Future studies should investigate whether messages designed to influence risk perceptions, attitudes, and subjective norms are effective in curbing panic buying behaviour during future lockdowns.



12:07 - 12:15

# Covid-19 Coping Survey: analysis of free-text survey responses from people with and without health conditions

R. Hewitt<sup>1</sup>, J. Carrier<sup>1</sup>, S. Jennings<sup>1</sup>, S. Anstey<sup>1</sup>, R. Pattinson<sup>1</sup>, C. Bundy<sup>1</sup>

<sup>1</sup>Cardiff University, United Kingdom

## Background

There is currently a lack of qualitative research exploring how cognitive and emotional reactions to the threat of SARS-CoV-2 affected the health behaviours of people living with and without pre-existing health conditions.

The present study aimed to investigate how the threat of SARS-CoV-2 influenced the thoughts, feelings and behaviour of people, comparing those with and without pre-existing health conditions in the UK.

## Methods

A cross-sectional online survey of UK adults (aged 18 and over). Free-text responses were analysed using a qualitative framework approach guided by the Common-Sense Model of Self-Regulation also used to design the survey.

## Findings

Of the 9,110 respondents, 3,186 participants provided free-text responses. Three main themes were derived from the data: 1) external locus of control; (2) internal locus of control; and (3) a collective approach to coping. The second theme, internal locus of control, comprised two sub-themes: (2.1) emotions and (2.2) coping strategies.

## Discussion

People living with existing health conditions reported more distress and unhelpful health behaviour in response to the pandemic than those without health conditions. Psychological support and interventions including behaviour change is required to mitigate the psychological burden of the SARS-CoV-2 pandemic and increase autonomy in people with and without pre-existing conditions during this highly uncertain time. Behavioural scientists can support governments, policy makers and public health agencies to develop evidence-based strategies that support the people to address unhelpful beliefs and emotions and strengthen coping abilities as the UK moves through and beyond the SARS-CoV-2 pandemic.

12:15 - 12:23

## Vaccination against COVID-19: Behavioural intention predictors among a representative sample of the Portuguese population

C. Albuquerque Godinho<sup>1,2</sup>, R. Francisco<sup>1</sup>, R. Gaspar<sup>1</sup>, A. Silva da Costa<sup>1,2</sup>, D. Costa<sup>2</sup>, E. Paulino<sup>2</sup>, M. Arriaga<sup>1,2</sup>

<sup>1</sup>Universidade Católica Portuguesa, Católica Research Centre for Psychological - Family and Social Wellbeing, Portugal

<sup>2</sup>Directorate-General of Health, Portugal

**Background:** Portugal, as many other countries worldwide, has already started to administer COVID-19 vaccines among priority groups of the population, bringing new hope to the fight against the global pandemic. However, the success of the vaccination program will depend on the uptake rate among the general population. Considering the decline in vaccine confidence and increasing vaccine hesitancy, it is central to investigate populations' acceptance of COVID-19 vaccines and the determinants of individuals' decisions to be vaccinated. The aim of the present study was to estimate the population's vaccination adherence and its association with theoretically-grounded psychosocial, contextual and sociodemographic predictors in two different phases of the pandemic (during vs. after confinement).

**Method:** A telephone survey is being applied, through CATI software, to a randomly selected sample of the Portuguese population with over 16 years ( $n = \sim 1000$ ), not yet vaccinated for COVID-19. The first wave of data collection is taking place (February 22nd – March 2nd) and the second will take place in April. Besides sociodemographic and health status, measures on behavioural intention, vaccine hesitancy, risk perception, perceived benefits and barriers to vaccination, knowledge, social norms, anticipated regret, trust in authorities, health literacy and information sources, are being collected.

**Findings:** Vaccination adherence in different sociodemographic population groups will be estimated and the main predictors of behavioural intentions (psychosocial and contextual) will be determined, cross-sectionally and longitudinally.

**Discussion:** Information on the main vaccination barriers and facilitators will be crucial to inform timely and tailored communication strategies, targeting different population groups.

# Roundtables

14:15 - 15:15

14:15 - 15:15

## On the Interrelation of Health and Environmental Issues: Making a Case for Environmental Health Psychology

P. Kadel<sup>1</sup>, J. Kollmann<sup>2</sup>, N. Contzen<sup>3</sup>, M. Friedrich<sup>4</sup>, J. Inauen<sup>5</sup>

<sup>1</sup>University of Mannheim, Germany

<sup>2</sup>University of Konstanz, Germany

<sup>3</sup>Eawag, Switzerland

<sup>4</sup>RANAS GmbH, Switzerland

<sup>5</sup>University of Bern, Switzerland

**Purpose:** Human health and the health of our environment are inherently interconnected. Yet, health psychology has rarely addressed issues of environmental health. This roundtable aims to raise awareness for the importance of environmental issues in health psychology. It brings together contributors from environmental and health psychology to present and discuss current research and to emphasize the opportunities of joining forces and forming an environmental health psychology.

**Objectives:**

- Illustrate the impact of environmental issues on human health and their relevance for health psychological research
- Present and discuss current research on behaviors beneficial for both environmental and human health and their promotion
- Encourage psychologists from different subdisciplines to unite efforts and take a more systemic view on the topics of health and environmental issues
- Discuss implications for theory building, future research, and applications

**Rationale:** Improving human health and preserving the environment are among the most important issues of our time. As stated by the World Health Organization, the environmental crisis is a human health crisis because a healthy planet is a prerequisite for prosperous and healthy human life. The EHPS 2021 conference is therefore a great opportunity to raise awareness for the importance of environmental issues in health psychological research and to discuss the way forward for the promising new avenue of environmental health psychology with the EHPS community.

**Summary:** First, Nadja Contzen will present her research on microplastic pollution. She will outline the shift in public communication – from microplastic as a mere environmental topic to an issue also affecting human health. Second, Max Friedrich will present data from a study conducted in India, targeting air pollution caused by burning of paddy crop residue. He will expound behavioral factors determining this environmental health hazard. Subsequently, Philipp Kadel will speak about the potential of a meat-reduced diet in simultaneously promoting human and environmental health. He will present a study on deliberate ignorance as a barrier for information interventions trying to reduce people's meat consumption and possible ways to address it. Finally, Jennifer Inauen will wrap up the contributions and give an outline for future research and practice. At the example of pesticide use and

contaminated drinking water, she will exemplify that considering environmental health issues is a promising new area for health psychologists.

14:15 - 15:15

## Integrating behavioural science in government pandemic response: lessons for the future from the COVID-19 pandemic

J. Presseau<sup>1,2</sup>, M. Johnston<sup>3</sup>, M. Byrne<sup>4</sup>, M. de Bruin<sup>5</sup>, S. Michie<sup>6</sup>

<sup>1</sup>Ottawa Hospital Research Institute, Canada

<sup>2</sup>University of Ottawa, Canada

<sup>3</sup>University of Aberdeen, United Kingdom

<sup>4</sup>NUI Galway, Ireland

<sup>5</sup>Radboud UMC, Netherlands

<sup>6</sup>University College London, United Kingdom

**Purpose:** To foster discussion amongst EHPS members on how Health Psychology has been used in the response to COVID-19 internationally and promote discussion and planning to inform the role of Health Psychology for the current and future pandemics

**Objectives:**

1. Showcase a variety of ways in which health psychologists have informed government and jurisdictional policy decisions and implementation for the COVID-19 pandemic response
2. Reflect on current and potential relationships between health psychology and policy decisions and implementation
3. Discuss what steps could be taken to enable a swift and impactful response in the future

**Rationale:** Behavioural science – and social sciences more generally – is centrally important to informing COVID-19 prevention policies and understanding and enabling adherence to Government guidance. The COVID-19 pandemic has seen contributions in several countries from Health Psychology to local, regional and national governments' pandemic responses. Health psychologists have worked with a wide variety of academic disciplines and types of policymakers and implementers to apply behavioural research and principles. The 2021 EHPS conference presents an opportunity to reflect on and discuss what went well, what did not, what we can learn and do better in leveraging health psychology and the role of health psychologists in suppressing outbreaks and future pandemics, and beyond.

**Summary:** Each speaker will give a 5-minute overview of how behavioural science has informed the government pandemic response in their jurisdiction and reflect on their role, what was achieved and can be learned. The short presentations will set the stage for moderated general discussion on what role health psychologists could/should have in interfacing with government and policy and what steps are needed for more effectively achieving impact in the future.

# Lab Series

14:15 - 15:15

14:15 - 15:15

## Towards meaningful interdisciplinary collaborations in digital health psychology: Challenges and action-oriented solutions

O. Perski<sup>1</sup>, E. Smit<sup>2</sup>, L. König<sup>3</sup>, A. DeSmet<sup>4</sup>, L. Maenhout<sup>5</sup>, K. Newby<sup>6</sup>

<sup>1</sup>University College London, United Kingdom

<sup>2</sup>University of Amsterdam/ASCoR, Netherlands

<sup>3</sup>University of Bayreuth, Germany

<sup>4</sup>Université libre de Bruxelles, Belgium

<sup>5</sup>Ghent University, Belgium

<sup>6</sup>University of Hertfordshire, United Kingdom

**Purpose:** We aim to draw on the digital health psychology community's expertise and ideas to articulate key challenges for interdisciplinary digital health psychology collaborations and generate a set of potential action-oriented solutions to these.

**Objectives:** To i) articulate common challenges faced in interdisciplinary digital health psychology collaborations via case studies of practical examples of interdisciplinary collaborations (presented by an academic researcher, a clinician and a computer scientist/developer) and moderated small group discussions; ii) develop potential action-oriented solutions to these challenges; and iii) produce and disseminate a White Paper which captures the discussions.

**Rationale:** The development, evaluation and real-world implementation of evidence-based digital health interventions requires domain-specific expertise in health psychology, medicine, computer science, human-computer interaction, regulatory practices, health communication and marketing. Hence, health psychologists working at the intersection of technology and health inevitably find themselves in interdisciplinary collaborations with computer scientists/developers, other accredited healthcare professionals, industry professionals and policymakers. Albeit exciting, such interdisciplinary collaborations can lead to unforeseen challenges due to language barriers or misaligned objectives/success criteria, which risk to slow projects down or reduce their potential efficiency and health impact. This EHPS Conference Lab Series meeting aims to draw on the available expertise and ideas within the digital health psychology community to articulate key challenges faced in interdisciplinary digital health psychology collaborations and generate potential solutions to these, ultimately summarising the discussions in a White Paper. We expect that the resulting White Paper will serve as a valuable tool, both for health psychologists who plan to instigate their first digital health project (e.g. helping them to avoid common pitfalls) and experienced digital health psychologists (e.g. facilitating problem-solving when encountering a particular challenge or helping individuals to communicate their experiences to others in a structured manner).



14:15 - 15:15

## Chartering New Territories in Practical Health Psychology

S. Potthoff<sup>1,2</sup>, D. Kwasnicka<sup>3</sup>, U. Ambrozy<sup>4</sup>, A. Cross<sup>5,6</sup>, A. van Dongen<sup>7</sup>, G. ten Hoor<sup>8</sup>, K. Knittle<sup>9</sup>, J. Park<sup>10</sup>, G.Y. Peters<sup>11</sup>, N. Vilchinsky<sup>12</sup>

<sup>1</sup>Northumbria University, United Kingdom

<sup>2</sup>Stavanger University Hospital, Norway

<sup>3</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>4</sup>Jagiellonian University, Poland

<sup>5</sup>University of Derby, United Kingdom

<sup>6</sup>University Hospitals Leicester, United Kingdom

<sup>7</sup>University of York, United Kingdom

<sup>8</sup>Maastricht University, Netherlands

<sup>9</sup>University of Helsinki, Finland

<sup>10</sup>Inje University, South Korea

<sup>11</sup>Open University of the Netherlands, Netherlands

<sup>12</sup>Bar-Ilan University, Israel

**Purpose:** To explore existing and new ways of making Health Psychology more practical to improve translation of research findings into routine practice by healthcare practitioners.

**Objectives:**

1. Introduce the Practical Health Psychology blog as one strategy of making Health Psychology more practical
2. Present illustrative examples of how the Practical Health Psychology blog has been disseminated and made an impact in different countries
3. Discuss and exchange ideas about how to increase the reach and impact of the Practical Health Psychology blog
4. Share top tips for translating research into practical recommendations aimed at healthcare practitioners

**Rationale:**

Health Psychology research generates a wealth of findings that have the potential to improve the health and care for patients and the public. The translation of these findings into routine practice is often slow and costly. The Practical Health Psychology blog is an initiative that aims to accelerate the translation of research into practice by disseminating short evidence-based blog posts, translated into 28 languages, targeted at healthcare practitioners. Blog posts include a list of practical recommendations that can help healthcare practitioners apply state of the art research findings in practice with their patients.

This EHPS Conference Lab Series aims to use the Practical Health Psychology blog as an exemplar to enable an interactive discussion with the audience on how to make Health Psychology more practical and increase the real life impact of our discipline. During this Lab Series, we will discuss how Health Psychology research can (and should) become more practical. After an interactive welcome, we will provide a clear rationale for why we need to strive towards a more practical Health Psychology. National Editors will talk about their

experiences with translating and disseminating blog posts in their countries. An interactive discussion with the audience will explore how we can increase the reach of the Practical Health Psychology blog, as well as other ways of making Health Psychology more practical. A blog author will share his experience of writing a Practical Health Psychology blog post and what considerations went into translating his research into practical recommendations. We will sum up by providing a summary of the impact achieved by the Practical Health Psychology blog and plans for how to take this work further in the future.

# Health Behaviour change interventions

15:25 - 16:55

Marta Marques

15:25 - 15:37

## Intention and Planning predict Physical Activity: Conditional Process Analysis involving Habit Strength and Body Fat

R. Schwarzer<sup>1,2</sup>, L.M. Warner<sup>3</sup>, L. Fleig<sup>3</sup>

<sup>1</sup>Freie University Berlin, Germany

<sup>2</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>3</sup>Medical School Berlin, Germany

**Background:** Levels of exercise participation are low in the Mediterranean countries, and to examine ways to improve the situation, an online lifestyle intervention was launched. This study explores the predictive role that behavioral intentions and planning may play under certain conditions as well as the mechanisms involving intentions, planning, and habit strength and their association with physical activity.

**Methods:** A digital intervention was conducted in Italy, Spain, and Greece to improve physical activity levels over a three-month period. The present analysis used data of an intervention trial with 1,281 participants (517 men, 764 women, Mage=41.21 years, SD=11.24). We examined their number of daily steps with triaxial accelerometer devices (FitLinxx). At baseline, intentions, planning, and habit strength for physical activity were measured (covariates: sex, fat mass, age).

**Findings:** On average, participants went 5,121 steps per day (M=39 days, SD=24). Being male, not being overweight, intending to be active, planning one's activities, and being habitually active were significantly associated with physical activity. In addition to the main effects, moderation analyses revealed an interaction between planning and habit strength on number of steps ( $p<.05$ ). as well as an interaction between intention and fat mass on the number of steps ( $p<.05$ ).

**Discussion:** Although behavioral intentions predict physical activity, being overweight eliminates this association, making body mass an obstacle for the translation of intentions into action. Moreover, habitual activity does not require planning because the activity occurs automatically, whereas in the absence of the habit, planning appears to be a useful predictor of physical activity.

15:37 - 15:49

## PROPELS trial: an intervention to promote sustained increases in physical activity in an at-risk population

W. Hardeman<sup>1</sup>, H. Eborall<sup>2</sup>, H. Dallosso<sup>3</sup>, S. Sutton<sup>4</sup>, S. Sharp<sup>4</sup>, L. Gray<sup>3</sup>, M. Davies<sup>3</sup>, T. Yates<sup>3</sup>, S. Griffin<sup>4</sup>, K. Khunti<sup>3</sup>

<sup>1</sup>University of East Anglia, United Kingdom

<sup>2</sup>University of Edinburgh, United Kingdom

<sup>3</sup>University of Leicester, United Kingdom

<sup>4</sup>University of Cambridge, United Kingdom

**Background:** Achieving sustained increases in physical activity is challenging. PROPELS investigated whether annual group sessions using pedometers (Walking Away, WA) achieved sustained increases with and without tailored text-messages and phone calls.

**Methods:** Participants at risk of type 2 diabetes were randomised to a leaflet (control), WA or WA+ (WA plus text-messages and phone calls). Group sessions, based on social cognitive theory, included action planning and self-monitoring. Text-messages prompted goal setting and texting in step counts using pedometers, and provided tailored feedback. We assessed objective physical activity and walking self-efficacy at baseline, 12 and 48 months, and use of behaviour change strategies at 12 and 48 months.

**Findings:** We randomised 1,366 participants; 51% male, mean age 61 years. At 48 months, step count per day did not differ between-groups. At 12 months, WA+ participants increased physical activity by 547 (97.5%CI: 211, 882) steps/day compared to control, with no differences between WA and control. Self-efficacy was high in all groups at all time-points (>90% out of 100% max). At 48 months, more WA+ than WA participants reported wearing pedometers some/most of the time (64.2% versus 49.7%) and keeping exercise logs (40.9% versus 30.6%); frequency of goal setting (78.8% versus 73.0%) and action planning (67.1% versus 66.3%) was similar.

**Discussion:** Annual group sessions plus text-messaging and phone calls led to clinically meaningful physical activity increases at 12 months compared to control, but not 48 months. Sustained use of evidence-based behaviour change strategies may not be sufficient for long-term maintenance without supporting environmental interventions.

15:49 - 16:01

## Does regulatory fit between regulatory focus and health message affect dual-model processes of daily walking?

R. Avraham<sup>1</sup>, T. Simon-Tuval<sup>1</sup>, L. Fink<sup>1</sup>, L. Canfi<sup>1</sup>, D. Van Dijk<sup>1</sup>

<sup>1</sup>Ben-Gurion University of the Negev, Israel

**Background:** Promotion and prevention regulatory foci are motivational orientations influencing various health-related behaviors. These orientations may influence the dual-model processes that lead to health behavior change, through both conscious (e.g., intention to change the behavior) and non-conscious (habit strength) processes. We examined the effect of regulatory-fit between health messages and regulatory focus of healthcare workers on the dual-model processes of daily walking.

**Methods:** An interventional study was conducted among 129 health workers in a tertiary hospital. Participants received either a promotion- or prevention-oriented health message that encourages daily walking. Data were collected before and after message delivery, using validated questionnaires. Mixed analysis of variance (ANOVA) tests were used to analyze the impact of the interaction between message type and participants' regulatory focus on the dual-process constructs.

**Findings:** An interaction between regulatory focus and health message was found for the non-conscious construct, habit strength; such that habit strength was higher after promotion (vs. prevention)-oriented message, for high promotion-focused participants; and was higher after prevention (vs. promotion)-oriented message, for high prevention-focused participants ( $F=9.367$ ,  $p=0.003$ ). Similar interaction was found for the conscious construct of coping planning ( $F=4.279$ ,  $p=0.041$ ). The interactions for intention and action planning revealed nonsignificant results.

**Discussion:** Fit between regulatory focus and message type affects both conscious and non-conscious processes of daily walking. Considering regulatory foci while addressing the dual-process of increasing daily walking is a potentially effective strategy for health promotion interventions. Further research on the influence of regulatory fit on other health-related behaviors is recommended.

16:01 - 16:13

## Do motivational messages enhance older adults' implementation intentions on physical activity? A randomized-controlled pilot trial

V. Bösch<sup>1</sup>, J. Inauen<sup>1</sup>

<sup>1</sup>University of Bern, Switzerland

Physical activity is an economic and effective way to stay healthy for older adults. However, despite the advantages of regular physical activity, many older adults fail to achieve the recommended amount. One particularly effective strategy to promote physical activity are implementation intentions but their effects vary. A recent study showed that older adults might not profit as greatly from implementation intention as formerly suggested. One factor that could moderate implementation intention effectiveness might be motivation. Therefore, in the present pilot study, we investigated if self-generated motivational messages that the participants received before the planned enactment of their implementation intention could enhance physical activity. Participants (N = 40) wore an accelerometer for 28 days and filled out an evening diary. Results suggest that participants who received their self-generated messages before their planned activity tended to be more active (70.8 minutes per day; SD = 42.97) than participants who only formulated implementation intentions (56.3 minutes per day; SD = 24.55). However, this effect was not significant (B = 12.31; SE = 10.56; p = .251). However, These preliminary findings suggest some promise for motivational messages to enhance physical activity in older adults in combination with implementation intentions. Therefore further studies should investigate the potential of motivation and the inclusion of motivational messages in particular for the effectiveness of interventions for older adults.

16:13 - 16:25

## Mechanisms of action in a behavioural weight-management programme: Latent growth curve analysis

S. Bates<sup>1</sup>, P. Norman<sup>1</sup>, P. Breeze<sup>1</sup>, A. Brennan<sup>1</sup>, A. Ahern<sup>2</sup>

<sup>1</sup>University of Sheffield, United Kingdom

<sup>2</sup>University of Cambridge, United Kingdom

**Background:** We aimed to investigate whether strength of dietary habits, dietary restraint or diet self-regulation mediated the impact of a behavioural weight-management intervention on weight loss and weight loss maintenance over 24 months.

**Methods:** Latent growth curve analysis (LGCA) was conducted on trial data in which adults with a Body Mass Index (BMI) of 28 kg/m<sup>2</sup> or higher (N=1267) were randomised to one of three arms; a 12-week weight-management programme, the same programme for 52 weeks or a brief intervention. LCGA estimated the full trajectory of the variables over four time-points to assess whether potential mechanisms of action (habit strength, dietary restraint and autonomous, controlled and motivation diet self-regulation) mediated the impact of the weight-management programme on BMI over 24 months.

**Findings:** Participants randomised to the 12- and 52-week programmes had a significantly greater decrease in BMI than the brief intervention. This direct effect became non-significant when habit strength, dietary restraint and autonomous diet self-regulation were included as indirect effects. The total indirect effect was significant for both programmes. Individual indirect effects were significant for dietary restraint only for the 12-week intervention and all three variables for the 52-week intervention.

**Discussion:** Behaviour change techniques that target strength of dietary habits, dietary restraint and autonomous diet self-regulation should be considered when designing weight management interventions. Given that the indirect effects for diet self-regulation and habit strength were only significant for the 52-week intervention, longer interventions may need to target both deliberative and automatic control processes to support successful weight management.



# Systematic review of self-determination theory based interventions for dietary behaviour change in adolescents

S. Simão<sup>1,2</sup>, D. Watson<sup>1,2</sup>, S. Dombrowski<sup>3</sup>, J. Allan<sup>4</sup>, B. Ainsworth<sup>2,5</sup>, M. Barker<sup>1,2</sup>, S. Strömmer<sup>1,2</sup>

<sup>1</sup>MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton General Hospital, Southampton SO16 6YD, United Kingdom

<sup>2</sup>NIHR Southampton Biomedical Research Centre, University of Southampton and University Hospital Southampton NHS Foundation Trust, United Kingdom

<sup>3</sup>Faculty of Kinesiology, University of New Brunswick, Fredericton, Canada

<sup>4</sup>Institute of Applied Health Sciences, University of Aberdeen, Health Sciences Building, Foresterhill, Aberdeen AB25 2ZD, United Kingdom

<sup>5</sup>Department of Psychology, University of Bath, Bath, United Kingdom

**Background:** Poor health behaviours during adolescence can have lasting impacts on adolescents themselves as well as future generations. Little is known about how to motivate adolescents to improve their diets. According to self-determination theory (SDT), not supporting autonomous motivation may prevent adolescents from engaging in health behaviour change. A systematic review was conducted to identify interventions that use SDT to support dietary change in adolescents; examine what behaviour change techniques (BCTs) these interventions utilised, and whether some BCTs were more effective in eliciting autonomous motivation than others.

**Methods:** Seven databases were systematically searched using MeSH terms and free text. Titles, abstracts and full papers were independently screened by two reviewers. Inclusion criteria comprised adolescents (10-19 years old), SDT based interventions that measured motivation, and behavioural or behaviour related outcomes.

**Findings:** The search yielded 497 articles of which 9 ultimately met the inclusion criteria. Social Cognitive Theory was most commonly used alongside SDT to design the intervention, most studies were integrated in school settings and 2 were family based interventions. Studies were diverse and BCTs varied greatly between interventions. Most studies managed to increase autonomous motivation for healthy eating and resulted in eating fewer sweetened beverages and processed snacks, and eating more healthy foods.

**Discussion:** The evidence suggests interventions based on SDT can be effective in motivating healthier food choices. This review provides evidence to support using SDT to inform future interventions targeting dietary behaviour in adolescents.

# Systematic review identifying active ingredients of training interventions promoting physical activity in heart failure patients

K. Ashley<sup>1</sup>, M.y. Tang<sup>2</sup>, C. Jordan<sup>1</sup>, M. Cooper<sup>1</sup>, A. Batterham<sup>1</sup>, D. Flynn<sup>1</sup>, L. Errington<sup>2</sup>, L. Avery<sup>1</sup>

<sup>1</sup>Teesside University, United Kingdom

<sup>2</sup>Newcastle University, United Kingdom

**Background:** Physical activity (PA) is a cornerstone of self-management for heart failure (HF). Despite the well-documented benefits of increased PA (e.g. decelerated progression of HF and improved quality of life), engagement in PA by HF patients is sub-optimal. Endorsement of PA interventions by clinicians, including feedback and positive reinforcement are important facilitators to patient adherence. Therefore, we aimed to understand the active ingredients of clinician training to effectively deliver PA interventions to HF patients within routine practice.

**Methods:** A systematic search was conducted in nine databases. Two reviewers independently screened studies for eligibility. Data on study characteristics, active ingredients (e.g. Theory-linked Behaviour Change Techniques [BCTs] using the BCT Taxonomy V1), treatment fidelity measures and PA outcomes were extracted. Risk of bias was assessed using the Cochrane Collaboration Risk of Bias tool for RCTs.

**Findings:** 10 RCTs fulfilled the eligibility criteria (N= 1,414 HF patients). Significant heterogeneity of PA measurement methods was identified; therefore, data were synthesised narratively. None of the studies reported on the theoretical underpinning of clinician training interventions. Seven BCTs were coded across the 10 clinician training interventions, including: problem-solving, instruction on how to perform the behaviour, and behavioural practice/rehearsal. 5 out of 10 studies reported theoretical underpinnings of patient interventions, with 24 BCTs coded across studies.

**Discussion:** There is a lack of detail reported on clinician training to equip them with the knowledge, skills, and confidence to deliver PA interventions to patients. This evidence gap potentially hinders faithful delivery, and robust evaluation of PA interventions in HF.

# Coping and psychological adjustment to Chronic Disease

15:25 - 16:55

Robert Sanderman

## Couples dealing with cancer: the relation of dyadic coping to emotional well-being and relationship satisfaction

A. Palli<sup>1</sup>, C. Thomadakis<sup>2</sup>, A. Paschali<sup>3</sup>, E. Karademas<sup>2</sup>

<sup>1</sup>University Mental Health, Neurosciences and Precision Medicine Research Institute "Costas Stefanis" (UMHRI), Greece

<sup>2</sup>Department of Psychology, University of Crete, Greece

<sup>3</sup>Faculty of Nursing, National & Kapodistrian University of Athens, Greece

**Background:** Adjustment to a cancer diagnosis is a complex process and often refers not only to patients but also their partners. The present study aims to explore the relationship of female cancer patients' and their partners' common dyadic coping (DC) to their emotional well-being and relationship satisfaction.

**Methods:** Ninety two (92) couples of women (M=49,37, SD=10,52) recently diagnosed with different types of cancer, and their partners (M=52,57, SD=11,59) participated in the study. Couples were recruited from oncological hospitals in Athens and Nicosia. Patients and partners completed a series of questionnaires assessing, among others: common dyadic coping strategies, relationship satisfaction and emotional well-being.

**Findings:** Analyses were run within a SEM environment, using the Actor-Partner Interdependence Model to examine the dyadic effects of both partners' common coping. Overall, patient and partner common coping was positively related to own emotional well-being ( $b=0,43$ ,  $p<.01$ ;  $b=0,19$ ,  $p<.01$ , respectively). Also, although patient's common coping was positively related to partner's emotional well-being ( $b=0,014$ ,  $p<.01$ ), partner's coping was not related to patient well-being. Furthermore, patient and partner common coping was positively associated with relationship satisfaction; both actor (patient  $b=0,57$ ,  $p<.01$ ; partner  $b=0,45$ ,  $p<.01$ ,) and partner effects were found ( $bs>.20$ ,  $p<.01$ ).

**Discussion:** These findings underline once more the importance of dyadic coping strategies at an intra- and inter-personal level. Moreover, they provide evidence that, when it comes to a severe illness, common dyadic coping strategies may help patients and partners perceive higher levels of relationship satisfaction and emotional well-being.

# Cancer-related lymphoedema and body image: a systematic review

E. Byrne<sup>1</sup>, L. Hayden<sup>1</sup>, P. Gallagher<sup>1</sup>, D.S. Dunne<sup>1</sup>

<sup>1</sup>Dublin City University, Ireland

**Background:** Cancer-related lymphoedema is a common side effect of cancer, affecting between 24–49% of people who have experienced cancer. Body image contributes to the well-being of individuals with this condition. To date, there has been no systematic examination of literature on body image in cancer-related lymphoedema. This systematic review aims to explore the state of the science concerning body image in cancer-related lymphoedema, including how body image is measured and the factors related to increased body image concerns.

**Methods:** Six databases were systematically searched for peer-reviewed articles describing empirical quantitative studies where body image was measured with a reliable and valid measurement tool in people over 18 years of age with cancer-related lymphoedema.

**Findings:** Ten studies with 1,155 participants were included. The studies involved individuals who had experienced breast, head and neck, melanoma, and urogenital cancers and developed lymphoedema. There was considerable heterogeneity in body image measures used, precluding the possibility of meta-analysis. People with stronger body integrity beliefs, and those who encounter physical changes such as pain and differences in sensation and function including changes in appearance related thoughts, feelings and emotions experienced increased body image concerns.

**Discussion:** Regular screening for body image concerns could encourage more positive body image awareness in individuals with cancer-related lymphoedema and lessen some of its associated negative consequences. Identifying factors related to increased body image concerns informs future interventions. However, there is need for a more standardised approach to the study and measurement of body image in people with cancer-related lymphoedema.

15:49 - 16:01

## Women under50 and adaptation process to the breast cancer experience: a longitudinal narrative sensemaking analysis

D. Lemmo<sup>1</sup>, M.L. Martino<sup>2</sup>, A. Gargiulo<sup>1</sup>, V. Abate<sup>3</sup>, D. Barberio<sup>3</sup>, M.F. Freda<sup>4</sup>

<sup>1</sup>University of Naples "Federico II", Italy

<sup>2</sup>Federico II University Naples, Italy

<sup>3</sup>National Cancer Institute of Naples (INT)- Fondazione G. Pascale, Afghanistan

<sup>4</sup>University Federico II, Italy

The onset of breast cancer is considered a critical event associated with physical and psychological effects in particular when it occurs at the age below 50. Cancer narration is an elective tool to construct sensemaking processes aimed at supporting coping and adaptation to the experience.

The literature lacks a longitudinal narrative sensemaking exploration of breast cancer experience in young women.

We administered to 10 breast cancer women below 50 years old an ad hoc narrative interview during four turning-point phases of medical path: pre-hospitalization (T1); postoperative counseling (T2); adjuvant therapy (T3) and follow-up (T4). The research was conducted at the National Cancer Institute of Naples -Fondazione G. Pascale in the frame of STAR Program.

Through an ad hoc qualitative analysis based on narrative functions- organization of temporality, search for meaning, emotional regulation, orientation to action- as semiotic connection processes at the base of adaptation to the illness experience, the results highlight different modes in which the functions are articulated during the four phases. From an initial narrative disorganization and suspension to the possibility to connect the experience within self-story. Narrative functions give the opportunity to observe also dimensions of risk during a specific phase as in the case of emotional regulation that in T2 undergo to a disconnection between emotion and experience that remain in T3 and T4. From a health psychology perspective, the results suggest the construction of a personalized narrative intervention to promote all narrative functions and build adaptation resources during the whole cancer experience.

## Meta-analytic review of psychological, behavioral and social predictors of adjustment to lupus and disease activity

S. Silva-Ribeiro<sup>1</sup>, C. Godinho<sup>2</sup>, C. Camilo<sup>3</sup>, M. Marques<sup>4</sup>, C. Chisari<sup>5</sup>, Ú. Segura<sup>6</sup>, S. Bernardes<sup>1</sup>

<sup>1</sup>Centro de Investigação e Intervenção Social (CIS-IUL), ISCTE-IUL, Lisboa, Portugal

<sup>2</sup>Universidade Católica Portuguesa, Portugal; Centro de Investigação e Intervenção Social (CIS-IUL), ISCTE-IUL, Lisboa, Portugal

<sup>3</sup>Faculdade de Psicologia, CICPSI, Universidade de Lisboa, Lisboa, Portugal

<sup>4</sup>Trinity College Dublin, ADAPT SFI Research Centre & Trinity Centre for Practice and Healthcare Innovation, College Green, Dublin 2, Ireland

<sup>5</sup>NIHR Maudsley Biomedical Research Centre, Health Psychology Section (IoPPN), King's College, United Kingdom

<sup>6</sup>Hospital Beatriz Ângelo, Loures, Portugal

**Background:** Potentially modifiable factors have been associated with lower disease activity and increased positive illness adjustment in Systemic Lupus Erythematosus (SLE) patients, but no systematic review on their impact is available. This study aimed to conduct a systematic review and meta-analysis on the modifiable predictors of adjustment to SLE and disease activity.

**Method:** Search was performed in eight databases (e.g., PsycArticles, PubMed), with over 40 keywords' combinations (e.g., adjustment, predictor, social). Two phases of screening, with pre-specified inclusion criteria, were performed independently by two authors for the first 35% of references (91.4% agreement), and by one author for the remaining, with disagreements resolved by a third author. A standardized form was used for data extraction, including predictors and effect sizes. A qualitative data synthesis was done using the Framework of Adjustment to Chronic Disease, and the National Institute of Health (UK) tools were used for study quality assessment. A meta-analysis will be performed, with meta-regressions for each type of predictor (psychological, behavioral and social) on adjustment.

**Findings:** A total of 2007 references were initially identified, with 80 retained for synthesis and 72 for meta-analysis. Findings stress the most relevant categories of psychological (n=8; e.g., self-perception, less catastrophizing, knowledge/literacy), social (n= 3; e.g., lower stigma, satisfying interactions with others/groups) and behavioral factors (n=4; e.g., physical activity, healthy diet) that are related with adjustment and lupus disease activity.

**Discussion:** These results highlight the potential for lifestyle changes, psychological and social components, to be integrated in interventions to improve adjustment in SLE patients.

## The traumatic sequelae of Multiple Sclerosis:

R. Aloni<sup>1,2</sup>, A. Achiron<sup>2</sup>

<sup>1</sup>Department of Behavioral Sciences and Psychology, Ariel University, Israel

<sup>2</sup>Multiple Sclerosis Center, Sheba Medical Center, Tel Hashomer, Israel

**Background:** Multiple sclerosis (MS) is a chronic neurological disease of the central nervous system, and in its severe stages inhibits the immune system, which can lead to life-threatening conditions in affected individuals. In terms of continuous traumatic stress, living with MS reflects a situation in which individuals repeatedly face an ongoing and protracted threat. The main goal is to investigate psychopathology with attention to posttraumatic symptomology among People with Multiple Sclerosis (PwMS).

**Methods:** This study included PwMS (N=105) and healthy matched participants (n=134). Among both groups, we assessed posttraumatic symptomology, depression, and anxiety. Among PwMS disease severity assessed by neurologist examination, and self-report items regarding their sense of disability and subjective physical problems. We conducted descriptive statistics, multivariate analysis of variance with age as a covariate for all four subscales of posttraumatic symptomology, depression, and anxiety as the dependents variables.

**Findings:** PwMS reported higher scores of intrusion, avoidance, and negative cognitions, compared to control participants. No differences were identified in hyperarousal. In addition, PwMS reported higher levels of depression and anxiety symptoms compared to control groups. Finally, subjective physical problems predicting posttraumatic symptomology in the significant final model ( $p = .003$ ,  $R^2 = 23.6\%$ ),

**Discussion:** Our results showed that PwMS suffered from higher levels of psychopathology compare to healthy subjects. We shed light on the unique dynamic of posttraumatic symptomology, which highlights the importance of viewing PwMS at a high-risk for posttraumatic symptomology and conducting appropriate psychological evaluation in order to provide adequate treatment and prevent widespread distress.



# Social support, caregiving and health

15:25 - 16:55

Efrat Neter

# The effects of starting dialysis on symptoms of depression and anxiety in patient-partner dyads

C. Moore<sup>1</sup>, S. Skevington<sup>2</sup>, S. Mitra<sup>3</sup>, L. Carter<sup>2</sup>, A. Wearden<sup>2</sup>

<sup>1</sup>University of Hertfordshire, United Kingdom

<sup>2</sup>University of Manchester, United Kingdom

<sup>3</sup>Manchester University NHS Foundation Trust, United Kingdom

## Background:

Starting dialysis is a stressful time for patients and their partners. Few studies have examined anxiety and depressive symptoms over the period of transition onto dialysis. The aim of this longitudinal study was to examine the effect of starting dialysis on anxiety and depression in patients-partner dyads.

## Methods:

10 renal units in England recruited patients preparing for dialysis and their partners. At each time point patients and their partners completed the HADS: pre-dialysis (83 dyads), 6 weeks (42 dyads) and 12 weeks after starting dialysis (39 dyads). Multilevel modelling accommodated the nested structure of the dyads with repeated measures within participants. Three-level random intercept models estimated changes in anxiety and depression.

## Findings:

At pre-dialysis, patients and partners had similar anxiety (n=83 dyads, patients 6.9 ±4.3 vs. partners 7.1 ±4.0) which diverged over the transition onto dialysis so that at 12 weeks partners were more anxious than patients ( $\beta=1.6$ ,  $p=0.3$ , CI 0.2, 3.0). In regard to depression, patients had higher levels of depressive symptoms at pre-dialysis than partners (n=83 dyads, 6.8 ±4.2 vs. 5.1 ±4.1). However, at 12 weeks after starting dialysis, depressive symptoms converged to similar levels between patients and partners ( $\beta=1.0$ ,  $p=0.2$ , CI -0.4, 2.4).

## Discussion:

Both patients and their partners reported mild symptoms of depression and anxiety which remained stable over the transition onto dialysis. Starting dialysis had a mutual effect on depressive symptoms but affected anxiety symptoms differently within the dyad.

## Emotions, anxiety and depression in individuals living with asthma and their intimate partners

J. Varkonyi-Sepp<sup>1,2</sup>, W. Lawrence<sup>3</sup>, A. Cross<sup>4</sup>, P. Howarth<sup>2</sup>, H. Moyses<sup>1</sup>, H. Rupani<sup>5</sup>, A. Chauhan<sup>6</sup>, P. Dennison<sup>5</sup>, R. Kurukulaaratchy<sup>5</sup>, K. Long<sup>7</sup>

<sup>1</sup>NIHR Biomedical Research Centre, University Hospital Southampton NHS Foundation Trust, United Kingdom

<sup>2</sup>University of Southampton, United Kingdom

<sup>3</sup>Medical Research Council Lifecourse Epidemiology Unit, University of Southampton, United Kingdom

<sup>4</sup>University of Derby, United Kingdom

<sup>5</sup>University Hospital Southampton NHS Foundation Trust, United Kingdom

<sup>6</sup>Portsmouth Hospitals NHS Trust, United Kingdom

<sup>7</sup>NIHR Southampton Biomedical Research Centre, University Hospital Southampton NHS Foundation Trust, United Kingdom

### Objectives:

The prevalence of anxiety and depression in individuals living with asthma ('patients') and their intimate partners ('partners') is higher than in the average population. These psychological dysfunctions might impair patients' self-management and partners' ability to fulfil their supportive role. The effectiveness of non-pharmacological interventions to address anxiety and depression remains inconclusive. Conceptualising anxiety and depression as emotion dysregulation processes might lead to novel interventions. This study was conducted to examine the link between emotions and anxiety and depression alongside the impact of asthma control on these in patients and their partners.

### Design:

Postal surveys were used in this quantitative observational study to examine participants' psychological dysfunction and discrete emotions when patients were well and just after their asthma worsened.

### Methods:

Participants were recruited through opportunistic sampling from two hospital-based outpatient asthma clinics. Participants completed the Hospital Anxiety and Depression Scale, Geneva Emotion Wheel, St Georges Respiratory Questionnaire, Brief Illness Perception Questionnaire and Asthma Control Questionnaire. Regression analysis was employed.

### Results:

Participants: 270 patients with moderate or severe asthma and 133 partners returned evaluable data. Participants felt fearful, hopeless and angry both when depressed or anxious. Depressed participants also felt ashamed. Asthma severity and whether patients were well/unwell did not influence anxiety or depression.

### Conclusions:

Partners feel the emotional burden of living with asthma at least as much as patients, regardless of asthma severity and whether patients are well/unwell. Partners' psychological screening must be integral to patient care. Dyadic interventions for patient-partner units should be offered to improve clinical outcomes.



15:49 - 16:01

## Coping efficacy beliefs and received social support in patient-caregiver daily adaptation to cancer

A. Kroemeke<sup>1</sup>, M. Sobczyk-Kruszelnicka<sup>2</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>2</sup>Maria Skłodowska-Curie National Research Institute of Oncology, Gliwice Branch, Poland

**Background:** Based on the social cognitive theory, individual (e.g., coping efficacy beliefs) and social resources (e.g. received social support) interact with each other i.e. resources may compete or account jointly for better adaptation. In this study, we examined the interaction effect of daily coping efficacy beliefs and received social support on patients' and caregivers' daily affect following intensive cancer treatment (i.e. hematopoietic cell transplantation; HCT).

**Methods:** The sample comprised 200 patient-caregiver dyads following HCT. Participants completed measures of daily coping efficacy beliefs, received social support, positive and negative affect for 28 consecutive evenings after patients' hospital discharge.

**Findings:** Patients reported better higher positive and lower negative affect on days when their coping efficacy beliefs were greater than usual. Caregivers reported higher positive and lower negative affect on days when their coping efficacy beliefs were greater and when they noticed more received support from the patients than usual. A statistically significant interaction between daily efficacy beliefs and received support was found only in caregivers: Greater daily received support compensated for lower daily efficacy beliefs in caregivers but had a negative effect when efficacy beliefs were much higher than usual.

**Discussion:** In patients, the direct beneficial effect of daily coping efficacy beliefs was only noted. In caregivers, better daily affective adaptation was observed when only one of the resources was high. The interaction effect of coping efficacy beliefs and received support in patient-caregiver daily life following cancer treatment ought to be taken into consideration in the practical approach.

16:01 - 16:13

## Personal values and motivations for being informal caregivers: a dyadic mixed-method study

M. Zarzycki<sup>1</sup>, V. Morrison<sup>1</sup>, D. Seddon<sup>1</sup>, N. Vilchinsky<sup>2</sup>

<sup>1</sup>Bangor University, United Kingdom

<sup>2</sup>Bar-Ilan University, Israel

**Background:** The study explores informal caregivers' (CG) and their care recipients' (CR) experiences in the context of personal values and the way these shape motivations to care and care outcomes.

**Methods:** A multi-method approach was applied to investigate the care experience and the significance of a value system and valuing processes within the care experience. Photovoice methodology was adopted at the beginning of the study with dyads taking photographs depicting issues they experience either as a CG or CR with an emphasis on their values and perceived motivations. Subsequently, participants took part in interviews. Fourteen semi-structured interviews were conducted, with CGs and CRs interviewed separately, which reflected on the photographs taken prior to their interview. Interview transcripts were analysed using an Interpretative Phenomenological Analysis with elements of the Self-Confrontation Method to further examine the affective organisation of the care experience.

**Findings:** The analysis reveals a clear role for personal values and beliefs in shaping the way informal caregiving and care receiving are manifested and motivations perceived. Major themes identified include: 'Love and family ties', 'Duty and Obligation', 'Competing priorities', 'Taking and losing control', 'Past meanings.'

**Discussion:** The research highlights the need for further in-depth and mixed-method study of the influence of CG and CR values on the care experience and such findings have implications for service development. We propose that the complex nature of values in the context of caregiving and care receiving justifies this approach and will more fully identify potential targets for supporting carers to optimise their wellbeing.

## Transition to Civilian Life among Canadian Armed Forces Members with Illness/Injury and Their Families

A. Skomorovsky<sup>1</sup>, J. Lee<sup>2</sup>, L. Williams<sup>2</sup>, R. Morrow<sup>2</sup>

<sup>1</sup>Department of National Defence, Canada, Canada

<sup>2</sup>Department of National Defence, Canada

**Background:** Release from military service and adjustment to life after service is a major milestone and can be highly stressful for both members/veterans and their families. However, there has been little research conducted in Canada on the impacts of the transition process on military members and their families. The purpose of this qualitative study was to explore and understand the experiences of ill and/or injured Canadian Armed Forces (CAF) members and their families during the medical release process and their transition from military to civilian life.

**Methods:** Semi-structured interviews (N = 56) included 14 combined interviews, as well as 31 individual interviews with CAF members and 11 individual interviews with caregivers/spouses. The topics covered CAF members' overall medical release experience, current state of health and well-being, use and awareness of various services offered, as well as the impact of transition and caregiving responsibilities on caregivers' health and well-being.

**Results:** This study showed that the majority of CAF members and caregivers experienced distress and unease during the transition process, and this was often attributed to the physical or mental symptoms related to illness and/or injury. Many participants also expressed uncertainty regarding the release and transition process and difficulty with navigating the military system during their release.

**Discussion:** This study provides insight on the needs of releasing members and their families as well as on the areas that may require improvement. Various recommendations for enhancing the transition experience of military families in order to help them maintain their overall well-being are provided.

## The interplay between burden of family caregivers and older adults' frailty and optimism

A. Sardella<sup>1</sup>, V. Lenzo<sup>2</sup>, A. Alibrandi<sup>3</sup>, G. Basile<sup>4</sup>, M.C. Quattropani<sup>5</sup>

<sup>1</sup>Department of Clinical and Experimental Medicine, University of Messina., Italy

<sup>2</sup>Department of Social and Educational Sciences of the Mediterranean Area, "Dante Alighieri" University for Foreigners of Reggio Calabria, Italy

<sup>3</sup>Department of Economics, Unit of Statistical and Mathematical Science, University of Messina, Italy

<sup>4</sup>Department of Clinical and Experimental Medicine, School and Unit of Geriatrics, University of Messina, Italy

<sup>5</sup>Department of Clinical and Experimental Medicine, University of Messina, Italy

**Background:** Previous studies have predominantly investigated the contribution of older adults' physical frailty on caregiver burden. Additionally, the contribution of patients' dispositional optimism on caregiver burden is a topic poorly investigated. The present study aimed at investigating whether older adults' multidimensional frailty and optimism levels might contribute to the burden of their family caregivers.

**Methods:** The Caregiver Burden Inventory was used to measure the care-related burden of caregivers. The multidimensional frailty status of each patient was evaluated by the calculation of a Frailty Index (FI); the revised Life Orientation Test (LOT-R) was used to evaluate patients' dispositional optimism. Correlations analysis and multivariate regressions were performed. The Ethic Committee of the University Hospital of Messina approved the protocol of this study (Prot. 23/19).

**Results:** The study involved eighty family caregivers (mean age  $64.28 \pm 8.6$ ) and eighty older patients (mean age  $80.45 \pm 7.13$ ). Higher overall caregiver burden was associated with patients' higher FI ( $\beta = 0.629$ ) and lower LOT-R scores ( $\beta = -0.193$ ). Higher time-dependent caregiver burden was associated with patients' higher FI ( $\beta = 0.658$ ) and lower LOT-R scores ( $\beta = -0.223$ ). Patients' higher FI additionally contributed to higher caregiver's feeling of failure ( $\beta = 0.528$ ), physical stress ( $\beta = 0.617$ ), feeling of role conflicts ( $\beta = 0.344$ ), and feeling of embarrassment ( $\beta = 0.323$ ).

**Discussion:** Caregivers of older adults play a delicate role, often complicated by handling various care needs. Understanding the close connection between patient-related factors and the burden of caregivers appears to be an actual challenge, with significant clinical, social and public health implications.



## Emotional support, cardiovascular risk factors and subclinical atherosclerosis

S. Nordin<sup>1</sup>, I. Braff<sup>1</sup>, C. Vallström<sup>1</sup>, M. Norberg<sup>1</sup>, U. Näslund<sup>1,2</sup>

<sup>1</sup>Umeå University, Sweden

<sup>2</sup>Heart Centre, Umeå University Hospital, Sweden

**Background:** Considering the link between stress and cardiovascular disease (CVD), and between stress and social support, this study tested (i) the hypothesis of associations between low emotional support, on the one-hand side, and behavioral and biomedical CVD risk factors, 10-year risk of CVD morbidity and mortality, and subclinical atherosclerosis, on the other-hand side, and (ii) a model for subclinical atherosclerosis.

**Methods:** Applying a cross-sectional design, data were used from a trial integrated within the Västerbotten Intervention Programme, including participants aged 40–60 years with one or more conventional CVD risk factor. Based on the Interview Schedule for Social Interaction, they were categorized into a group with low emotional support (n=884) or a reference group (n=2570). All participants underwent clinical examination, blood sampling, and carotid ultrasound assessment of atherosclerotic plaque formation and carotid intima-media wall thickness. Binary logistic regression analyses were conducted to study associations, and path analysis to test the model.

**Findings:** Low emotional support was found to be associated with behavioral CVD risk factors, risk of CVD morbidity and mortality and plaque formation (odds ratios: 1.30-2.23). There was also support for a model proposing that low emotional support is associated with behavioral CVD risk, which is associated directly with risk of CVD morbidity and mortality and also indirectly via biomedical CVD risk factors. Risk of CVD morbidity and mortality, in turn, is associated with subclinical atherosclerosis.

**Discussion:** Emotional support may be considered for evaluation in preventive CVD work, and addressed if found being low.

# Engagement with and effectiveness of digital interventions

15:25 - 16:55

Eline Smit

## Uptake of and engagement with health apps in app stores and on health app portals

D. Szinay<sup>1</sup>, O. Perski<sup>2</sup>, A. Jones<sup>1</sup>, T. Chadborn<sup>3</sup>, J. Brown<sup>2</sup>, F. Naughton<sup>1</sup>

<sup>1</sup>University of East Anglia, United Kingdom

<sup>2</sup>University College London, United Kingdom

<sup>3</sup>Public Health England, United Kingdom

**Background.** Health apps can improve access to behaviour change interventions. However, the selection of apps is often influenced by factors such as popularity as opposed to evidence-based content. Rapid disengagement is also common. This study aimed to explore how potential users 1) select and 2) engage with health apps in commercial app stores and on curated health app portals.

**Methods.** Semi-structured interviews and a think-aloud approach were used. 18 UK-based adults who were interested in using a health app were recruited online. Participants were asked to verbalise their thoughts whilst searching for a health app of their choice. Data were analysed using the framework approach. The COM-B model and the Theoretical Domains Framework informed the analysis. The study protocol was registered on the Open Science Framework (<https://osf.io/jrkd3/>).

**Findings.** The following factors influenced the selection of and engagement with health apps: 1) physical capability (e.g. enhancing app literacy skills to reduce the digital divide); 2) psychological capability (e.g. reduced cognitive load); 3) physical opportunity (e.g. low financial cost and tailored content); 4) social opportunity (e.g. social proof and embedded practical support); 5) automatic motivation (e.g. emotional factors and rewards); 6) reflective motivation (e.g. beliefs about the utility of the app).

**Discussion.** Health organisations that develop app portals may consider targeting the factors identified across the COM-B domains as this could help to increase impact through better selection of apps. The findings will inform the development of web-based interventions that aim to promote the uptake of and engagement with evidence-based health apps

## Which engagement strategies have been used in digital interventions for mental health promotion? Scoping review

M. Saleem<sup>1,2</sup>, L. Kühne<sup>3</sup>, K.K. De Santis<sup>4</sup>, T. Brand<sup>2,3</sup>, H. Busse<sup>2,3</sup>

<sup>1</sup>Leibniz Institute for Prevention Research and Epidemiology - BIPS, Germany

<sup>2</sup>Leibniz Science Campus Digital Public Health Bremen, Germany

<sup>3</sup>Leibniz Institute for Prevention Research and Epidemiology- BIPS, Germany

<sup>4</sup>Leibniz Institute for Prevention Research and Epidemiology - BIPS GmbH, Germany

**Background.** Whilst engagement (i.e., the extent of usage and subjective experience during usage) with digital interventions is critical for their effectiveness, limited focus has been given to engagement features and evaluation methods in health intervention research. This scoping review aimed to identify user engagement strategies and methods to evaluate engagement with digital interventions targeting mental health promotion in adults.

**Methods.** The search for published studies on “digital intervention” AND “mental health promotion” OR “engagement” in titles/abstracts was conducted in seven electronic databases until April 2020. From 2766 studies, screened by two authors independently, k=16 studies met the inclusion criteria.

**Findings:** The engagement strategies in non-clinical samples were assessed in randomised controlled trials (k=6), process (k=5), cohort (k=3), and qualitative (k=2) studies. The identified engagement strategies included: personalised feedback about intervention content or users’ mental health status; reminder SMS/email according to users’ demand and progress; guidance of content and progress through e-coaching; social forum and interactivity with peers; content gamification; goal setting and rewards. Assessed engagement features included: frequency (k=13), duration (k=8), affect (k=7), attention (k=7) and depth (k=3). Engagement evaluation methods included automatic measures (k=12), questionnaires (k=6), and interviews (k=5).

**Discussion:** Engagement strategies with digital interventions have thus far been rarely assessed in studies and typically been explored as a by-product only. Engagement strategies that incorporate personalisation and interactive elements that allow tailoring to user’s requirements and needs appear to enhance engagement. Further research is needed on factors required to facilitate user engagement with digital interventions for mental health promotion.

15:49 - 16:01

## Patients' experiences of using smartphone applications to support self-management in hypertension: A qualitative study

G.J. Molloy<sup>1</sup>, C. McBride<sup>1</sup>, E. Morrissey<sup>2</sup>

<sup>1</sup>NUI Galway, Ireland

<sup>2</sup>National University of Ireland, Galway, Ireland

**Background:** Globally hypertension control rates remain suboptimal, despite multiple effective evidence-based antihypertensive medications. Non-adherence to treatment, particularly medication, is a critical factor contributing to suboptimal control. Smartphone applications have the potential to facilitate the delivery of evidence-based behaviour change techniques to improve adherence. The aim of the present study was to explore patients' experiences of the usability and feasibility of smartphone applications to support self-management and improve medication adherence in hypertension.

**Methods:** A qualitative study design involving semi-structured interviews with 11 people living with hypertension (Mean age = 62, range 43-74) was carried out. Participants were sampled purposively and interviewed about their experience of using a self-management app for a 4-week period. The app included two key functionalities: self-monitoring of blood pressure and medication reminders. Thematic analysis was carried out on the semi-structured interview data.

**Findings:** Three themes were identified: "digital empowerment", "human versus digital systems" and "digital sustainability". While patients experience of using the technology to self-monitor blood pressure was one of empowerment, characterized by an enhanced insight and understanding into their condition, control and personal responsibility, the reminder function was only acceptable for patients who reported unintentional non-adherence to treatment. Patients experienced the app as a sustainable tool to support self-management and found it easy to use.

**Discussion:** These findings provide new insights into the experience of using apps to support self-management in hypertension. The data support the idea of personalised functionality and challenge perspectives that propose that using new technologies will inevitably add to patient treatment burden.

## Effectiveness of online decision aid tools for breast cancer screening: a systematic review

A. Le Bonniec<sup>1,2</sup>, C. Bauquier<sup>1,2</sup>, O. Mandrik<sup>3</sup>, P. Villain<sup>1</sup>

<sup>1</sup>International Agency for Research on Cancer (IARC), Early Detection and Prevention Section, Screening Group, Lyon, France, France

<sup>2</sup>Research Group in Social Psychology (GRéPS, EA 4163), University Lumière Lyon 2, France, France

<sup>3</sup>University of Sheffield – School of Health and Related Research (SchHARR) - Sheffield, UK, France

**Background:** Polemics regarding breast cancer screening (BCS) is one of the main reasons to explain low participation of women in some of the European BCS programmes. To address it, one promising approach is to develop and use online decision aids and information tools to better inform women and address their barriers.

**Methods:** We performed a systematic review of the literature to assess the available evidence in BCS related to effectiveness and implementation of these tools. We searched CINAHL, Cochrane, EMBASE, PsycINFO, Pubmed, SCOPUS, Web of Science databases and grey literature.

**Results:** 32 articles were included. Most of the tools were developed in the USA (n=22). Effectiveness was mostly evaluated through attitudes (n=11), BCS intention (n=14) and behaviour (n=14). The online tools were effective in increasing positive attitudes towards BCS. Results were unclear regarding intention and behaviour. When assessed, (n=3) the tools were shown to be effective in increasing informed choice in 2 studies. Acceptability/usability (n=16), fidelity and sustainability (n=11) were mainly assessed in terms of implementation. The acceptability/ usability of decision aid tools was generally high and feedback from participants was used to improve the interventions.

**Discussion:** Our results highlight the characteristics of the online tools that proved to be effective or/and promising. In addition, we demonstrate the limits of the evaluation methods and instruments used so far to assess the effectiveness in terms of psychosocial outcomes. Our results will benefit the development of a new tool that will be implemented and evaluated in the French BCS programme.

16:13 - 16:25

# Effectiveness of tailored text message smoking cessation support for pregnant women: MiQuit3 randomised controlled trial

F. Naughton<sup>1</sup>, M. Clark<sup>2</sup>, C. Welch<sup>3</sup>, R. Whitemore<sup>2</sup>, J. Leonardi-Bee<sup>2</sup>, S. Cooper<sup>2</sup>, C. Hewitt<sup>3</sup>, M. Jones<sup>2</sup>, S. Sutton<sup>4</sup>, T. Coleman<sup>2</sup>

<sup>1</sup>University of East Anglia, United Kingdom

<sup>2</sup>University of Nottingham, United Kingdom

<sup>3</sup>University of York, United Kingdom

<sup>4</sup>University of Cambridge, United Kingdom

## Background:

Currently there are few effective interventions that promote abstinence among pregnant women who smoke. We investigated the (cost) effectiveness of a tailored text message support intervention for smoking cessation in pregnancy (MiQuit) when added to usual antenatal smoking cessation care (UC).

## Methods:

This was a multicentre, two-arm, parallel-group, randomised controlled trial. 1,002 Pregnant women who smoked,  $\geq 16$  years old and  $\leq 25$  weeks gestation were recruited from 24 English hospital antenatal clinics and randomised to receive UC or UC plus MiQuit - 12-weeks of tailored, theory-based, interactive, smoking cessation text message support focussed on inducing and aiding cessation. The primary outcome was abstinence from 4 weeks after randomisation to late pregnancy, verified with biochemical validation. Additional outcomes included shorter and non-validated abstinence periods, pregnancy outcomes (e.g. infant ICU admissions, birthweight) and incremental cost-effectiveness ratios.

## Findings:

Prolonged smoking abstinence was 5.19% (26/501) and 4.59% (23/501) in MiQuit and UC groups, respectively [adjusted odds ratio (95% confidence interval) =1.15 (0.65 to 2.04)]; findings for other abstinence outcomes were generally similar, though with higher point estimates. There was little evidence for differences in pregnancy outcomes between groups. The incremental cost per Quality-Adjusted Life Year was -£1,118, (95% CI -£4,806 to £1,911)

## Discussion:

When offered to pregnant women who smoke, irrespective of whether they want to try quitting, there is little evidence that, compared with usual care, MiQuit increases rates of prolonged smoking cessation until childbirth.

16:25 - 16:37

## #safesex – The effectiveness of social media influencers as ambassadors of sexual health behavior

L. Janssen<sup>1</sup>, E. Croes<sup>1</sup>, A. Schouten<sup>1</sup>

<sup>1</sup>Tilburg University, Netherlands

To reach young adults (18-25 years), institutions for health promotion increasingly collaborate with 'social media influencers'. For example, the Dutch institution for sexual health, Soa Aids Nederland, regularly collaborates with popular YouTubers to inform and advise youngsters about safe sex. Given the commercial success of influencer recommendations, integrating health messages in entertaining video content seems a promising campaign tool for a young adult audience. However, no academic research to date has investigated whether influencer-generated content can be effectively harnessed to promote (sexual) health behavior. In the first phase of a joint research project with Soa Aids Nederland, we have performed a content analysis on a corpus of 175 Dutch, UK, and US YouTube vlogs about sexual health behavior. We identified key strategies that influencers use to communicate with their audience about safe sex practices, and analyzed how they relate to engagement (e.g., views, likes, and comments), being an important indicator of attitudinal and behavioral effects. Among others, our findings indicate that disclosing intimate sexual experiences in an intimate setting, using a clear take-home-message, most successfully engages an audience. Female vloggers are more likely to apply these strategies than male vloggers, who tend to resort to humor to convey their message. Whereas influencer self-disclosure is reciprocated with positive and self-disclosing viewer comments, the use of humor, especially slapstick humor, generates many views, but inhibits active engagement. This study provides a first step for systematically investigating the effectiveness of influencer-endorsed health information, resulting in an advisory instrument for health promoting organizations.



# Optimising Baby, Me & NRT: a theory-guided intervention promoting nicotine replacement therapy adherence in pregnancy

L. McDaid<sup>1</sup>, J. Emery<sup>1</sup>, R. Thomson<sup>2</sup>, T. Coleman<sup>2</sup>, S. Cooper<sup>2</sup>, A. Dickinson<sup>2</sup>, D. Kinahan-Goodwin<sup>2</sup>, L. Phillips<sup>2</sup>, F. Naughton<sup>1</sup>

<sup>1</sup>School of Health Sciences, University of East Anglia, United Kingdom

<sup>2</sup>Division of Primary Care, University of Nottingham, United Kingdom

## Background

When a woman smokes during pregnancy, her unborn child is put at an increased risk of health problems. This knowledge can be a strong incentive to quit, but many women find it difficult with around 8% in Europe smoking during pregnancy. Several countries recommend Nicotine Replacement Therapy (NRT) in pregnancy if cessation is not achieved without it, but its efficacy is weakened by underdosing and poor adherence. We have developed the first behavioural intervention to improve NRT adherence in pregnancy, 'Baby, Me & NRT', which is guided by the Theoretical Domains Framework and Necessity-Concerns Framework and consists of enhanced practitioner-led support, tailored text messages, a leaflet and website.

## Methods

We provided the Baby, Me & NRT intervention to three sequential cohorts of pregnant smokers (N=40) to optimise its acceptability and feasibility. Women received the intervention for 28 days from their quit date. Quantitative data was collected before and after support provision, after which qualitative interviews were undertaken. The 'person-based approach' was used between each cohort to inform intervention refinement.

## Findings

The results showed high acceptability for the intervention, even after adapting to a remote delivery model in response to COVID-19. Engagement with intervention components was high with the exception of the website. Key changes included adding real-life stories, offering the 24-hour nicotine patch, providing consultation summaries and tailoring text message support to ongoing reporting of NRT use and smoking.

## Discussion

This study resulted in successful optimisation of the behavioural intervention for testing in a randomised controlled efficacy trial.

# Stress and risk factors

15:25 - 16:55

Oliver Luminet

15:25 - 15:37

## The relationship between stress and food craving / intake in daily life

J. Reichenberger<sup>1</sup>, B. Pannicke<sup>1</sup>, A. Arend<sup>1</sup>, J. Blechert<sup>1</sup>

<sup>1</sup>University of Salzburg, Austria

### Background

Non-homeostatic factors such as stress can impact eating behavior in that it either increases or decreases food intake. Evidence on who (trait-level) shows which stress-eating pattern (increase vs. decrease) is needed. Thus, we collected naturalistic data using ecological momentary assessment in combination with the trait-level questionnaire Salzburg Stress Eating Scale (SSES) in two independent studies.

### Methods

N=97 (study 2: N=83) participants completed the SSES and reported about momentary stress and food craving as well as retrospective food intake several times per day across 8 (study 2: 14) days on their smartphones. Data were analyzed on intra-day- as well as day-level using multilevel models.

### Findings

Consistent across both studies, intra-day relationships between stress and food craving depended on SSES level: Participants with higher SSES scores showed more positive stress-craving relationships than those with lower SSES scores. Whereas intra-day relationships between stress and food intake were not moderated by the SSES, day-level mean stress predicted food intake as a function of SSES scores.

### Discussion

Results support an individual difference account to stress-eating: only after taking trait-level SSES values into account stress-eating relationships emerged. Stress relationships with food craving vs. intake seem to emerge at different temporal lags: Whereas food craving might be influenced at short delays, the effects of stress on food intake might be rather cumulative or delayed across the day. Additionally, the results prove validity for the SSES, suggesting that the SSES provides a valid diagnostic tool for identifying individuals at risk for stress-related overeating.

15:37 - 15:49

## Nature's effect on stress and diet: lab-study and questionnaire on nature aspects and indoor integration

N. Michels<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

Introduction: Despite well-recognised nature health effects, it is unclear which nature aspects can counteract stress and whether nature also influences eating behavior.

Methods1: Before and after Trier Social Stress Test, 81 participants (82% women, 19-30y) saw one of four slideshows with nature or urban environments in green or black-white shades. Group differences were tested on Perceived Restorativeness Scale, heart rate variability (HRV), salivary cortisol, mood, food wanting and snack consumption.

Methods2: The separate online questionnaire was completed by 130 participants (40±18y, 66% women).

Findings1: Reported restorative power was higher by nature pictures with even better attentional/happiness restoration capacity for green versus black-white nature (13.8±0.6 vs 11.8±0.6 on 20). Nature overall was beneficial compared to urban by lower HRV and negative emotions reactivity; green nature led to the best happiness recovery. In food intake or wanting, no differences existed.

Findings2: Indoor plants had the same stress-protective scores as indoor flowers, nature sounds and nature smell, while wooden interior or nature pictures and especially green interior scored lowest. A perceived effect on stress was mentioned via fascination, green colour and 'feeling at home'. For diet, forest smell and indoor plants scored highest; the majority did not expect an effect although some mentioned mechanisms via stress-reduction and healthy lifestyle nudging.

Conclusion: For stress prevention, the environmental content (=nature) seems most important, although a green color can also help. A focus-group study, a lab study on green/nature indoor and nature sounds, a diary study and cohort analyses are ongoing in preparation towards an intervention.

15:49 - 16:01

## Pilot N-of-1 randomised controlled trials evaluating mental imagery and planning techniques for stress appraisal

A. Cross<sup>1,2</sup>, B. Hall<sup>1</sup>, D. Sheffield<sup>1</sup>, F. Naughton<sup>3</sup>

<sup>1</sup>University of Derby, United Kingdom

<sup>2</sup>University Hospitals Leicester, United Kingdom

<sup>3</sup>University of East Anglia, United Kingdom

**Background:** Mental contrasting is a brief imagery technique that has been shown to support effective health behaviour change and emotional regulation. It involves imaging the desired future and contrasting it against the current situation to identify critical cues for action (Oettingen, 2012). The aim was to estimate the impact of mental contrasting on stress appraisal assessment measurement and study feasibility.

**Methods:** Pilot N-of-1 randomised controlled trials (RCTs) where participants (N=9; 342 observations) received one of three conditions focused on stress management during 12 randomly allocated 3-day treatment blocks (one intervention day plus two washout days). Conditions: control (no intervention), mental contrasting (MC), and mental contrasting with implementation intentions (MCII). Daily measures were taken for stress appraisal (intensity, frequency, coping response), determinants of stress appraisal (motivation, self-efficacy) and health behaviours (fruit and vegetable and alcohol consumption). Multi-level modelling was undertaken to estimate aggregated intervention effects (with MC conditions combined).

**Findings:** There was high variability in stress outcomes within and between participants and low missing data (<5%). The MC interventions had no significant effect on stress intensity (unstandardized beta [b] 0.29, p=0.71), stress frequency (b 0.25, p=0.54) or improved stress response (b -0.30, p=0.67), with estimates favouring the no intervention condition. There were no significant intervention effects on health behaviours or potential intervention mediators though effect sizes mostly favoured the intervention.

**Discussion:** The study demonstrated good feasibility and although underpowered, provided useful effect estimates. This novel design will be used for a definitive series of N-of-1 RCTs using physiological stress measurement.

# Changing Stress Mindsets with a Novel Imagery Intervention: A Pre-Registered Randomised Controlled Trial

J. Keech<sup>1</sup>, M. Hagger<sup>2</sup>, K. Hamilton<sup>3</sup>

<sup>1</sup>University of the Sunshine Coast, Australia

<sup>2</sup>University of California, Merced, United States

<sup>3</sup>Griffith University, Australia

**Background:** Changing stress mindset is an emerging technique that may aid in stress management; however, there is limited data on the impact of such interventions for improving responses to “real world” stressors. The current study tested the effect of a novel imagery intervention in changing stress mindset, and improving a range of stress-related outcomes, over a 2-week period, compared to a control group.

**Methods:** The study used a pre-registered double-blind randomised controlled trial design, with university students (N=150) attending a research lab at baseline and at a 2-week follow up. Outcome measures included stress mindset, psychological wellbeing, perceived physical health, perceived distress, proactive coping behaviour, positive and negative affect, somatic symptoms, and academic performance. The control group received an unrelated imagery task to complete. Data were analysed using mixed ANOVAs.

**Findings:** The intervention yielded a large effect on stress mindset post-intervention, and at the 2-week follow-up, relative to the control. No effects of the intervention on the stress-related outcomes were detected for the pre-registered analyses of the whole. Further theory-guided analyses detected effects of the intervention on perceived distress, positive and negative affect, proactive coping behaviour, and academic performance at the follow-up among students who had high baseline perceived distress.

**Discussion:** The novel imagery intervention is a promising approach for changing stress mindset. Such changes in stress mindset may also improve stress-related outcomes in those experiencing high levels of perceived distress. Future pre-registered research should seek to replicate these findings among highly stressed population groups.

16:13 - 16:25

# A Systematic Review of the Factors Associated with Athlete Burnout in Team Sports

S. Woods<sup>1</sup>, S. Dunne<sup>1</sup>, P. Gallagher<sup>1</sup>, A. McNicholl<sup>1</sup>

<sup>1</sup>Dublin City University, Ireland

Athlete burnout is a substantial issue across multiple sports. This review is the first to identify and synthesise the variables examined in relation to burnout in published quantitative research with team-sport athletes specifically. The search was conducted across the SportDiscus, PsychInfo/PsychArticles, ERIC, PubMed, Medline, Web of Science and CINAHL databases, and is reported in-line with PRISMA guidelines. Papers that examined the relationship between burnout and another factor in team-sport athletes, employed a quantitative design, were available in English and used the Athlete Burnout Questionnaire, were eligible for inclusion. We identified 55 papers examining 112 different correlates of burnout in team-sport athletes. We employed a weighted meta-analysis (WMA) to assess the strength of evidence of 16 variable-burnout dimension relationships that have been examined in at least 3 independent samples, with consideration of sample size and study quality. Results support a negative association between burnout and autonomy, competence, relatedness, self-determined motivation, positive affect, autonomy supportive coach, self-orientated perfectionism and social support. Amotivation, negative affect, socially-prescribed perfectionism, ego-involving climate, playing experience and controlling coach style were positively related to burnout. We included a narrative synthesis of the remaining 96 cross-sectional relationships, along with longitudinal and mediational relationships, to provide a comprehensive overview of the factors impacting burnout. Results of the WMA highlight the key factors associated with burnout in team sports, which may inform appropriate interventions, while the identification of >90 variables assessed in just 1 or 2 independent samples points to a need for replication research to improve our understanding of their impact.

16:25 - 16:37

## Life events and associations with cardiac reactivity during acute psychological stress

M. Schneider<sup>1</sup>, M. Kraemmer<sup>1</sup>, B. Weber<sup>1</sup>, A. Schwerdtfeger<sup>1</sup>

<sup>1</sup>University of Graz, Austria

**Background:** Exposure to life events can lead to changes in cardiac reactivity, which in turn might be a potential indicator for cardiac health. While most studies focused mainly on the effects of exposure to life events, few studies investigated relations between the perceived impact of life events and cardiac reactivity. The aim of the present study was to examine whether exposure and reported impact of life events are associated with altered cardiac reactivity to an acute psychological stressor.

**Methods:** Participants (N = 69) completed the Life Experience Survey and undertook a standardized social-evaluative stress task. The LES allows to assess the number of experienced positive, negative, and total life events and gives information on the perceived impact of these life events. Cardiac activity was measured via heart rate (HR) and heart rate complexity indices, before during, and after stress exposure.

**Findings:** Participants reporting higher exposure to positive and total life events showed significantly reduced HR complexity during stress, as compared to baseline (all p's < .05). Similarly, participants reporting a higher impact of negative, positive, and total life events showed reduced HR complexity from baseline to stress (all p's < .05). Increases in HR from baseline to stress were found in participants reporting higher exposure and impact of negative and total live events (all p's < .05).

**Conclusion:** Findings suggest that life events are associated with elevated cardiac stress reactivity, suggesting higher sympathetic and diminished HR complexity in response to acute psychosocial stress.



## Coherent singing induces distinct autonomic reactivity patterns compared to coherent breathing during a laboratory stress-task

J. Tatschl<sup>1</sup>, S. Tanzmeister<sup>2</sup>, C. Rominger<sup>3</sup>, A. Schwerdtfeger<sup>2</sup>, B. Weber<sup>4</sup>

<sup>1</sup>KFU graz, Austria

<sup>2</sup>University of Graz, Austria

<sup>3</sup>Graz, Austria

<sup>4</sup>Graz University, Austria

**Introduction:** Cardiovascular diseases (CVD) are the number one cause of deaths globally, with autonomic dysfunction playing a major role in its pathogenesis. We compared coherent breathing, an autonomic modulator enhancing baroreflex sensitivity, with singing at coherent breathing rate regarding their effects on stress-reactivity. **Method:** Overall, 103 participants were assigned to a coherent singing (CS), coherent breathing (CB), spontaneous breathing (SB) and spontaneous singing condition (SS), respectively. Heart variability (HRV) and hemodynamic measures were assessed during rest, interventions, a mental arithmetic stress-task (MAST) and recovery. **Results:** LF-HRV was increased during both CS and CB, with lnRMSSD increasing only during CB ( $p < .05$ ). Hemodynamic measures showed a significant increase in sympathetic activity only during singing conditions ( $p < .05$ ). Although, heart rate (HR) increased in all groups during the stressor ( $p < .05$ ), a trend for higher HR in CS compared to CB was observed ( $p = .104$ ). Additionally, lnRMSSD decreased only in CS during the stressor ( $p = .005$ ). While LF-HRV increased in SB ( $p = .006$ ), no changes compared to baseline were observed during all other conditions ( $p > .05$ ). Cardiac output increased in CB and SB, with systolic blood pressure and total peripheral resistance increasing equally in all conditions during the stressor ( $p < .05$ ). **Conclusion:** CS increases sympathetic activity, potentially amplifying stress-reactivity, with CB providing marginally better stress buffering. However, no substantial benefit of CB compared to SB and SS could be found regarding physiological stress-reactivity. Thus, CS doesn't seem feasible as intervention prior acute stressors.

# Culture and health

15:25 - 16:55

Benjamin Schuz

## Associations of cultural identity with health behaviors and health outcomes

C. Emmer<sup>1</sup>, F. Kalter<sup>1</sup>, J. Mata<sup>1</sup>

<sup>1</sup>University of Mannheim, Germany

**Background:** Research on individual factors of integration and well-being in migrant populations is scarce. Following social identity and acculturation theory, we examine the relation of cultural identity (integrated, assimilated, separated, marginalized), an indicator of emotional integration, with health behaviors and health.

**Methods:** Data from 7,449 adolescents with migrant background from the CILS4EU study, a multinational panel, were analyzed. MANCOVAs and follow-up ANCOVAs were used to investigate differences in health behaviors (physical activity, breakfast, hot meal, sleep, alcohol, cigarettes, drugs) and health outcomes (life satisfaction, mental health problems, self-esteem, academic self-efficacy, general health) for the identity types.

**Findings:** The MANCOVAs showed differences between the identity types for the combined health behaviors ( $V = .03$ ,  $F(3, 13401) = 6.4$ ,  $p < .001$ ) and health outcomes ( $V = .03$ ,  $F(3, 13335) = 7.2$ ,  $p < .001$ ). For health behaviors, the identity types showed differences in physical activity, breakfast, and alcohol consumption ( $F_s > 9.8$ ,  $p_s < .001$ ). No differences were found for smoking, drug consumption, and hot meal. Except for general health, identity types showed differences in all health outcomes ( $F_s > 9.0$ ,  $p_s < .001$ ). Post-hoc tests showed that for breakfast, alcohol, self-esteem, and self-efficacy, integrated identity showed better outcomes than assimilated identity ( $F_s > 7.1$ ,  $p_s < .01$ ).

**Discussion:** Cultural identity determines integration and is linked to health and health behaviors. The findings support selective acculturation theory and question whether national affiliation alone is the superior health strategy. Behavior change interventions that incorporate identity formation could improve behavior change and health.

## Perceptions of health and weight among pre-teen girls from disadvantaged communities in Dublin

M. Dow<sup>1,2</sup>, C. Murrin<sup>1</sup>, G. O'Malley<sup>3</sup>, S. Bel-Serrat<sup>1</sup>

<sup>1</sup>School of Public Health, Physiotherapy and Sports Science, University College Dublin, Ireland

<sup>2</sup>2W82GO Child and Adolescent Weight Management Service, Children's Health Ireland at Temple Street, Ireland

<sup>3</sup>Obesity Research and Care Group, School of Physiotherapy, RCSI University of Medicine and Health Sciences, Ireland

**Background:** Previous research indicates there are disparities in health outcomes between youth from higher and lower socioeconomic backgrounds. Children from disadvantaged backgrounds may have different perceptions of what is "healthy" and "unhealthy". In Ireland, few qualitative studies have focused on children from disadvantaged communities. This study aimed to understand how girls from disadvantaged communities in Dublin make sense of "being healthy".

**Methods:** A phenomenological qualitative design was implemented. Three focus groups were conducted with girls (n= 22, 10-12 years) from disadvantaged communities in Dublin using semi-structured group interviews. A thematic analysis was conducted with recorded transcripts of the interviews. Results were organised across the levels of Bronfenbrenner's socioecological model.

**Findings:** Seven themes along with a number of subthemes are reported. Food was an important part of their definitions of health, as were physical appearances and weight. Participants' definitions of health were informed by their family, online media, and friends. Terms for weight and health were used interchangeably. Health-related behaviours were facilitated through opportunities at home, at school, and in the community. For some participants, it was difficult to undertake the behaviours they felt were healthy.

**Discussion:** The girls had nuanced perceptions of health and weight. Their communities, social supports and families played a key role in their health-related behaviours. The results point to the importance of using multilevel approaches to understanding children's health outcomes. Health-related initiatives with families should be designed with girls' perceptions of health, family circumstances, and community settings in mind.

## Clear-cut terms, characteristics and cultural normativity of casual sexual relationships among Portuguese emerging adults

R. Luz<sup>1</sup>, M. Alvarez<sup>1</sup>, C. R. Pereira<sup>2</sup>, C. Albuquerque Godinho<sup>3, 4</sup>

<sup>1</sup>Faculdade de Psicologia, Universidade de Lisboa, Portugal

<sup>2</sup>Universidade Federal da Paraíba, João Pessoa, Brazil

<sup>3</sup>Universidade Católica Portuguesa, Católica Research Centre for Psychological - Family and Social Wellbeing, Portugal

<sup>4</sup>Centro de Investigação e Intervenção Social (CIS-IUL), ISCTE-IUL, Portugal

**Background:** Casual sexual relationships (CSRs) represent normative experiences among emerging adults and are consequential in terms of health and well-being. Given that sexuality is culturally-determined, it is important to explore CSRs across different cultural environments. Three studies were conducted to define the main types of CSRs and characterize them in a non-Saxon culture.

**Method:** A mixed-method approach was used to carry out three studies where participants were asked to: 1) provide a definition of CSR and known designations (n=76), 2) describe CSRs collected in study 1 by selecting their most important characteristics (n=61), and 3) characterize most common types of CSR according to relationship characteristics (e.g., emotional/sexual involvement, repetition) (n=263).

**Results:** CSRs were defined by the absence of both emotional involvement and commitment, and having exclusively sexual objectives. Consensual labels emerged for three main types of CSR - friends with benefits (FWB), one-night stand (ONS), and making out (MO) - and a set of characteristics were differentially attributed to each one. We found significant effects of the type of CSR on almost all variables: emotional involvement, sexual involvement, repetition, commitment, exclusivity, premeditation, partner acquaintance. Only sexual protection did not differ between different types of CSRs.

**Discussion:** Portuguese emerging adults share a social knowledge that conveys definitions and differential features regarding three types of CSRs. The similarity found regarding sexual protection across CSRs may be an instance of social desirability bias. Findings contribute to gain a deeper and culturally-specific understanding of CSRs with implications to the promotion of healthier sexual relationships.

16:01 - 16:13

## Discrimination experiences are associated with lower psychological well-being in people of Asian origin in Germany

L. Scholaske<sup>1</sup>

<sup>1</sup>German Center for Integration and Migration Research (DeZIM), Germany

**Background:** Since the beginning of the COVID-19 pandemic, media reports have conveyed a rise in anti-Asian racism, with people of Asian origin being increasingly targeted by assaults, incitement, and hate crimes in non-Asian countries. People of Asian origin represent a large group (~ 1 million) in Germany. Given the rising significance of anti-Asian racism, this study investigates whether discrimination experiences during the Covid-19 pandemic are related to lower subjective well-being.

**Methods:** 748 subjects (75.9% women) who self-identified as being of Asian origin in Germany participated in an online survey in December 2020. Participants completed the Everyday Discrimination Scale (EDS), items from the Racial and Ethnic Microaggressions Scale (REMS), and items assessing specifically discrimination experiences during the COVID-19 pandemic. Subjective psychological well-being was assessed by the Positive and Negative Affect Schedule (PANAS), a single-item on subjective health, and a single-item on life satisfaction.

**Findings:** Structural equation models revealed that discrimination experiences were related to more negative affect, less positive affect, poorer subjective health, and lower life satisfaction after adjustment for participants' age, gender, and education. Follow-up analyses will address the moderating role of coping and acculturation.

**Discussion:** Discrimination experiences in the context of the COVID-19 pandemic may impair psychological well-being in people of Asian origin in Germany. We discuss here the limitations of the cross-sectional design of our study and highlight the need to follow-up on the long-term effects of anti-Asian racism on mental health in longitudinal studies.

16:13 - 16:25

## Increase HIV testing uptake among MSM: the psychosocial levers

R. Mabire<sup>1</sup>, R. Palich<sup>2</sup>, M. Di Ciaccio<sup>1,3</sup>, V. Supervie<sup>4</sup>, M. Préau<sup>1</sup>

<sup>1</sup>Lumière Lyon 2 University - GRePS, France

<sup>2</sup>Infectious and Tropical Diseases Department / Pitié-Salpêtrière Hospital / AP-HP, France

<sup>3</sup>Coalition PLUS, France

<sup>4</sup>Pierre Louis Institute of Epidemiology and Public Health / UMR-S 1136 INSERM and Sorbonne University, France

### Background

In France, men who have sex with men (MSM) are particularly affected by HIV, constituting the population with the highest HIV incidence. Early diagnosis improves the health of people living with HIV (PLHIV) and reduces transmission. In France, regular testing is recommended for MSM. Our study aims to identify the psychosocial factors associated with HIV testing uptake among MSM in France.

### Methods

A survey, based on an online questionnaire, among 515 MSM self-reporting being HIV-negative was conducted between October 2019 and February 2020 in France. We measured knowledge related to different means of HIV prevention, the perception of stigmatization, and subjective proximity to gay venues. A Zero-Inflated Poisson regression was conducted to identify factors involved in the frequency of testing in the 12 months prior to the survey.

### Findings

Not knowing HIV self-tests (OR=4.47 [1.60-12.5]), not attending gay venues (4.84 [1.57-14.95]), and being in a couple (2.17 [1.12-15.52]) were independently associated with not being tested for HIV in the 12 months preceding the survey. The use of HIV pre-exposure prophylaxis (PrEP) (IRR [95%CI]=2.42 [1.44-2.63]) and lack of confidence in the effectiveness of condoms to protect against HIV (1.05 [1.02-1.08]) were independently associated with higher HIV testing uptake while perceiving high stigma against PLHIV (0.91 [0.85-0.99]) was associated with lower testing uptake.

### Discussion

Our findings advocate for intensifying the promotion of self-testing, especially among people who do not attend gay venues and/or those who are in couples and lowering HIV stigma against PLHIV to increase HIV testing uptake among MSM.

16:25 - 16:37

## FAMILY members' roles in decisions about hereditary cancer genetic testing in minority populations

J. Ani<sup>1</sup>, A. Kinney<sup>2</sup>, O. Foran<sup>1</sup>, C. Gray LeCompte<sup>1</sup>, E. Heidt<sup>1</sup>

<sup>1</sup>Rutgers Cancer Institute of New Jersey, United States

<sup>2</sup>Rutgers School of Public Health, United States

**Background:** Genetic testing (GT) for hereditary mutations in high-risk cancer patients provides opportunities for primary and secondary cancer prevention in biological relatives, leading to increased survival. However, there are stark racial disparities in GT uptake, and communication of GT results within families is suboptimal. The influence of relatives' perspectives on Black and Hispanic cancer patients' GT decisions have not been adequately explored. Guided by the Theory of Planned Behavior, we hypothesized that GT decisions would weigh duty to warn against mistrust, privacy concerns, stigma, and financial concerns, and that biological relatives would encourage GT.

**Methods:** We conducted 5 online focus groups with 27 participants, including 2 groups with Black cancer patients (n=14), 1 with Hispanic cancer patients (n=5), and 2 with first-degree relatives (n=9). Two independent coders analyzed transcripts using immersion crystallization and demonstrated strong interrater reliability for each transcript ( $\kappa=0.77-0.88$ ).

**Findings:** The main benefit of GT was to inform relatives, but few participants experienced GT decision making with relatives. Patients' offspring were less involved than spouses in health decisions, including GT. Facilitators of GT cited by participants were information, communication with family and providers, addressing mistrust, provider racial congruence, patient advocates, and Spanish educational materials. Barriers included mistrust, financial concerns, lack of referral, privacy concerns, lack of family communication, and stigma.

**Discussion:** These findings highlight the need for culturally tailored psycho-education and support interventions that promote family communication and informed decision making about GT among patients of color to improve GT uptake and cancer outcomes.



## Risk factors for insomnia and burnout. A longitudinal epidemiological study of a population based sample

P. Höglund<sup>1</sup>, C. Hakelind<sup>1</sup>, M. Nordin<sup>1</sup>, S. Nordin<sup>1</sup>

<sup>1</sup>Umeå University, Sweden

**Background:** A majority of prior studies on risk factors for insomnia and burnout are cross-sectional. Many studies of burnout have been based on specific work-related groups which may not be representative for the population as a whole. This study aimed to estimate odd ratio of incidence of insomnia and burnout and studied potential risk factors in a cohort of good sleepers and a cohort of individual with no burnout.

**Methods:** A population based longitudinal cohort design, using postal questionnaires. Participants aged 18-79 years without insomnia (n= 1702) or burnout (n=1804) at baseline were followed up three years later. Predictor variables as somatic, psychiatric and psychological risk factors were used in a series of logistic regression analyses to predict insomnia and burnout.

**Results:** The adjusted ORs for insomnia ranged 2.13-4.06 for psychiatric disorders, 2.10-2.61 for psychological conditions 1.51-2.01 for somatic conditions. The strongest predictor for insomnia was burnout OR=4.06. Regarding risk factors for burnout, the adjusted ORs for psychiatric disorders between ranged 2.13-5.61, between 3.52-5.06 for psychological conditions, 1.52-1.74 for somatic symptoms. Depression was the strongest predictor for burnout OR=5.61.

**Discussion:** All 10 studied conditions were significant risk factors for development of both insomnia and burnout. Insomnia and burnout symptoms were strong risk factors for each other. Burnout was the strongest risk factor for insomnia, and depression was the strongest risk factor for burnout. The results suggest early interventions at primary level with a transdiagnostic paradigm aiming to reduce stress, rumination and maladaptive thoughts.

# Determinants and interventions to change alcohol-related behaviours

15:25 - 16:55

Olga Perski

15:25 - 15:37

## "I'd be crawling under my skin" - An Interpretative Phenomenological Analysis of students' alcohol-related FoMO

J. Crawford<sup>1</sup>, R. Cooke<sup>1</sup>

<sup>1</sup>University of Liverpool, United Kingdom

**Background:** Missing opportunities to drink socially can give rise to a sense of missing out on rewarding experiences, known as the 'Fear of Missing Out (FoMO)'. Evidence suggests FoMO may be an important driver of future consumption as individuals seek to compensate for missing past drinking events by drinking more alcohol. This study aimed to explore how FoMO interacts with social processes to drive future consumption.

**Method:** Six university students (50% female), aged 18 to 24 participated in single case interviews. Data was analysed using Interpretative Phenomenological Analysis (IPA). IPA is a technique that seeks to illuminate lived experiences.

**Results:** IPA generated three superordinate themes: "I would be anxious", "The need to belong" and "Balancing the scales". Participants reported missing opportunities to drink socially led them to experience anxiety and worry, particularly regarding their group identity/membership. Social drinking enabled the creation of shared memories, which reinforced group identities and increased a sense of belonging. Participants redressed the negative affect resulting from FoMO, with coping behaviours, e.g. cognitive reappraisal of events and attending more social drinking events.

**Discussion:** Attending social drinking events enables identification with peers via the creation of shared memories that are reminisced about in the future. Conversely, non-attendance can foster negative emotional states like anxiety and worry, which are either compensated for by drinking more alcohol at future events, attending additional events, or addressed by reappraising events as less fun/enjoyable than they were initially perceived to be. FoMO may be an important risk factor for excessive consumption.

# Modifiable determinants of intentions to consume alcohol while pregnant

T. Fletcher<sup>1,2</sup>, B. Mullan<sup>2</sup>, A. Finlay-Jones<sup>1</sup>

<sup>1</sup>Telethon Kids Institute, Australia

<sup>2</sup>Curtin University, Australia

## Background:

Alcohol use in pregnancy can disrupt children's development and result in a range of neurodevelopmental deficits and behavioural problems. Therefore, guidelines from Australia and the United Kingdom recommend that pregnant women abstain from alcohol use. However, estimates of the number of women using alcohol after becoming aware they are pregnant range from 25% in Australia to 28% in the United Kingdom. Considering this, public health prevention efforts require further understanding of modifiable determinants of alcohol use during pregnancy. The aim of this research was to use both the theory of planned behaviour and the prototype willingness model to explore intentions to consume alcohol while pregnant.

## Methods:

Three hundred and thirty-six women between 20 and 44 years of age ( $M = 29.41$ ,  $SD = 4.89$ ) were recruited from the UK and Australia to complete a 15-minute survey assessing theoretical variables and demographic characteristics. Multiple regression was used to examine the proportion of variance in intentions to use alcohol in pregnancy that was accounted for by the theoretical constructs.

## Findings:

In combination the eight predictor variables explained 59.3% of variation in intentions to consume alcohol while pregnant,  $R^2=.593$ , adjusted  $R^2=.583$ ,  $F(8,313)=57.067$ ,  $p<.001$ . Attitude ( $sr^2=.068$ ), perceived similarity ( $sr^2=.082$ ), and willingness to drink ( $sr^2=.019$ ) accounted for unique variance in the final model.

## Discussion:

This study contributes to the evidence regarding modifiable determinants of alcohol use in pregnancy and identifies potential strategies for behaviour change interventions in this space. Future research should develop and test interventions that target these determinants and evaluate the effect.

15:49 - 16:01

## Pragmatic approaches for addressing alcohol in primary care: Development of a tailored implementation intervention

S. Potthoff<sup>1,2</sup>, T. Gilje Lid<sup>2</sup>, H. Brendryen<sup>3</sup>, A. O'Donnell<sup>4</sup>

<sup>1</sup>Northumbria University, United Kingdom

<sup>2</sup>Stavanger University Hospital, Norway

<sup>3</sup>University of Oslo, Norway

<sup>4</sup>Newcastle University, United Kingdom

### Background:

Alcohol consumption is a leading global risk factor for ill-health and premature death. Alcohol screening and brief interventions (SBI) delivered in primary care are effective at reducing alcohol consumption, but their routine implementation remains problematic. Screening all patients for heavy drinking (universal) is resource-intensive and may be at odds with general practitioners' (GPs') perceived professional role. This mixed methods study aimed to develop a tailored training intervention to strengthen GPs' ability to identify and address alcohol-related health problems through a pragmatic relevance-based approach.

### Methods:

Behavioural analysis using focus groups and a qualitative questionnaire assessed factors influencing delivery of SBI according to the 'capability, opportunity, motivation and behaviour' (COM-B) model to inform intervention development using the Behaviour Change Wheel. Purposive samples of GPs attended the focus groups (n=26) and completed the questionnaire (n=73). Transcripts were analysed using framework analysis and an iterative approach was adopted to develop the training.

### Findings:

Behavioural analysis identified that GPs required education on the association between alcohol and related health problems. Additional training needs identified were effective communication techniques, strategies and resources for supporting behaviour change, and an overview of available support services. A four session interactive training intervention and a digital intervention for providing support for patients between consultations, was developed to address the identified needs.

### Discussion:

Implementing alcohol interventions in primary care remains problematic. Implementation may be improved by training GPs in pragmatic approaches for identifying and addressing alcohol-related health problems as they fit more closely with their professional role and skill sets.

16:01 - 16:13

## The effect of health messages on intentions to consume alcohol during the Covid-19 pandemic

F. Walker<sup>1</sup>, R. de Visser<sup>1,2</sup>

<sup>1</sup>University of Sussex, United Kingdom

<sup>2</sup>Brighton & Sussex Medical School, United Kingdom

**Background:** Including alcohol health messages in communication of government low risk drinking guidelines has the potential to positively affect alcohol intake, but more research into the content and framing of such messages is required. Research shows that both novelty of information and personal relevance affect the impact of health messages on behaviour.

**Methods:** This study explored: drinking behaviour during Covid-19 lockdown; and whether a context-relevant message about alcohol and immunity would be more effective than other alcohol health messages and a control message. From April to June 2020, 953 participants completed an online questionnaire, and were randomly allocated to exposure to one of three messages emphasising the impact of alcohol on: the immune system and respiratory health; mental health; overall physical health; or to a control condition. The impact of the messages on levels of concern about alcohol intake and intention to reduce alcohol consumption was assessed using a pre-post ANCOVA.

**Findings:** There was a significant effect of message group on motivation and intention to consume alcohol: participants in the immunity message group had stronger motivation and intention to adhere to low risk guidelines than the control group (after controlling for initial motivation and intentions).

**Discussion:** During Covid-19 lockdown, a message emphasising the impact of alcohol on immunity had a greater effect on cognitive precursors of drinking than other messages. These results indicate that a context-relevant message could be a useful strategy for future alcohol health campaigns and for improving alcohol labelling to encourage moderate drinking.

# Primary alcohol prevention in the workplace

L. Fellbaum<sup>1</sup>, N. Benit<sup>1</sup>, L. Bielefeld<sup>1</sup>, A. Mojzisch<sup>1</sup>, R. Soellner<sup>1</sup>

<sup>1</sup>University of Hildesheim, Germany

## Background.

According to WHO estimates, alcohol consumption is highest in the European region compared to the rest of the world (WHO, 2019). In Germany about three million people show at least an abusive consumption of alcohol. Economic estimates underline that the costs caused by alcohol use, for example due to therapy or early retirement, amount to 30-40 billion euros annually (Atzendorf et al., 2019).

The aim of this meta-analysis was to generalize the effects of primary prevention programs regarding alcohol consumption at workplace. For this purpose, the international research of the last 25 years are systematically examined and meta-analytically summarized.

## Methods.

A comprehensive literature search in established databases served to identify relevant primary studies. A total of 19 primary studies (N=4475) with 45 usable effect sizes could be integrated into the present meta-analysis.

## Findings.

The results revealed a significant overall effect in favour of the effectiveness of the analysed prevention programs ( $d=.18$ ). Moderator analyses indicated an additional increase in effects (e.g.: prevention duration  $d=.26$ ).

## Discussion.

The strict selection criteria of the primary studies (e.g., RCT) resulted in a decrease of included studies ( $k=19$ ) but also in an increase of comparability as well as high homogeneity of the studies ( $I^2=30\%$ ).

Even though small effect sizes could be identified, these underline a generalizable effectiveness of alcohol-related prevention approaches, which are cost-effective measures to reduce risky alcohol consumption. The knowledge gained is of individual, societal and economic importance, particularly due to increasing workplace-related stress.

# Health behaviour change interventions: Nudging and contextual factors

11:05 - 12:35

Corina Berli



11:05 - 11:17

## Nudging healthier food and beverages choices from an online fast-food ordering menu

M. Deek<sup>1</sup>, E. Kemps<sup>1</sup>, I. Prichard<sup>2,3</sup>, M. Tiggemann<sup>1</sup>

<sup>1</sup>College of Education, Psychology and Social Work, Flinders University. Adelaide, Australia

<sup>2</sup>Health & Exercise Sciences, College of Nursing and Health Sciences. Flinders University. Adelaide, Australia

<sup>3</sup>SHAPE Research Centre, Flinders University. Adelaide, Australia

**Background:** The omnipresence of unhealthy food cues in our environment has in part led to poorer dietary behaviours. Emerging research has shown that by changing the food environment through the presentation of a healthy food cue, individuals may be subtly 'nudged' towards making healthier choices. Priming, a form of nudging, is the process where initial exposure to environmental cues may unconsciously influence subsequent behaviour. Accordingly, the present study aimed to investigate the effects of a subtle healthy food cue, through the technique of priming, on subsequent food and drink choices from an online fast-food ordering menu.

**Methods:** An analogue of the online ordering menus and digital screens used by fast-food retailers was created. Participants (n = 291) were presented with a digital screen displaying either a healthy or unhealthy meal, or no prime (control), followed by one of two versions of a pictorial menu. Participants then made their selections, one item from each of the three menu sections (mains, drinks, desserts), and completed a questionnaire measure of dietary restraint.

**Findings:** Participants made more healthy choices from menu version 1 than 2, in particular from the 'mains' category. In menu version 1, restrained eaters made more healthy choices, in particular mains, in the healthy screen condition. By contrast, in the control screen condition, restrained eaters were more likely to select an unhealthy over healthy main.

**Discussion:** The findings have real world implications that could help inform digital businesses how to present food and drink items to nudge individuals towards healthier choices.

11:17 - 11:29

## Can Vending Machine Artwork Promote Healthier Beverage Choices?

R. Calabro<sup>1</sup>, E. Kemps<sup>1</sup>, I. Prichard<sup>1</sup>, M. Tiggemann<sup>1</sup>

<sup>1</sup>Flinders University, Australia

**Background:** Strategies targeting unhealthy beverage consumption have mostly been explicit, involving policy change or regulation (introducing a sugar tax, restricting access or using plain packaging), which have had limited success. Instead, the present study investigated whether implicit interventions based on nudging principles could promote healthier beverage choices from vending machines.

**Methods:** Two experiments manipulated the artwork on a vending machine display. Study 1 (n = 144) and Study 2 (n = 235) compared the effect of 7 artwork displays (beverage branded, red, blue or black coloured, or featuring a glass of water or coke) on beverage choice. Participants also indicated how much they liked and how often they the beverages (Study 1), or rated the taste, healthiness, energy and refreshing value of each beverage (Study 2).

**Findings:** The black vending machine significantly influenced caffeine-based choices in Study 2. Other significant predictors of beverage choice were how much participants liked the beverage and how often they consumed it (Study 1), as well as their perception of the health and taste of the beverage (Study 2).

**Discussion:** Colour and artwork nudges have been shown to be effective in previous food research. Study 2 showed that colour may also influence beverage choices. The colour of the black machine may have implicitly led participants to think of coffee, causing them to choose caffeine-based beverages. These findings suggest that subtle changes such as the colour of the vending machine can influence beverage choices, and thus is an important factor to consider in promoting healthy choices.

11:29 - 11:41

## Using item placement to nudge healthy food choices from physical and online menus

I. Gynell<sup>1</sup>, E. Kemps<sup>1</sup>, I. Prichard<sup>1</sup>, M. Tiggemann<sup>1</sup>

<sup>1</sup>Flinders University, Australia

Previous attempts to promote healthy eating using explicit techniques have not been consistently successful. We therefore investigated an implicit strategy (item placement techniques) based on the principles of nudging to encourage healthy food choices in the context of snack menus. Two experimental studies compared presentation of healthy items in the top, middle, and bottom sections of a snack menu. Study 1 (n = 172) compared these presentations in a physical menu, while Study 2 (n = 182) used an online menu. Menus consisted of 8 unhealthy and 4 healthy items, arranged in three rows of four in Study 1, and one column of 12 in Study 2. In each study, participants selected one food item from one of the three experimental menus. Participants also completed the Revised Restraint Scale to determine dietary restraint status. In Study 1, item placement condition did not predict healthiness of food choice. In Study 2, healthy items were most popular from the first section of the menu, in comparison to the middle or last sections. Dietary restraint did not moderate the effect of item placement condition on food choice. In line with nudging principles, results suggest that item placement techniques could be a potentially powerful tool in promoting healthy choices from online snack menus. Added up over time on a population level, consistent healthier choices could result in general health benefits such as better nutrient intake and physical wellbeing.

11:41 - 11:53

## Nudging Vending Machine Choices: Visual Cues and Primes

E. Kay<sup>1</sup>, E. Kemps<sup>1</sup>, I. Prichard<sup>1</sup>, M. Tiggemann<sup>1</sup>

<sup>1</sup>Flinders University, Australia

Nudging techniques such as visual cues and primes can be used to subtly encourage healthier consumption behaviours. Two experiments tested the effects of four cues/primes on choices from an analogue vending machine display. Participants (17-25 years) were randomly assigned to view a general health cue (image of a person running along the beach) a water prime (image of water being poured into a glass), a soft drink prime (image of a soft drink being poured into a glass), or a control cue (non-beverage or health-related image) before selecting an item from the vending machine. In Experiment 1 (n = 138) the machine included only beverages; in Experiment 2 (n = 593) it included both snacks and beverages. The experimental manipulation did not predict choice in Experiment 1, but it did in Experiment 2. Specifically, the water prime produced more healthy beverage choices than all other conditions, whereas the soft drink prime produced more less-healthy food choices compared to the water prime and control conditions. In both experiments, overall liking and habitual consumption of the chosen items also predicted choice, as did ratings of hunger and thirst in Experiment 2. These findings demonstrate that primes of beverages can be effective for nudging healthier choices from a combined food and beverage vending machine. This research has the potential to inform strategies for encouraging healthier consumption behaviours in a vending machine environment.

11:53 - 12:05

## Soundscapes' animateness and the framing of environments: Influence on predicted recreation time

P. Krzywicka<sup>1</sup>, K. Byrka<sup>1</sup>

<sup>1</sup>University of Social Sciences and Humanities, Poland

**Background:** To introduce changes aimed at promoting healthier, more active lifestyles, greater effort should be invested in understanding how the perception of the environment translates into people's behavior. With this purpose, we investigated the effect of soundscapes' animateness and the framing of environments on the assessment of predicted recreation time.

**Methods:** We conducted an online study in a 2x2x2 design, using six different stimuli. Each consisted of a short audio recording – of animate (3) and inanimate (3) soundscapes – and the verbal label representing, depending on the randomly assigned condition, either natural or urban environments. We requested the participants to visualize spending time in the indicated locations doing recreational activities that they would enjoy, while imagining themselves: (a) in a state of mental fatigue and (b) alone (half of the participants) or in company (the other half). We then asked them to assess the naturalness of the environments and to predict the length of recreation time that they would spend in such settings.

**Findings:** We found a significant indirect effect of the environment on recreation time through the perceived naturalness of the environments, both for the environments with animate and inanimate soundscapes; with a stronger effect for the latter ( $ab = 6.96$ , 95% CI: [3.73, 10.89];  $ab = 16.87$ , 95% CI: [11.26, 23.04], respectively).

**Discussion:** Since the perception of environments influence people's behavior, the perceived naturalness of the surroundings should be increased to extend active recreation time.

12:05 - 12:17

## Gundo-So program: an illustration of the importance of community support

M. Perray<sup>1</sup>, L. Riegel<sup>2</sup>, D. Traore<sup>3</sup>, D. Rojas Castro<sup>2,4</sup>, B. Spire<sup>4</sup>, M. Mora<sup>4</sup>, A. Yattassaye<sup>3</sup>, M. Préau<sup>1</sup>

<sup>1</sup>GRePS, University Lyon 2, Lyon, France

<sup>2</sup>Coalition PLUS, Laboratoire de recherche communautaire, Pantin, France

<sup>3</sup>ARCAD Santé PLUS, Bamako, Mali

<sup>4</sup>Aix Marseille University, Inserm, IRD, SESSTIM, Marseille, France

Gundo-So is a community-based intervention developed by and for women living with HIV (WLHIV), at the Malian community-based organisation (CBO) ARCAD Santé PLUS, aiming to support them in the process of disclosing or not disclosing their serological status. An evaluation of the impact of the Gundo-So programme is currently scheduled between 2019 and 2021.

A qualitative approach using semi-structured interviews, with a Bambara language interpreter, was implemented. Fourteen interviews with WLHIV were conducted in three of the ANRS Gundo-So study sites. Interviews were fully transcribed, and a thematic analysis carried out using NVivo © software (Paillé & Mucchielli, 2012).

Interviewees were between 25 and 42 years old. Most of them lived in couples and had a precarious economic activity. Four main themes were identified in the analysis but we will focus on this one related to the relationship between WLHIV themselves and between WLHIV and health-care professionals. Participants highlighted the meeting with other WLHIVs, allowing mutual help and social support, but most of all; Gundo-So has improved the relationship between professionals and WLHIV by some local coordinators' disclosure of their self HIV status.

Participants emphasised the importance of care provided by people living with HIV and other WLHIV as mutual support in managing HIV, showing the value of community-based care and support.

# Chronic disease self-management and adherence

11:05 - 12:35

Jenny McSharry

11:05 - 11:17

## Loneliness and use of primary health care: A meta-analysis and conceptual model

F. Sirois<sup>1</sup>, J. Owens<sup>1</sup>

<sup>1</sup>University of Sheffield, United Kingdom

**Background:** Loneliness is a growing public health concern that is associated with a range of negative health outcomes. Less is known about the extent to which loneliness may also be associated with greater use of primary health care, or the factors that may explain this association. This meta-analysis aimed to address these gaps by quantifying research on the association of loneliness to primary health-care use and proposing a new model to explain this association.

**Methods:** The database searches yielded 15 eligible studies with 17 effects, total N = 74,321.

**Findings:** A random effects meta-analysis revealed a small positive average effect size ( $r_{avg} = .073$ , 95% CI: [.04, .10]) between loneliness and the use of primary care that was robust to differences in age and respondent sex across studies, as well as to whether the loneliness scale used was single versus multi-item. Studies that used objective measures of primary care use yielded effects that were significantly larger than those that used self-report measures.

**Discussion:** The findings from this first comprehensive meta-analysis of the association of loneliness with use of primary care indicate that people who experience loneliness make a greater number of visits to primary care practitioners. The proposed model highlights the roles of higher levels of stress and negative affect, and reduced social networks, for explaining why people who feel lonely may use primary care over and above medical need, and provides insight into the differential relationship of loneliness to health-care use and other important health behaviours.



11:17 - 11:29

## Myocardial infarctions as teachable moments for cardiovascular patients and partners: an Interpretative Phenomenological Analysis

M. Brust<sup>1</sup>, W. Gebhardt<sup>2</sup>, M. Numans<sup>1</sup>, J. Kieffe-de Jong<sup>1</sup>

<sup>1</sup>LUMC Campus The Hague, Netherlands

<sup>2</sup>Leiden University, Netherlands

**Background:** Teachable moments are events or circumstances in life after which individuals are more receptive towards lifestyle counseling and more motivated to change health behaviours. It is known that many cardiovascular patients, and sometimes also their partners, are more motivated to improve their health behaviours after they experience a myocardial infarction (MI). This indicates that they possibly might experience it as a teachable moment. The aim of this study is to explore MIs as potential teachable moments for cardiovascular patients and their partners. Specifically, we will explore psychosocial and contextual factors that turn these events into teachable moments.

**Method:** 15 patients who experienced a MI and 10 partners took part in semi-structured interviews twice: approximately one month and five months following the MI. An Interpretative Phenomenological Analysis approach was applied.

**Findings:** Our results indicate the potential existence of a teachable moment for patients and partners. Several factors that increase healthy lifestyle intentions after MIs emerge, such as increased risk perceptions of negative health outcomes when unhealthy lifestyle is continued, emotional impact of the MI, changed self-concept (e.g. seeing oneself as heart patient/partner of heart patient), perceived outcome expectancy of changing lifestyle, worries about/of a partner and medication aversion. Previous major life events seem to reduce the impact of MIs on healthy lifestyle intentions.

**Discussion:** Our study aims to develop a conceptual cardiac teachable moments model. Insights can be used by healthcare professionals in cardiac care to apply targeted lifestyle counseling, in order to prevent further cardiovascular events.

# Understanding motivation to self-manage in people with Chronic Obstructive Pulmonary Disease: A self-determination theory perspective

L. Knox<sup>1</sup>, G. Norris<sup>2</sup>, K. Lewis<sup>3,4</sup>, C. Davies<sup>3</sup>, K. Littlemore<sup>5</sup>, C. Hurlin<sup>3</sup>, R. Rahman<sup>2</sup>

<sup>1</sup>University of Sheffield, United Kingdom

<sup>2</sup>Aberystwyth University, United Kingdom

<sup>3</sup>Hywel Dda University Health Board, United Kingdom

<sup>4</sup>Swansea University, United Kingdom

<sup>5</sup>eHealth Digital Media, Ltd., United Kingdom

## Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a prevalent, long-term condition that detrimentally affects health-related quality of life (HRQoL). People with COPD (PwCOPD) have to self-manage their condition and despite these behaviours increasing HRQoL, they are seldom performed. Motivation has been suggested as one predictor of self-management. Few studies have applied self-determination theory (SDT) to predict self-management in PwCOPD and none have focused on the role of basic need thwarting.

## Methods

Two studies were conducted. One used a cross-sectional, questionnaire-based design and a path analysis to investigate the ability of SDT to predict self-management and HRQoL in 72 PwCOPD on a pulmonary rehabilitation (PR) waiting-list. The other used mixed-methods to investigate how PR and a digital self-management intervention influenced SDT constructs in 55 participants. 7 of these people were interviewed. MANOVAs and thematic analysis were used.

## Findings

The first study found that SDT constructs could predict motivation to self-manage and HRQoL in PwCOPD. The path analysis highlighted the predictive power of autonomy satisfaction and relatedness thwarting. The second study found that both interventions could significantly improve multiple SDT constructs; however, autonomy satisfaction and relatedness thwarting did not reach statistical significance. The thematic analysis found that participants described COPD and the interventions in terms of need satisfaction and thwarting.

## Discussion

SDT provides a useful model to predict important outcomes in PwCOPD. However, more studies need to examine the role of need thwarting and health interventions need to investigate how to improve autonomy satisfaction and relatedness thwarting to increase self-management engagement long-term.

11:41 - 11:53

## ‘Just keep taking them, keep hoping they'll work’: multimorbidity and adherence to medications

L. Foley<sup>1</sup>, L. Hynes<sup>2</sup>, A.W. Murphy<sup>1</sup>, G.J. Molloy<sup>1</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>Croí Heart & Stroke Centre, Ireland

**Background.** Compared to single diseases, medication adherence research reflects many areas of the medical literature by affording relatively less attention to the experiences of people self-managing multiple co-occurring conditions – and in particular, the experience of managing the associated complex medication regimens. This study aimed to explore the patient experience of self-managing multimorbidity, with a focus on factors relating to medication adherence.

**Methods.** A qualitative approach was taken. Sixteen people living with complex multimorbidity were recruited through general practice to take part in semi-structured interviews. Data were analysed following standardised guidelines for reflexive thematic analysis.

**Findings.** Two themes were generated, with each theme comprising three subthemes. Theme one represents the amplified burden arising from multimorbidity that leads to unique challenges for self-management, such as integrating multiple medications into daily life, accumulating new symptoms and treatments, and managing evolving medication regimens. Theme two represents pathways towards relief that reduce this burden and promote medication adherence, such as prioritising certain conditions and treatments, resigning to the need for multiple medications, and identifying and utilising adherence supports.

**Discussion.** We identified factors relevant to medication adherence for people living with multimorbidity that go beyond single-disease influences and account for the amplified experience of chronic disease that multimorbidity can produce for some people. While evidence of single-disease influences remains fundamental to tailoring behavioural interventions to individual patients, the complex impact of multimorbidity on medication adherence should inform practice and policy that is appropriate to the reality of most people living with chronic disease.

11:53 - 12:05

## Exploring impact of COVID-19 on self-management behaviours and healthcare access for people with Inflammatory Arthritis

E. Caton<sup>1</sup>, H. Chaplin<sup>1</sup>, L. Carpenter<sup>1</sup>, M. Sweeney<sup>1</sup>, H. Tung<sup>1</sup>, S. de Souza<sup>1</sup>, J. Galloway<sup>1</sup>, E. Nikiphorou<sup>1</sup>, S. Norton<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

**Background:** Inflammatory arthritis (IA) patients have been identified as at greater risk of severe illness from COVID-19. It is likely that lockdown restrictions (enforced by the UK government in response to the COVID-19 pandemic) and subsequent changes made to healthcare provision could impact patients' abilities to effectively manage their condition. The aim of this study was to qualitatively explore the impact of COVID-19 on self-management behaviours and healthcare access for people with IA.

**Methods:** Semi-structured interviews were conducted with twenty-one IA patients in June and July 2020, with follow-up interviews in November 2020. The interview schedule was developed with a Patient Research Partner and explored participants' experiences of the COVID-19 pandemic. Interviews were conducted via telephone and analysed using inductive thematic analysis.

**Results:** Participants were aged between 24-79 years (mean= 50.1, SD= 15.8), largely female (71%) and White British (86%). Four themes were identified: (1) Impact of COVID-19 on medication adherence, (2) Impact of COVID-19 on physical activity, (3) Impact of COVID-19 on diet, and (4) Impact of COVID-19 on healthcare access and delivery. Subthemes focused on positive and negative changes made to these areas, as well as behaviours which remained consistent. Follow-up interviews highlighted differences in participants' experiences during the two lockdown periods.

**Conclusion:** COVID-19 has affected patients' abilities to manage their IA. Healthcare professionals need to recognise the impact of COVID-19 on patient self-management and healthcare access to ensure that adequate understanding and support is available to patients who may have inadequate disease control as a result.

12:05 - 12:17

## Comparison of coping responses to SARS-CoV-2 by people with and without existing health conditions

R. Hewitt<sup>1</sup>, R. Pattinson<sup>1</sup>, R. Daniel<sup>1</sup>, J. Carrier<sup>1</sup>, C. Bundy<sup>1</sup>

<sup>1</sup>Cardiff University, United Kingdom

**Background:** The SARS-CoV-2 pandemic has had a profound impact on the general health of people in the UK. People with existing health conditions commonly present with poorer mental health and more health threatening behaviours due to the burden of disease. Little is currently known about the thoughts, feelings and coping behaviours of this vulnerable group towards this novel health threat.

This study aimed to investigate impact of SARS-CoV-2 on self-reported mood and health behaviours of people living with existing health conditions in the UK in order to understand how to improve coping responses to the threat of SARS-CoV-2.

**Methods:** A cross-sectional online survey involving adults ( $\geq 18$  years) living in the UK. Multivariable linear regression and sequential multiple mediation analysis were used to estimate the difference in average scores for active and avoidant coping responses scores due to pre-existing health conditions, and to investigate the extent to which these differences are explained by differences in perceptions, beliefs, concerns and mood.

**Findings:** People with existing physical and especially mental health conditions reported poorer health and performed more avoidant coping compared to healthy participants. Experiencing low mood or concern related to SARS-CoV-2 mostly explained the relationship between pre-existing conditions and avoidant coping.

**Discussion:** Psychological support and interventions including behaviour change is required to mitigate the psychological burden of the SARS-CoV-2 pandemic. Psychologists are well-placed to support clinicians and people with existing health conditions to minimise the psychological impact of SARS-CoV-2, which could help to alleviate the increasing strain on healthcare services.

12:17 - 12:29

# Feasibility of SEA-CHANGE: A SELF-management After Cancer of the Head And Neck Group intErvention

N. Clarke<sup>1</sup>, D. Desmond<sup>2</sup>, L. Coffey<sup>2</sup>, S. Dunne<sup>1</sup>, L. Sharp<sup>3</sup>, C. Timon<sup>4</sup>, S. Brennan<sup>5</sup>, P. Gallagher<sup>1</sup>

<sup>1</sup>Dublin City University, Ireland

<sup>2</sup>NUI Maynooth, Ireland

<sup>3</sup>Newcastle University, United Kingdom

<sup>4</sup>St James Hospital, Ireland

<sup>5</sup>St Lukes Hospital, Ireland

## Background

The unique physical and functional challenges posed by head and neck cancer (HNC) and its treatment warrant development of methodologically-sound interventions supporting self-management. SEA-CHANGE is an evidence-based, theoretically-derived, self-management intervention for HNC survivors. We aimed to assess the feasibility of the SEA-CHANGE intervention.

## Methods

A two-armed pilot randomised (1:1) control trial was undertaken with HNC survivors who had completed primary treatment (follow-up to 12-months). A qualitative process evaluation assessing intervention feasibility was conducted, while a process for decision-making after pilot and feasibility trials (ADePT) is aiding judgement on progression to a definitive trial.

## Findings

Those who did not take part indicated a range of reasons (living too far away, transport issues, work commitments or being too unwell). Forty individuals participated in the trial (28%) and 75% (n=15) completed the intervention arm. Participants indicated they wanted to “give back” or “help others” and to learn to manage their condition more effectively. Using ADePT, we identified 10 areas that warranted further consideration and solutions deliberated, including; issues with acceptability, multisite data collection, logistical issues in recruitment (staffing, space and information delivery), specific manualised content issues and timing of content delivery.

## Conclusions

The SEA-CHANGE intervention was well received and attended and indicative analyses suggest that it supports transition from active treatment to survivorship. ADePT has aided in identifying problems and considering solutions to the feasibility and acceptability of the trial. This is important in informing the progression to a definitive trial.

# Dealing with health and illness-related challenges within families

11:05 - 12:35

Efrat Neter

11:05 - 11:17

# Loss and Gain: Experiences of IVF egg donation pregnancies

C. Harris<sup>1</sup>, M. Dempsey<sup>2</sup>

<sup>1</sup>University College Cork, Ireland

<sup>2</sup>UCC, Ireland

**Background:** The use of Assisted Reproductive Technology (ART) with donor eggs has steadily increased since its introduction to Ireland in 2002. There has been rapid social change in Ireland during this time, yet little detailed investigation of the lived experiences of those who have had IVF egg donation pregnancies. The current study addresses this gap in research.

**Methods:** Nine females living in Ireland, with an age range of 35-45 years, participated in this study. The data set, comprising individual interviews and participants e-journal entries, were analysed using Interpretive Phenomenological Analysis.

**Findings:** Participants joy with being pregnant was positioned against a background of negotiating multiple challenges including the meaning of infertility, loss of genetic connection, and curiosity regarding the donor. Analysis focuses on the following superordinate themes: 'The Jigsaw of Pregnancy', 'Process of Normalising', and 'Birth of A Mother'.

**Discussion:** Some of the complex psychological processes experienced through IVF egg donation pregnancies have been unpacked in this study. How egg donor recipients understand, normalise and negotiate, at times contradictory feelings regarding their experience of pregnancy, could be drawn on to advance health care professionals management and knowledge of donor conception pregnancies. Further, the integration of informal (support groups) and formal (fertility clinics) support systems, could enhance professional communication about the physical and psychological needs of donor recipients and their support network.



11:17 - 11:29

## Multidimensional assessment on child maltreatment prevention readiness in North Macedonia

D. Jordanova Peshevska<sup>1</sup>, T. Mitanovska<sup>2</sup>, N. Petrović<sup>3</sup>

<sup>1</sup>University American College Skopje, Department of Psychology, Macedonia [FYROM]

<sup>2</sup>Labyrinth, National Association for Mental Health, Skopje, Macedonia [FYROM]

<sup>3</sup>Faculty of Philosophy, University of Belgrade, Department of Psychology, Serbia

**Background:** Child maltreatment (CM) is a major health problem that received growing attention over the past five decades, although in North Macedonia only in the last two decades. The objective of this study is to assess child maltreatment prevention (CMP) readiness of the national system to respond and implement prevention programs. The assessment findings aims at mapping future strategic priority areas for CMP and development of national strategy.

**Methods:** The qualitative study (n=45) was conducted in North Macedonia in the period August to November 2019. Participants were key decision makers and senior managers in the field of CM at national (48.9%) and local level (51.1%). The Readiness Assessment for the Prevention of Child Maltreatment (RAP-CM) was used to assess 10 dimensions of CMP readiness. The interviews lasted from 60 to 90 minutes. The data was analyzed using SPSS version 19 for quantitative data, while open-ended questions were qualitatively analyzed.

**Findings:** The key informants gave CMP readiness overall estimation of 45.4% out of 100%. Four of the dimensions (material resources; institutional resources; links and informal social resources; human and technical resources) had low readiness percentage (below 50%), while other four dimensions (legislation, mandates, and policies; determination to address the problem; scientific data on CMP; strategic priorities and measures on prevention had higher readiness percentage (from 54.7% and above).

**Discussion:** North Macedonia have moderate-to-fair readiness to implement evidence-based CMP programs. Strengthening the material, human, and technical resources, improving multi-sectorial collaboration, and attitudes towards CMP are required to improve country's readiness.

## Tackling bias-based bullying in children using a serious game approach: Results from the GATE-BULL project

R. Willems<sup>1</sup>, M. Sapouna<sup>2</sup>, L. De Amicis<sup>3</sup>, T. Völlink<sup>1</sup>, F. Dehue<sup>1</sup>, I. Dimakos<sup>4</sup>, K. Priovolou<sup>4</sup>, G. Nikolaou<sup>4</sup>, R. Rosinsky<sup>5</sup>

<sup>1</sup>Open University of the Netherlands, Netherlands

<sup>2</sup>University of the West of Scotland, United Kingdom

<sup>3</sup>University of Glasgow, United Kingdom

<sup>4</sup>University of Patras, Greece

<sup>5</sup>Constantine the Philosopher University, Slovakia

**Background:** Bias-based bullying is a serious phenomenon having a negative impact on the well-being of children with socially devaluated identities or attributes. Driven by social-cognitive factors of stigma, intergroup theories and strategies are needed to tackle this form of bullying. The aim of the GATE-BULL project was to develop and evaluate a serious game and classroom lesson plan to encourage bystander intervention in weight-, ethnicity-, and religion-based bullying situations.

**Methods:** The intervention was a 4-week school-based intervention targeted at 9–13-year-olds tested using a quasi-experimental design. In total, 578 children from The Netherlands, Scotland and Greece were included in analyses. Measures on self-efficacy and intention were self-constructed; measures on intergroup anxiety and attitudes, moral disengagement, and peer norms were adapted from other research. Hypotheses were tested using MRA.

**Findings:** Results of The Netherlands show that children in the intervention group reported a more positive peer norm ( $p=.048$ ,  $d=0.40$ ); minority children reported higher confidence to defend other minority children ( $p=.010$ ,  $d=0.65$ ); and majority children reported to be less anxious towards Muslim children ( $p=.037$ ,  $d=0.41$ ). In Scotland, children reported higher intention to defend overweight children ( $p=.01$ ,  $d=.25$ ). In Greece, no effects were found.

**Discussion:** The intervention was received well by teachers and children and had some important effects on determinants of bystander behavior. The intervention was less effective in Scotland and Greece, which could be attributed to only white schools being included in the trial. The intervention shows much potential in setting a more inclusive classroom norm. However, additional research is recommended.

## Parents experience ongoing financial and employment challenges after their child has completed cancer treatment

L. Kelada<sup>1,2</sup>, C.E. Wakefield<sup>1,2</sup>, J. Vetsch<sup>1,3</sup>, D. Schofield<sup>4</sup>, U.M. Sansom-Daly<sup>1,2</sup>, K. Hetherington<sup>1,2</sup>, T. O'Brien<sup>1,2</sup>, R.J. Cohn<sup>1,2</sup>, A. Anazodo<sup>1,2</sup>, R. Viney<sup>5</sup>, M.J.B. Zeppel<sup>4</sup>

<sup>1</sup>UNSW Sydney, Australia

<sup>2</sup>Sydney Children's Hospital, Australia

<sup>3</sup>Institute for Applied Nursing Sciences IPW-FHS, University of Applied Sciences, Switzerland

<sup>4</sup>Macquarie University, Australia

<sup>5</sup>University of Technology Sydney, Australia

**Background:** Childhood cancer can have short- and long-term impacts on parents' finances and employment. It is important to understand how families adjust to the financial and employment changes caused by childhood cancer, the ongoing impacts after treatment completion, and which families need more targeted support. Qualitative research is necessary to facilitate an in-depth understanding of the financial and employment impacts on families and to capture parents' complex and nuanced experiences and perspectives.

**Methods:** We interviewed 56 parents of childhood cancer survivors (M=2.13 years post-treatment completion; 89% mothers) using the vocational and financial impact section of the Psychosocial Adjustment to Illness Scale– Carer Interview Form. We analysed interviews using descriptive content analysis.

**Findings:** Parents reported multiple sources of financial strain including travel to and from the hospital and needing to reduce their working hours during their child's cancer treatment. Workplace flexibility was an important factor to protect against unwanted employment changes. After treatment completion, families living in low socioeconomic areas commonly reported ongoing financial difficulties. Mothers, particularly those who were on maternity leave when their child was diagnosed with cancer, reported ongoing employment impacts including unemployment.

**Discussion:** Clinical staff including social workers could more consistently assess families' financial distress and refer to professional services who can offer guidance for financial decision-making as standard care. Flexible workplace agreements appear important for parents of children with cancer. Our findings can assist organizations to understand that cancer-related disruptions are likely to continue after treatment completion, and therefore should offer benefits to parents where possible.

11:53 - 12:05

## What about me? Distress and resources of siblings of chronically ill and/ or disabled persons

M. Jagla-Franke<sup>1</sup>, P. Hampel<sup>2</sup>, G.H. Franke<sup>3</sup>

<sup>1</sup>University of Applied Sciences Magdeburg-Stendal, Germany

<sup>2</sup>Europa-Universität Flensburg, Germany

<sup>3</sup>University of Applied Sciences Magdeburg and Stendal, Germany

**Background:** Growing up with a sibling with chronic illness and/ or a disability can have negative and positive consequences on the healthy sibling.

The objective of the present study is to assess retrospectively perceived distress, resources and impacts of adolescent and adult lives.

**Methods:** A mixed-methods design was used. Interviews were conducted with N=11 siblings; answers were used to develop items for a questionnaire. The questionnaire consists the scales distress, resources and impacts; the scales have a good internal consistency. N=290 affected siblings and N=290 sociodemographic parallelized persons were compared to look at these three scales.

**Results:** The 290 affected siblings and matched pairs were 30.9 years old (SD = 11.2, range 13-70), 88% were female.

Simultaneous testing of the three scales showed that the affected siblings reported significantly higher mean scores on the scales distress ( $\eta^2=0.11$ ) and resources ( $\eta^2= .01$ ).

Subgroup analyzes showed an age effect; older siblings (>35 years) had higher scores on the resources-scale ( $\eta^2=0.05$ ) than younger siblings (13-23, 24-34 years). Furthermore, it was found that the siblings of persons with disabilities (n=206) had higher values for distress ( $\eta^2=0.07$ ), resources ( $\eta^2=0.10$ ) and impacts ( $\eta^2=0.06$ ) than siblings of persons with chronic illnesses (n=84).

**Discussion:** Results clearly show that siblings of persons with chronically illness and/ or disability have significantly more distress but also resources than siblings of healthy persons. They belong to a vulnerable group and primary preventive support should be offered. For the planning of interventions, the subgroup differences shown here should be taken into account.

## Dyads' emotional responses to cancer in the COVID-19 pandemic. An actor-partner interdependence modelling approach

K. Griva<sup>1</sup>, Z. Goh Zhong Sheng<sup>1</sup>, J.X. Chia<sup>1</sup>, Z.Y. CHUA<sup>1</sup>, R.M. Ho<sup>2</sup>, K.Y. Ng<sup>3</sup>, J.Y. Ngeow<sup>1,3</sup>

<sup>1</sup>Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

<sup>2</sup>Nanyang Technological University Singapore, Singapore

<sup>3</sup>National Cancer Centre Singapore, Singapore General Hospital, Singapore

**BACKGROUND:** Cancer diagnosis and treatment negatively affect psychological outcomes for patients and their families. The compound impact of COVID-19 and cancer on dyads and interdependence of their responses to pandemic are not well understood. This study sought to examine the degree of agreement and interdependence in perceived risk, COVID-19 and cancer concerns, and anxiety, and to identify the predictors of anxiety in a dyadic context.

**METHODS:** N=176 dyads (41.5% spousal) of cancer patients (56.8% female) and caregivers (58.5% female) derived from a N=1032 cohort completed the Generalized Anxiety Disorder-7, risk perception, confidence, and a 16-item questionnaire measuring 'general COVID-19 concerns', and 'cancer-related COVID-19 concerns'. The Actor-Partner Interdependence Model (APIM) was used to determine dyadic effects and predictors of anxiety.

**FINDINGS:** Patients reported significantly higher anxiety, general COVID-19 concerns, and cancer-related concerns than caregivers ( $p < 0.01$ ). Anxiety rates (GAD-7 > 10) were significantly higher in patients [26.1% vs. 17%,  $p < 0.01$ ]. Significant correlations were noted in dyads 'general COVID-19 concerns', 'cancer-related concerns', and risk perceptions ( $p < 0.01$ ) yet levels of agreement were low (ICC=0.35-0.46). APIM analyses showed that ones' own COVID-19 and cancer-related concerns were associated with one's own anxiety [ $\beta$ s=0.42-0.53,  $p$ s < 0.01]. Significant actor effects were shown for both patients and caregivers but there were no significant partner effects.

**DISCUSSION:** Anxiety, concerns about COVID and cancer are high in patients, but there was no evidence of interdependence among dyads. To design effective cancer support interventions, more work is needed to understand the interaction between patients and caregivers and how they deal with cancer in the pandemic.

12:17 - 12:29

## Patient and Practitioner experiences of reducing antidepressant medication within the REDUCE feasibility RCT

C. Reidy<sup>1,2</sup>, S. Williams<sup>3</sup>, H. Bowers<sup>3</sup>, B. Palmer<sup>3</sup>, A. Geraghty<sup>3</sup>, G. Leydon<sup>3</sup>, C. May<sup>4</sup>, A. Kendrick<sup>3</sup>

<sup>1</sup>University of Oxford, United Kingdom

<sup>2</sup>University of Southampton, United Kingdom

<sup>3</sup>University of Southampton, United Kingdom

<sup>4</sup>London School of Hygiene and Tropical Medicine, United Kingdom

**Background:** GPs in England prescribe more than 70 million antidepressant prescriptions a year, to 1-in-10 adults. Some people need long-term antidepressants but 30-50% could possibly stop them without relapsing. However, patients can be fearful and cessation can be difficult. Work Stream 4 of the REviewing long term antiDepressant Use by Careful monitoring in Everyday practice (REDUCE) programme aims to test feasibility of an RCT of web-based interventions and telephone calls to support practitioners and patients to taper antidepressants.

**Method:** Semi-structured qualitative interviews were conducted with 18 patients and 10 health professionals, transcribed and analysed using thematic analysis and Normalisation Process Theory (NPT).

**Findings:** Responses to the study and recruitment methods were positive. Practitioners reported that time and some study processes were barriers to recruitment. Patients reported that involvement provided more confidence to stop antidepressants through opportunities to reflect and improve self-awareness. REDUCE appears to offer acceptable guided support for tapering antidepressants.

**Discussion:** The findings have enhanced understanding of the perspectives of people trying to taper anti-depressants and practitioners supporting. NPT analysis informed necessary changes to the complex intervention and streamlined the recruitment process and implementation of this complex intervention for the full REDUCE RCT.

# Understanding and promoting behaviour change

11:05 - 12:35

Gjalt-Jorn Ygram Peters

11:05 - 11:17

## Effects of calorie labeling, motivation and habits on items selected from a coffee shop menu

K. Tapper<sup>1</sup>, K. Yarrow<sup>1</sup>, S. Farrar<sup>1</sup>, K. Mandeville<sup>2</sup>

<sup>1</sup>City, University of London, United Kingdom

<sup>2</sup>London School of Hygiene and Tropical Medicine, United Kingdom

**Background:** In the UK, large restaurants, takeaways and cafes will soon be required to display calorie information on their menus. We explored the effects of calorie labeling, motivation and habits on the calorie content of items selected from a coffee shop menu. Informed by pilot work, labeling was expected to lead to the selection of higher calorie items, with stronger effects among those with (a) weaker habits and (b) lower motivation.

**Methods:** Participants (n = 300, 64% female) were presented with a calorie labeled or non-calorie labeled menu and asked to select the item(s) they would like to purchase. Coffee shop drinking habits and motivation for eating healthily/watching weight were also measured.

**Findings:** There was no main effect of labelling on total calorie content of items selected (M = 554 kcal in both conditions) but labelling was significantly moderated by motivation (p = .048), with a trend toward the selection of lower calorie items among those in the labelled condition who were more motivated and a trend in the opposite direction among those who were less motivated. Those with higher motivation were also more likely to correctly recall the presence/absence of calorie information. Participants with weaker habits took longer to select items but were not more influenced by labelling.

**Conclusions:** Contrary to policy objectives, consumers may use calorie labels as markers of taste and/or the extent to which foods are likely to satisfy hunger, leading to higher intakes amongst certain groups. This highlights the importance of context in policy implementation.



## Physical activity in short breaks: Effects on cognition and potential for implementation in students' life

M. Niedermeier<sup>1</sup>, L. Steidl-Müller<sup>1</sup>, M. Kopp<sup>1</sup>

<sup>1</sup>Department of Sport Science, University of Innsbruck, Austria

**Background:** To prevent sitting-induced decline in cognition, restorative breaks are necessary. The activity during the breaks should be beneficial for cognition and show characteristics that favor implementation of the activity in students' everyday life. Therefore, the aim of the present study was to investigate the effect of a short physical activity intervention on cognition and behaviorally important variables (affect, perceived efficacy).

**Methods:** Using a within-subject crossover design, 15 students completed a ten-minute running bout indoors and a sitting bout with equal duration (washout: one week). The basal cognitive domain of visual attention was assessed post-intervention using a modified trail making test. Statistical analyses included analyses of variances.

**Findings:** Visual attention showed a significantly higher attention after the physical activity bout compared to the sitting bout,  $p=.028$ , part.  $\eta^2=0.32$ . Perceived attention showed a significantly stronger pre-post increase after the physical activity bout compared to the sitting bout,  $p=.048$ , part.  $\eta^2=0.19$ . No significantly different changes in affective valence were found between conditions,  $p=.669$ , part.  $\eta^2=0.03$ .

**Discussion:** The findings suggest a transient positive effect of the physical activity bout on cognition, revealing the potential to use physical activity bouts intentionally prior to cognitively challenging study tasks. The findings on the variables connected to behavior suggest a limited potential of the physical activity bout used (running indoors) for implementation in students' everyday life. From a behavioral perspective, self-selected physical activity modality and intensity should be considered to potentially increase affective valence during short break behavior.

11:29 - 11:41

## Energy labelling and availability interventions to promote healthier food choice across socioeconomic position

E. Robinson<sup>1</sup>, A. Jones<sup>1</sup>, L. Marty<sup>2</sup>

<sup>1</sup>University of Liverpool, United Kingdom

<sup>2</sup>Centre des Sciences Du Goût et de l'Alimentation, Agrosup Dijon, CNRS, INRAE, Université Bourgogne Franche-Comté, France

**Background:** It is unclear whether the effectiveness of different types of public health interventions on food choices differs based on socioeconomic position (SEP). However, there is concern that information provision interventions (e.g. food labelling) may benefit higher SEP groups more so than lower SEP groups.

**Methods:** Across three online experiments, 4733 participants of lower and higher SEP made food choices in virtual environments (fast-food outlet, full-service restaurant, online supermarket). Participants were randomised into four conditions in a 2x2 between-subjects design: energy labelling present vs. absent and increased availability of lower energy options vs. baseline availability. Participants also completed measures of health motivation.

**Findings:** Increasing availability of lower energy options reduced energy ordered at fast food: -71 kcal (-7.6%,  $p < 0.001$ ), restaurant: -129 kcal (-13.5%,  $p < 0.001$ ) and supermarket: -17 kcal (-6.4%,  $p < 0.001$ ) settings. Labelling had a significant effect at restaurant: -29 kcal (-3.2%,  $p < 0.001$ ) and supermarket: -4.2 kcal (-1.6%,  $p = 0.024$ ), but no effect at fast food: -18 kcal (-2.0%,  $p = 0.145$ ) settings. Effectiveness of intervention types was not dependent on SEP, but individual differences in health motivation did moderate the impact of energy labelling.

**Discussion:** We found no convincing evidence that increasing the availability of lower energy options or energy labelling benefitted people of lower vs. higher SEP differentially. However, we found some evidence that the beneficial effects of information provision interventions (e.g. food labelling) may primarily be observed among those already motivated by health when making dietary choices.

11:41 - 11:53

## A training of implementers for a nutrition-related health promotion intervention

I. Schröder<sup>1</sup>, A. Westbrock<sup>1</sup>, R. Oliva Guzmán<sup>1</sup>, P. Lührmann<sup>1</sup>, B. Dohnke<sup>1</sup>

<sup>1</sup>PH Schwäbisch Gmünd University of Education, Germany

### Background:

This study examines the effects of a one-day advanced training to train pedagogical professionals in nutrition education for kindergarten and primary school children. The training is the core of the Ich kann kochen! (I can cook) initiative, one of Germany's largest initiatives to promote food literacy and a joyful food experience among children through hands-on nutrition education. According to the Basic Psychological Need Theory, it is assumed that for the implementation of nutrition education the participants' intrinsic motivation is central and strengthened by supportive behaviors of the trainers.

### Methods:

At the end of the one-day training, the participants completed a paper-pencil survey (N = 1298). The questionnaire included scales of perceived autonomy, competence, and relatedness support by the trainer, the intrinsic motivation to cook with children and expectations regarding the upcoming implementation (self-efficacy, efficacy expectation, implementation expectation).

### Findings:

The participants felt supported by their trainer, were highly motivated and reported high expectations regarding the implementation. Mediator analyses showed that the positive effects of perceived autonomy and competence support on implementation-related expectations were mediated by intrinsic motivation. The effects of relatedness support were less significant.

### Discussion:

The one-day training releases the participants with high levels of motivation and expectations to be able to implement hands-on nutrition into practice. The analyses showed the important role of supportive behaviors of the trainer. The selection and training of trainers are thus of crucial importance for the effectiveness of health promotion interventions.

11:53 - 12:05

## Party Panel: Mapping the Determinants of Nightlife-related Risk Behaviors

G.Y. Peters<sup>1</sup>, J. Noijen<sup>2</sup>

<sup>1</sup>Open University of the Netherlands, Netherlands

<sup>2</sup>Jellinek Preventie, Netherlands

Nightlife patrons are exposed to a variety of risks, such as hearing damage, binge drinking, transgression of sexual boundaries, and use of illicit substances. Accordingly, prevention organisations that develop behavior change interventions need determinant studies to enable them to target relevant (sub-)determinants of behavior. However, in the Netherlands, they often lack the expertise and resources to conduct these. To address this, we set up an annual semi-panel study in Dutch nightlife settings that leverages a network of prevention organisations, knowledge centers, festival organisers, and venue owners to map the determinants of a variety of nightlife-related risk behaviors. Specifically, the focal behaviors were using a high dose of MDMA (2015; N=868); visiting a nightlife first-aid venue and escorting a friend to the first-aid (2016; N=1124); bringing, buying, and wearing earplugs (2017; N=956); three behaviors relating to sexual boundary transgressions during flirting (2018; N=898); and sleeping hygiene surrounding nightlife participation (2019; N=903). In each round, two preparatory rounds to establish focal behaviors and elicit sub-determinants (construct content, e.g. beliefs) were followed by questionnaires where the Reasoned Action Approach was applied to measure the target behavior determinants. We will present results from these five waves, highlighting interesting patterns in the identified determinant structures. In addition, we will present the knowledge translation efforts we made to inform intervention developers at prevention organisations. We conclude by reflecting on obstacles to realising theory- and evidence-based intervention development in a situation where the organisations tasked with intervention development often lack the resources to employ behavior change professionals.

12:05 - 12:17

## Design of financial incentive programmes for smoking cessation: A discrete choice experiment

R. Breen<sup>1</sup>, M. Palmer<sup>1</sup>, M. Frandsen<sup>1</sup>, S. Ferguson<sup>1</sup>

<sup>1</sup>University of Tasmania, Australia

**Background:** Negative health consequences of smoking are well known. Financial incentive programmes promote smoking cessation. However, the incentive amount which should be provided – and how this may interact with other programme characteristics – is unknown. The objective of this study was to evaluate the influence of the design of incentive programmes on current smokers' perceptions of programmes and willingness to enrol.

**Method:** An online discrete choice experiment was conducted with adult current smokers residing in the United Kingdom (N = 430). Hypothetical incentive programmes were described using five attributes (incentive amount, incentive type, frequency of sessions, reward schedule, programme location). Participants responded to a series of choice sets comprised of two hypothetical programmes. For each set, participants selected their preferred programme, then indicated whether they would enrol in their preferred programme. The effect of participant income on preferences was additionally considered through mixed logit models.

**Findings:** Participants preferred higher amounts over lower amounts, cash over vouchers, healthcare settings over workplaces, and consistent amounts over an escalating schedule. One session per week was the most preferred session frequency. Willingness to enrol increased quadratically with the incentive amount, although this increase slowed for higher amounts. Although middle- and high-income smokers preferred slightly higher amounts (cf. low-income participants), hypothetical enrolment did not differ by income.

**Discussion:** The characteristics of incentive programmes influence smokers' willingness to enrol. Higher amounts may encourage greater enrolment rates, but there will likely be a ceiling point beyond which increasing the incentive amount does not meaningfully increase enrolments.

12:17 - 12:29

## Understanding men who have sex with men's willingness to participate in a plasma donation program

E. Vesnaver<sup>1,2</sup>, M. Goldman<sup>3</sup>, T. Butler-Foster<sup>3</sup>, S. O'Brien<sup>3</sup>, D. Lapierre<sup>3</sup>, A. Rosser<sup>4</sup>, P. MacPherson<sup>5</sup>, J. Otis<sup>6</sup>, D. Devine<sup>3</sup>, J. Pesseau<sup>1</sup>

<sup>1</sup>Ottawa Hospital Research Institute, Canada

<sup>2</sup>University of Ottawa, Canada

<sup>3</sup>Canadian Blood Services, Canada

<sup>4</sup>Andrew Rosser Consulting, Canada

<sup>5</sup>The Ottawa Hospital, Canada

<sup>6</sup>Université du Québec à Montréal (UQAM), Canada

**Background:** Canada is considering reducing restrictions to plasma donation by gay, bisexual and other men who have sex with men (gbMSM) who have been excluded from blood and plasma donation since the 1980s. Such a change may encourage a new population to donate while making progress on an issue viewed as discriminatory by LGBTQ+ communities. We aimed to investigate how gbMSM's views on current and proposed plasma donation policies may affect their willingness to donate in the future.

**Methods:** We invited gbMSM to participate in two consecutive semi-structured interviews to explore their views on blood and plasma donation policy, plasma donation, and the proposed Canadian plasma donation program for gbMSM. Interview transcripts were analysed thematically guided by the Theoretical Domains Framework (TDF) and the Theoretical Framework of Acceptability (TFA).

**Findings:** Seventeen men identifying as gay, bisexual, or as having sex with men participated in 33 interviews. The proposed screening processes were viewed as discriminatory. Acceptability of the proposed program was a key environmental barrier to donation intention in this population. This was influenced by the perceived high opportunity costs of putting aside one's values of fair treatment for oneself and one's community and associated negative emotions in order to participate in the proposed program and donate plasma.

**Conclusions:** Findings highlight the blood ban in Canada as a unique and critical part of the context of donation behaviour among gbMSM. Combining the TDF and TFA enabled connections between beliefs and emotions about donation within the broader social and environmental context.

# Health at work: Occupational health psychology

11:05 - 12:35

Jo Hart

11:05 - 11:17

## Self-determination theory at work: A complexity-focused EMA study of motivational regulations and basic psychological needs

K. Knittle<sup>1</sup>, M.T. Heino<sup>1</sup>, K. Hogenelst<sup>2</sup>, M. Gagne<sup>3</sup>, N. Hankonen<sup>1</sup>

<sup>1</sup>University of Helsinki, Finland

<sup>2</sup>TNO, Netherlands

<sup>3</sup>Curtin University, Australia

**Background:** Self-determination theory posits that the fulfillment of basic psychological needs (autonomy, competence and relatedness) leads to more autonomous forms of motivation (i.e. regulatory style) and improved well-being. To date, SDT research has primarily relied on group-level data to examine relationships between these variables. This study investigated how well these relationships hold at the within-persons level, and how stable they remain over time.

**Methods:** During the six-week study period, public-sector human resources professionals (n=19) completed ecological momentary assessment measures of basic psychological need satisfaction and regulatory style in relation to their current work tasks five times during each working day. Network analyses investigated within-persons relationships between basic psychological needs and autonomous and controlled forms of motivation. Rolling time window networks, recurrence quantification analyses and multiplex recurrence networks assessed stability and direction of relationships over time.

**Findings:** The associations hypothesized by SDT did not materialize within all participants, and SDT seemed to fit the data better at some time points than others. The link between autonomy need satisfaction and autonomous motivation was the most consistent across participants. Temporal associations between need satisfaction and regulatory style indicated that need satisfaction does not uniformly precede regulatory style as suggested by SDT.

**Discussion:** While collecting long time series data can present logistical and acceptability-related challenges, the within-persons analyses such data afford can uncover nuances within theoretical paradigms. This research will be extended to investigate potential moderators of the stability of SDT's main hypotheses.



11:17 - 11:29

# Using Ecological Momentary Assessment to Examine Work Stress Predictors of Fatigue in Teachers

T. McIntyre<sup>1</sup>, S. McIntyre<sup>2</sup>, D. Francis<sup>1</sup>, C. Barr<sup>3</sup>

<sup>1</sup>University of Houston, United States

<sup>2</sup>University of Houston Clear Lake, United States

<sup>3</sup>Rice University, United States

**Background:** This study applied the Job-Demands-Control-Support (JDCS) Model to examine predictors of teacher fatigue using Ecological Momentary Assessment (EMA). The JDCS model's iso-strain and buffer hypotheses were tested.

## METHODS

**Participants:** 202 middle school 6th- 8th grade core course teachers participated: 77% were female, mean age was 40.8 (SD= 11.2).

**Design:** Study design is prospective and longitudinal (2-years/6-waves).

**Measures:** Demographic-professional characteristics and negative affectivity (survey) were covariates for model testing. Work stress (EMA) was measured using a validated iPod-based Teacher Stress Diary consisting of 61 short items with visual analogue scale (0-100, "Not at all" to "Very"). JDCS conditions and fatigue were assessed for Fall (3-days), Winter (1-day) and Spring (2-days).

**Analyses:** Multivariate/semi-parametric mixed effects models were used to model within/between-teacher variability in EMA data. For independent effects (Model 1), fatigue was predicted by covariates, time scales (year/season/day/hourly) and JDCS variables. For the buffer hypothesis, the interaction effects of JD\*C, JD\*S, JD\*C\*S were added to Model 1.

**Findings:** Teachers reported high/stable levels of fatigue with significant daily variations. The independent effects of JDCS predictors on fatigue were supported using EMA data (p range: <.05 to <.0001). Higher demand and lower control and support predicted higher fatigue. Moderator effects were not confirmed. Total variance explained by the JDCS model on fatigue was 13% (15% between-person; 11% within-person).

**Discussion:** The JDCS model was useful in explaining work-related fatigue across teachers and time changes within-teachers. EMA findings can guide further research on work stress recovery, inform job redesign and worker health interventions for teachers.

## Unmet work expectations and actual turnover among homecare professionals in Belgium

A. Casini<sup>1</sup>, D. Desmette<sup>1</sup>, P. Mélotte<sup>1,2</sup>, F. Degavre<sup>1</sup>

<sup>1</sup>Université catholique de Louvain - UCLouvain, Belgium

<sup>2</sup>Université libre de Bruxelles - ULB, Belgium

**Background:** The Organizational Model of Employee Persistence states that turnover decision occurs when the employees' initial expectations in terms of work quality, social relationships, values, career development, or work-family balance are not met in the reality. The aim of this study was to explore the mediating role of unmet expectations in the relationship between poor well-being at work due to adverse work conditions and the actual decision to quit the job.

**Methods:** The dataset comprises longitudinal data on 642 Belgian homecare workers (Women = 578, age-range = 20-64). Work conditions (i.e., quantitative and emotional demands, social support), well-being (i.e., self-reported stress at work, burnout, MSD), and the (un)met expectations at work were measured at time 1 and actual turnover was recorded at time 2 (i.e., one year later). Multiple linear regressions were performed to examine the association between work conditions and well-being. SPSS PROCESS (v3.5) macro was used to test 3 separate mediational models (bootstrap method) in which stress at work or burnout or MSD are the IV, the actual turnover is the DV and the unmet expectations score is the mediator.

**Findings:** Results show that adverse work conditions are strongly associated with poor well-being at work (all  $p < .001$ ). Moreover, unmet expectations fully mediate the links between stress at work (95% CI = .07-.47), burnout (95% CI = .01-.45), MSD (95% CI = .01-.18), and the actual decision to quit the job.

**Discussion:** To improve working conditions, organizations should prioritize policies according to employees' expectations to keep them at work.

11:41 - 11:53

## Does mental workload mediate the expression of physical disorders in workers exposed to ICTs?

M. Soria-Oliver<sup>1</sup>, J. López<sup>1</sup>

<sup>1</sup>Public University of Navarre, Spain

**Background:** The growing use of Information and Communication Technologies (ICTs) in work settings has relevant impact on workers' health. Relationships between ICTs exposition and health indicators appears complex and current theoretical approaches put on evidence the potential mediation role of psychological and organizational variables in the relationship between ICTs use and physical diseases. The objective of this study was to analyse the potential mediation effect of a specific psychological construct, Mental Workload, in the relationship between exposure to ICTs and the expression of musculoskeletal disorders (MSD).

**Methods:** Cross-sectional design by means of application of an on-line questionnaire to an intentional sample of 1051 workers of Spanish organizations. Main measures included socio-demographic data, average daily usage time of ICTs at work, Mental Work Load (ESCAM) and MSD incidence (Nordic Musculoskeletal Questionnaire). Regression-based mediation analysis was performed by means of PROCESS software with bootstrapping effect estimation.

**Findings:** Mental Workload yields relevant direct effects on MSD: direct standardized effect (DSE)= ,34;  $p < ,001$  for shoulders pain; DSE= ,37;  $p < ,001$  for neck pain and DSE=,41;  $p < ,001$ ). It also shows to be a weak but significant mediator of the relationship between average daily use of ICTs and MSD: indirect standardized effect (ISE) =,05;  $p < ,05$  for neck pain; ISE=,05;  $p < ,05$  for shoulders pain and ISE=,06; $p < ,05$  for head pain..

**Discussion:** Though results should be interpreted with caution, due to the cross-sectional nature of the study, our work supports the relevant role that psychological processes could have in the appearance of physical symptoms in workers exposed to ICTs use.

11:53 - 12:05

# Changes to work practices and incidental health behaviours among home-workers during the UK COVID-19 lockdown

S. Keightley<sup>1</sup>, M. Duncan<sup>1</sup>, B. Gardner<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

## Background:

The Covid pandemic led many usually office-based workers to work from home, and also had negative effects on physical activity and sedentary behaviour. This qualitative study examined whether and how changes in work practices among home-workers may have affected health-related behaviours during the UK lockdown of Spring 2020.

## Methods:

Twenty-seven full-time, normally-office-based employees (19 female, 8 male; age range: 23-57y) who were working from home due to lockdown, participated in semi-structured interviews during the first UK lockdown. Topics focused on experiences of home-working, adaptations of working routines, and changes in health behaviours. Verbatim transcripts were thematically analysed.

## Results:

Four themes were extracted, each reflecting a form of modification to work practices that affected health-related behaviours: (1) social connectivity, (2) the work interface, (3) work-life balance, and (4) physical and psychological organisation of workspace. For example, the predominance of computer-based communication, and the removal of ad-hoc in-person work interactions, reduced physical movement and prolonged sitting, whilst removing potential cues to take breaks from seated screen time. Discontinued exposure to events that demarcate work and leisure activities appeared to cause difficulties 'switching off' from work leading to potential issues with sleep. The homeworking environment also appeared to impact dietary behaviours via increased physical proximity to food.

## Conclusions:

Our results highlight the importance of identifying how the pursuit of achieving home-working goals incidentally impact various health-related behaviours. Employers may benefit from encouraging home workers to engage in work practices that were identified to be compatible with positive health-related behaviours.

12:05 - 12:17

# Health and wellbeing of rotation workers in the resources and construction industry: a systematic review

B. Asare<sup>1,2</sup>, D. Kwasnicka<sup>3,4</sup>, D. Powell<sup>2</sup>, S. Robinson<sup>1</sup>

<sup>1</sup>Curtin University, Australia

<sup>2</sup>University of Aberdeen, United Kingdom

<sup>3</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>4</sup>University of Melbourne, Australia

**Background:** Globally, rotation work arrangements characterised by intermittent presence and absence of a worker from home are increasingly practised in the resources and construction sectors. This systematic review explored the impact rotation work has on mental and physical outcomes in rotation workers in the resource and construction sectors.

**Method:** Systematic searches in PubMed, Medline, EMBASE, CINAHL, PsycINFO, and Scopus databases were conducted on 1st May 2020 to select studies that examined the health of rotation workers. The quality of studies was assessed using the JBI appraisal checklist and review reported in line with the PRISMA guideline. Findings were summarized narratively.

**Findings:** Ninety studies were included in the review. Rotation workers experience higher psychological distress, suicide risk, and overweight/obesity than in the general population; more sleep problems and fatigue, high rates of smoking and poor nutrition during work periods; and high alcohol intake during off-site days. Rotation workers complain of more musculoskeletal problems but generally perceive physical health status as good and engage in leisure-time physical activity. Factors underpinning health issues in rotation workers generally pointed to the job demands and job resources of rotation work lifestyle.

**Discussion:** Rotation work appeared to be associated with several health-related challenges. Further studies should explore the long-term effects of rotation work on health, and the short-term contextual effects of different aspects of rotation work. Strategies including reducing the job demands and increasing available job resources for workers, and reducing job stress could help in improving the health outcomes of rotation workers.

12:17 - 12:29

## WORKSHOP wonders: The personal benefits of leading on Community Men's Sheds in Western Europe

A. Wood<sup>1</sup>, M. Day<sup>1</sup>, C. Heaney<sup>2</sup>, C. Bescoby<sup>3</sup>, S. Commerman<sup>1</sup>, J. van der Kooij<sup>1</sup>, A. Isbled<sup>1</sup>, K. John<sup>1</sup>, M. Sitch<sup>4</sup>, R. Lowry<sup>5</sup>

<sup>1</sup>University of Chichester, United Kingdom

<sup>2</sup>University of Highlands & Islands, United Kingdom

<sup>3</sup>University of Bath, United Kingdom

<sup>4</sup>University of Gloucester, United Kingdom

<sup>5</sup>University of Essex, United Kingdom

As men transition into retirement, personal vulnerabilities are often triggered, including loss of activity, interaction, and purpose, negatively impacting health. Community Men's Sheds facilitate holistic health benefits via male-centred, social spaces. Yet, research tends to focus on Member accounts, neglecting Leader narratives regarding their experiences undertaking the role. This paper outlines details of the Leader role, pivotal Shed operational processes, key community relationship formation, and how the role impacts Leader health and wellbeing. Data derives from Sheds adopting the new EU Step-by-Step (SBS) Project Delivery Model.

37 Leaders from 25 Men's Sheds (UK, France, Belgium and Netherlands) completed a semi-structured interview regarding Shed operations, structures, activities, and experiences. Data was analysed using thematic analysis.

Fundamental Leader duties included managing finances, facilitating workshops, organising Shed activities, promotional campaigns, and supporting Member wellbeing via peer-support. Sheds connected with a variety of community services, typically to undertake work or for signposting. Shed purpose included supporting the community and offering a social outlet, generally funded by grants and/or membership fees, meeting 2-3 times-a-week for 4 hours. Leaders felt a sense of identity and achievement from managing, plus perceived improvements to mental health and wellbeing gathered from seeing the Shed thrive and supporting others.

The present study offers greater insight into Shed operations and how they are managed within a European context, including a variety of management structures. The Shed Leader role affords Leaders comparable health and wellbeing benefits as those attending Sheds, with working-life similarities free of pressures, and an opportunity to help others.

# Methodology

11:05 - 12:35

James Green

# Bridging the qualitative and quantitative with Epistemic Network Analysis: a worked example

S. Zorgo<sup>1</sup>, G.Y. Peters<sup>2</sup>, A.R. Ruis<sup>3</sup>

<sup>1</sup>Semmelweis University, Hungary

<sup>2</sup>Open University of the Netherlands, Netherlands

<sup>3</sup>University of Wisconsin–Madison, United States

## Background:

Our pilot study explored cognitive patterns in patient decision-making regarding therapy choice (biomedicine/non-conventional medicine/both). Measuring decision-making processes and outcomes in healthcare is a significant challenge. In this study, we present a novel approach, Epistemic Network Analysis (ENA), that enables the quantitative modeling of qualitative interpretation at scale by analyzing the structure of connections among decision-making elements in coded patient interviews.

## Methods:

Semi-structured interviews were conducted with patients (N=26) selected via non-proportional quota sampling in Budapest, Hungary. Deductive coding, derived from a previous exploratory study, and segmentation were performed manually with the Reproducible Open Coding Kit (ROCK); ENA software calculated code co-occurrences in narrative segments and generated networks.

## Findings:

Employing the ROCK allowed our entire coding and segmentation process to be transparent and reproducible. We used the ROCK to create a qualitative data table, which contained coding and segmentation in binary form, as well as participant attributes (e.g., demographics, therapy choice, type of illness). We examined network visualizations in a variety of subgroups based on patient attributes.

## Discussion:

ENA enables visual inspection of quantified qualitative data through network graphs, while simultaneously allowing for the statistical comparison of individuals and groups in the network model. This method moves beyond existing ways of quantifying narratives (e.g., content analysis) by retaining a focus on meaning in big data. Both the ROCK and ENA maintain direct connections between the original qualitative data and computational representations of it, facilitating hermeneutic integration.



11:17 - 11:29

## People as interconnected systems: What health psychology can learn from complexity theory

M. Heino<sup>1</sup>

<sup>1</sup>University of Helsinki, Finland

**Background:** A plethora of scientific disciplines have recently been converging in terms of principles underlying the development and maintenance of living systems. After having discovered the importance of temporal processes and problems inherent in the assumptions of traditional methods, N-of-1 approaches have been advocated in health psychology to understand how behaviour changes. Data generated by such studies can be used to examine, whether systems under study in health psychology display principles discovered in other fields.

**Methods:** Literature on complexity theory was reviewed. In addition, 20 participants were beeped five times daily, answering between 31 and 2554 questionnaires, each containing nine dimensions of self-determined motivation. Assumptions regarding the data generation mechanism were investigated by a set of 12 tests.

**Findings:** Time series display markers of complexity and questionable amenability to traditional data analysis methods: stationarity of levels was rejected in 13%-100% of time series recorded, stationarity of trends in 11%-100%, and linearity in 48%-89% of time series.

**Discussion:** Empirical data corroborates the perspective where a person is seen as an interconnected, non-ergodic system which displays non-linear behaviour sub-optimally amenable to traditional methodologies. These features has important implications from idiographic science to risk management in pandemics – including behavioural science based advice for governments.

# Funnel plots of patient-reported outcomes (PROs) to evaluate healthcare quality: basic principles, pitfalls and considerations

E.M. van der Willik<sup>1</sup>, E.W. van Zwet<sup>1</sup>, F.J. van Ittersum<sup>2</sup>, M.H. Hemmelder<sup>3, 4</sup>, F.W. Dekker<sup>1</sup>, Y. Meuleman<sup>1</sup>

<sup>1</sup>Leiden University Medical Centre, Netherlands

<sup>2</sup>Amsterdam University Medical Centres, Netherlands

<sup>3</sup>Nefrovisie Foundation, Netherlands

<sup>4</sup>Medical Centre Leeuwarden, Netherlands

## Background:

A funnel plot is a graphical method to evaluate healthcare quality by comparing hospital performances. Particularly clinical outcomes like mortality and complications are used. However, patient-reported outcomes (PROs; e.g. health-related quality of life [HRQOL]) are becoming increasingly important and should be incorporated into this quality assessment. Understanding of underlying methods and challenges is needed to ensure correct comparison. Therefore, we will provide insight into the use and interpretation of funnel plots by presenting an overview of basic principles, pitfalls, methodological challenges and considerations when applied to PROs.

## Methods:

Data on PROs (HRQOL [SF-12] and symptom burden [Dialysis Symptom Index]) from the Dutch renal registry are used to illustrate and explain underlying concepts and interpretation of funnel plots.

## Findings:

Funnel plots provide insight into hospitals' performances by comparing the observed outcome to the outcome expected based on a reference population. Hospitals may be considered as under- or overperforming when exceeding certain control limits. Advantages of funnel plots include: clearly visualized precision, detection of volume-effects and discouragement of ranking hospitals. Pitfalls include: overinterpretation of standardized scores, incorrect direct comparisons and assuming a hospital is in-control based on under-powered comparisons. Furthermore, application to PROs is accompanied with additional challenges related to the data collection and multidimensional nature of PROs.

## Discussion:

Funnel plots are suitable for meaningful hospital comparison. However, optimal application to PROs requires high and consistent response rates, adequate case mix (i.e. patient population characteristics) correction and good psychometric properties of PRO-measures.

11:41 - 11:53

## Evaluation of a novel method to validate Clinical Outcome Assessments for rare diseases

K.S. Vogt<sup>1,2</sup>, A. McNeill<sup>2</sup>, G. Jones<sup>3</sup>

<sup>1</sup>The University of Huddersfield, United Kingdom

<sup>2</sup>The University of Sheffield, United Kingdom

<sup>3</sup>Leeds Beckett University, United Kingdom

**Background:** Patients with rare diseases report and experience serious unmet needs (including assessment of health status, functioning) in health care, due to complexity and low prevalence. One such rare, complex disease is Wolf-Hirschhorn syndrome (WHS); clinical features of which include epilepsy, heart defects, cognitive impairment and gastrointestinal symptoms. Using Clinical Outcome Assessments (COAs) in clinical practice can bridge some of these inadequacies by ensuring appropriate patient assessments. However, developing COAs for rare diseases presents with unique methodological challenges, especially when assessing measurement properties, due to small number of patients rendering the majority of psychometric analyses impossible/ineffective.

**Methods:** Following an interview study with caregivers of patients and a consensus study with international clinical experts on WHS, the COA was developed. Problems were encountered at psychometric validation due to lack of patients. To address this, a novel approach to scale validation was developed: utilising vignettes (n=5) with pre-formulated hypotheses to assess measurement properties (accuracy, reliability and construct validity) and a sample of medical professionals (n = 91).

**Findings:** Using this novel approach to scale development/validation enabled measurement properties of the WHS-COA to be assessed. Results indicate moderate to good reliability and high levels of construct validity. Participant comments revealed good acceptability of the COA but emphasise the artificial context/situation of using vignettes.

**Discussion:** It was demonstrated that integrating and combining interdisciplinary methods can further the development of COAs for rare diseases and enhance patient care. Future work must address the artificial situation of using vignettes and the assessment of criterion-related validity.

# Characteristics of systematic reviews based on their overall confidence ratings on AMSTAR2: A cross-sectional study

K.K. De Santis<sup>1</sup>, M. Lakeberg<sup>1</sup>, K. Matthias<sup>2</sup>

<sup>1</sup>Leibniz Institute for Prevention Research and Epidemiology- BIPS, Germany

<sup>2</sup>University of Applied Sciences Stralsund, Germany

## Background

Confidence in the results of most systematic reviews (SRs) of various healthcare interventions is critically low according to a 16-item 'A Measurement Tool to Assess Systematic Reviews' (AMSTAR2). We aimed to investigate the characteristics of SRs of interventions for mental or neurological disorders rated with AMSTAR2.

## Methods

**Design/Participants.** Our cross-sectional study was conducted using 25 overviews of SRs selected by two authors from a title/abstract search for 'AMSTAR2' in Medline, Epistemonikos and CINHAL till 01.2021. All overviews reported the overall confidence ratings (high, moderate, low, critically low) based on seven critical and nine non-critical items.

**Measures/Analysis.** Two authors coded the data independently and reached consensus during discussion. SR characteristics (Cochrane-status, randomised controlled trial (RCT)-status and publication after AMSTAR2 release in 2017) stratified by the overall confidence ratings on AMSTAR2 were analysed using descriptive statistics.

## Findings

The 25 overviews included 380 SRs of non-pharmacological (23/25) or pharmacological (2/25) interventions for mental (16/25) or neurological (9/25) disorders. The overall confidence in 380 SRs was high (22; 6%), moderate (15; 4%), low (78; 20%) or critically low (265; 70%). SRs rated 'high' were mostly Cochrane (77%), included only RCTs (91%) and were published before AMSTAR2 (82%). SRs rated 'critically low' were mostly non-Cochrane (98%), included only RCTs (81%) and were published before AMSTAR2 (80%).

## Discussion

Cochrane SRs fulfil AMSTAR2 criteria for high confidence ratings, while RCT-status is not related to such ratings. SRs published after 2017 provide low-quality of evidence indicating that methods training and better adherence to reporting guidelines is required.

12:05 - 12:17

## Hybrid systematic review for network meta-analysis: the good, the bad and the ugly

F. Doyle<sup>1</sup>, M. Dempster<sup>2</sup>

<sup>1</sup>Royal College of Surgeons in Ireland, Ireland

<sup>2</sup>Queen's University, Belfast, Ireland

**Background:** Network meta-analysis (NMA) allows direct and indirect comparison of competing treatments, such as behavioural, psychological and pharmaceutical, and is increasingly popular. This paper introduces the hybrid systematic review technique, which aims to enable more efficient conducting of NMAs. We also explore its weaknesses.

**Methods:** NMA of treatments for depression in people with CAD will be used to illustrate the approach (33 randomised trials of 7240 participants). The hybrid approach combines the traditional systematic review (and meta-analytic) and umbrella review methods, relying mainly on already-published systematic reviews for obtaining literature, trial effect estimates and risk of bias ratings.

**Findings:** The hybrid approach significantly reduced the number of abstracts that were reviewed (e.g. >1100 fewer from Medline alone). In contrast to original plans, accessing of individual randomised trials, instead of meta-analytic summary estimates, was still required to obtain appropriate effect sizes. Where trial results were insufficiently reported, combined trial data and meta-analytic estimates allowed for appropriate effect size calculation. Publication of an updated Risk of Bias 2 tool, along with conflicting ratings in prior systematic reviews, also meant that already-conducted bias appraisals could not be adopted, although these still informed the updated ratings.

**Discussion:** NMA provides vital information for clinicians and policy makers, but traditional systematic review approaches require substantial research burden. The hybrid approach reduces duplication of effort and provides a viable mechanism to conduct NMA in a more efficient manner.

12:17 - 12:29

## Null Hypothesis Significance Testing (NHST) and its prerogatives: an epistemological reflection for Health and Science

J. Stringo<sup>1</sup>, F. Brivio<sup>1</sup>, N. Palena<sup>1</sup>, R. Capelli<sup>1</sup>, M. Todaro<sup>1</sup>, A. Greco<sup>1</sup>

<sup>1</sup>University of Bergamo, Italy

The theme of research and production of new knowledge is surely a very interesting, yet complex, argument. Literature, research manuals and experiences from researchers highlight that the main trend present in contemporary studies is to “publish or perish”. Such tendency means that, usually, a paper gets published only if the results are confirming the proposal (publication bias). That is an unfortunate trend, especially because in the negative results there may be some precious pieces of information. In fact, the opinion expressed by the following work, supported by many authors, is that in such apparent failures are present a huge amount of other precious and scientific data: many of the most important medicine and health discoveries came from initial failures accidentally and luckily salvaged (e.g., penicillin and chemotherapy). According to Karl Popper and the scientific epistemology of Kuhn, Lakatos, Feyerabend among others, the falsification, progression of scientific revolutions or paradigms conversions are constructive processes that brings with them the true knowledge. Thereon, what we can call “failed falsification” – or negative corroboration – in the actual scientific perspective is not deemed worthy of being considered.

Different authors even underline how that practice of NHST is unfit especially for psychological discipline, criticising the problem of the cumulative science ripened in a hypothesis-testing repeated procedure. Considering the implications of having such formalized approach to scientific discovery, the connotation of evidence-based practice (especially in Health science) must be irrefutably discussed.

# New insights into the roles of self-regulation and cognitive control in health-related outcomes

14:15 - 15:15

Lien Goossens

14:15 - 14:30

## A Dual-Pathway Perspective on Adolescents' Food Choices: The Role of Loss of Control over Eating

E. Van Malderen<sup>1</sup>, E. Kemps<sup>2</sup>, L. Claes<sup>3</sup>, S. Verbeken<sup>1</sup>, L. Goossens<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Flinders University, Australia

<sup>3</sup>KU Leuven; University Antwerp, Belgium

**Introduction:** One in three adolescents frequently consume unhealthy snacks, which is associated with negative developmental outcomes. Guided by the dual-pathway model, the current study aimed to: (1) examine the joint contribution of inhibitory control and attentional bias in predicting unhealthy food choices in adolescents, and (2) determine whether this mechanism is more pronounced in adolescents who experience loss of control over eating (LOC). **Methods:** A community sample of 80 adolescents (65% female; 10 – 17 years old,  $M_{age} = 13.28$ ,  $SD = 1.94$ ) was recruited. Based on a self-report questionnaire, 28.7% of this sample reported at least one episode of LOC over the past month. Food choice was assessed using a computerized food choice task. Both inhibitory control and attentional bias were measured with behavioral tasks (go/no-go and dot probe task, respectively). Binary logistic regressions were conducted. **Results:** Inhibitory control and attentional bias did not significantly interact to predict unhealthy food choices. However, there was a significant three-way interaction between inhibitory control, attentional bias and LOC. For adolescents without LOC, the combination of poor inhibitory control and low attentional bias was significantly associated with unhealthy food choice. Surprisingly, for adolescents with LOC, there was no significant association between unhealthy food choice and inhibitory control or attentional bias. **Discussion:** Dual-pathway processes do not seem to add to the explanation of food choice behavior for adolescents with LOC. For adolescents without LOC, those with poor inhibitory control combined with low attentional bias might be at particular risk for making unhealthy food choices.



14:30 - 14:45

## Self-control training as an adjunct to inpatient treatment for youth with obesity: an exploratory analysis

T. Naets<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

Enhancing self-control is a possible facilitator to help children and adolescents with obesity in standard Multidisciplinary Obesity Treatment (MOT) to lose weight and to adopt a sustainable healthy lifestyle. The Dual Pathway model states that eating patterns in obesity can be at least partially explained by strong bottom-up reactivity towards food, and weak top-down executive functions. As a part of the ongoing WELCOME trial examining the effectiveness of a Dual Pathway-based self-control training ("Brain Fitness"), this particular study compared weight change and self-control in an experimental versus active control condition in a subsample of 131 children and adolescents with obesity in inpatient MOT. The self-control training consisted of the Dot Probe (DP) and Go/No-Go (GNG) paradigm, in which the contingency between responses and stimuli (refocusing attention away from unhealthy food in the DP and suppressing an evoked impulsive reaction towards unhealthy food pictures in the GNG) was manipulated (90% contingency in the experimental and only 50% contingency in the sham training). Multiple Imputation was used to reduce the loss of information caused by missing data. In this study, we did not find evidence for a significant interaction between time and condition pre/post and at follow-up in weight, bottom-up reactivity nor top-down control in participants of inpatient MOT. Analyses focusing on change in inpatient as well as outpatient MOT are still ongoing, and point to the importance of the manipulation's dose-response relationship. Study Under Embargo.

14:45 - 15:00

## Attentional bias modification under elevated states of anxiety: The role of attentional control

H. Larsen<sup>1</sup>

<sup>1</sup>University of Amsterdam, Netherlands

The present study examined whether elevated levels of state anxiety during ABM enhanced the effectiveness of ABM in reducing an attentional bias to socially threatening information and whether training effects were moderated by individual differences in attentional control. Participants (n = 160) were randomized to a single session of attend-negative or attend-positive dot-probe training which was interspersed with either a state anxiety induction or control induction condition. Attentional bias and self-reported attentional control was assessed post-training. Results revealed that ABM was effective in modifying attentional bias in the direction of the allocated training condition as assessed with the dot-probe task but these training effects did not generalize to another measure of attentional bias: the visual search task. State anxiety was not found to moderate ABM training effects. Exploratory analyses on the interaction between state anxiety, ABM training condition, and attentional focusing in a subset of the sample revealed a pattern indicating that participants with high attentional focusing only picked up the training contingency when state anxiety was elevated and not when it was lower, while participants with low attentional focusing only picked up the training contingency when state anxiety was lower versus higher. These findings tentatively suggest state anxiety is solely moderating ABM effects in interaction with levels of attentional focusing. More studies are needed to confirm this preliminary conclusion, especially studies that also assess far-transfer effects of training and that replicate these results in samples with clinical levels of social anxiety.

# Health behaviours and climate change adaptation and mitigation

14:15 - 15:15

Guillaume Chevance

14:23 - 14:35

## Developing a classification of health and climate mitigation behaviours: an inductive approach to explore variations

N. Beerlage-de Jong<sup>1</sup>, F. Sniehotta<sup>1</sup>, V. Araujo Soares<sup>1</sup>

<sup>1</sup>University of Twente, Netherlands

**Background:** Climate mitigation action is urgent. Macro-level changes (e.g. policy adjustments) usually take decades to achieve. This has led to a growing call for individual action. Individual behaviour, when pooled collectively, can contribute to near-term emission reductions. A first step towards supporting behaviour change interventions targeting these behaviours is to understand the behaviour itself. Potential similarities between mitigation and health behaviours may allow for knowledge generalization and can unearth goal facilitation. The aim of this paper is to develop a classification of climate mitigation behaviours and compare and contrast their characteristics with those of other health behaviours, while exploring potential for goal facilitation.

**Methods:** Members of the general public and experts in the fields of behaviour and climate mitigation participate in this study. We use a repertory grid method. Respondents are asked to describe how two behaviours from triads are similar to each other and different from a third. For each similarity, the respondent is asked to provide an opposite. The provided characteristics are grouped into meaningful groups.

**Findings:** Results reveal key characteristics of behaviours with high-, moderate-, and low-impact on climate mitigation and how they compare to health behaviours.

**Discussion:** Behavioural clusters are formed, and key characteristics defined and compared with health behaviours. This will allow us to study what generalisations can be made in order to retrofit knowledge from health psychology - thus increasing the pace of intervention development.

# Climate change and physical activity: a systematic review

P. Bernard<sup>1,2</sup>, G. Chevance<sup>3</sup>, C. Kingsbury<sup>4</sup>, A. Baillot<sup>5</sup>, A. Romain<sup>6</sup>, V. Molinier<sup>7</sup>, T. Gadais<sup>1</sup>, K. Dancause<sup>1</sup>

<sup>1</sup>University of Quebec at Montreal, Canada

<sup>2</sup>Research Center, University Institute of Mental Health at Montreal, Canada

<sup>3</sup>ISGlobal, Spain

<sup>4</sup>Université du Québec à Montréal, Canada

<sup>5</sup>Department of Nursing at the Université du Québec en Outaouais, Canada

<sup>6</sup>École de kinésiologie et des sciences de l'activité physique, Faculté de Médecine, Université de Montréal, Canada

<sup>7</sup>Korian group, research center, France

## Background

Climate change impacts are associated with dramatic consequences for human health and threaten physical activity (PA) behaviors. The most severe indicators of climate change are global average warming, sea level rise and higher occurrence and severity of natural disasters.

## Objective

The aims of this systematic review were to examine the potential bidirectional associations between climate change impacts and PA behaviors in humans and to propose a synthesis of the literature.

## Methods

Relevant studies were identified through database searches in Pubmed, PsycArticles, CINAHL, SportDiscus, GreenFILE, GeoRef, Scopus, JSTOR and TransRIS. Studies examining the associations between PA domains (active transport, sport, occupational and leisure PA) and climate change were included.

## Results

A total of 74 studies were identified and a narrative synthesis was performed. The articles were classified into 6 topics: air pollution and PA, extreme weather conditions and PA, greenhouse gas emissions and PA, carbon footprint among sport participants, natural disasters and PA and the future of PA in climate change context. Results indicated a consistent negative effect of air pollution, extreme temperatures and natural disasters on PA levels. This PA reduction is more severe in adults with chronic diseases. PA interventions can play an important mitigating role in post-natural disaster contexts by helping people to cope with acute stress consequences. However, transport related to sport practices is also a source of greenhouse gas emissions.

## Conclusion

Climate change impacts affect PA at a worldwide scale. PA is plays both a mitigation and an amplification role in climate changes.

14:47 - 14:59

## Sustainable diets: in the spotlight of a new app-based behavioral change intervention

U. Fresán<sup>1</sup>, P. Bernard<sup>2</sup>, M. Bes-Rastrollo<sup>3</sup>, M.A. Martínez-González<sup>3</sup>, G. Segovia-Siapco<sup>4</sup>, J. Sabaté<sup>4</sup>, N. Beerlage De Jong<sup>5</sup>, V. Araujo Soares<sup>5</sup>, G. Chevance<sup>1</sup>

<sup>1</sup>ISGlobal, Spain

<sup>2</sup>Université du Québec à Montréal, Canada

<sup>3</sup>University of Navarra, Spain

<sup>4</sup>Loma Linda University, United States

<sup>5</sup>University of Twente, Netherlands

**Background:** Sustainable diets are those patterns nutritionally adequate, safe and healthy, with low environmental impact, affordable, and culturally acceptable. There is no evidence about the viability of such a holistic diet. We aimed to assess the health effects of self-selected diets that present simultaneously a high nutritional quality and a low environmental impact, while being affordable.

**Methods:** Using data from the “Seguimiento Universidad de Navarra” Project, a prospective cohort of Spanish university graduates, the study included 15,492 participants, followed-up for a median of 10 years. Cox regression models adjusted for several confounders were used to determine the association of sustainable diets with mortality risk. Foods linked to those diets were determined.

**Findings:** The risk of all-cause and cardiovascular mortality among participants following the most sustainable diets were 59% (95% CI: 35-77%) and 79% (95% CI: 15-95%) lower, respectively, in comparison with that of those individuals following the less sustainable ones. Beans and potatoes consumption was positively correlated to sustainable diets, and the opposite for red meats. Red and processed meats, fatty dairy products and fish consumption accounted for most of the variability in the sustainability of participants' diets.

**Discussion:** Self-selected dietary patterns accounting not only for nutritional quality of the food but also the impact on the environment and affordability could still provide health benefits. Based on these results, we designed an app-based behavior change intervention promoting overall sustainable diets. The design, implementation and early results of this digital behavior change intervention will be presented during this talk.

# Dyadic studies of health and well-being: How others lift us up and bring us down

14:15 - 15:15

Gertraud Stadler

14:15 - 14:25

## The indirect effects of parental depression on child body mass: longitudinal findings from parent-child dyads

A. Banik<sup>1</sup>, K. Zarychta<sup>1</sup>, M. Boberska<sup>1</sup>, E. Kulis<sup>1</sup>, K. Lobczowska<sup>1</sup>, A. Luszczynska<sup>1</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

**Background:** It is important for health promotion practice to determine whether parental depressive symptoms may affect parents' capabilities of supporting their children, and if the receipt of support by children explains physical activity (PA) levels and body mass among children. This study investigated whether the association between parental depression (measured at Time 1; T1) and child body mass (Time 2; T2) was mediated by: parental reports of provision of PA support (T1), child reports of PA support receipt (T1), and child moderate-to-vigorous physical activity (MVPA; T2).

**Methods:** 879 parent-child dyads (N = 1,758 individuals; children were aged 5-11 years old) provided their self-reports at T1 and follow-up (after 7 to 8 month; T2). Parental and child body weight and height were measured objectively. To test the indirect effects manifest path analyses were used, controlling for MVPA and body mass in child and parent (T1)

**Findings:** The association between higher levels of depression in parents (T1) and higher levels of body mass in children (T2) was mediated by three sequential mediators: parental support provision (T1), child support receipt (T1), and child MVPA (T2). The alternative models (with either parental support provision or child support receipt excluded from the equation) yielded a poor model-data fit.

**Discussion:** The results of this study suggested that parental depression may be the first determinant in the chain of parental support provision, its receipt, child MVPA and body mass. Thus, levels of parental depression symptoms should be accounted for in explaining obesity-related outcomes in children.



14:25 - 14:35

## Linking intra-individual fluctuations in children's inattentive and hyperactive-impulsive behavior to parent-child interactions in everyday life

T. Moschko<sup>1</sup>, M. Reuter<sup>1</sup>, J. Kühnhausen<sup>1</sup>, C. Gawrilow<sup>1</sup>

<sup>1</sup>University of Tübingen, Germany

Parent-child interaction (PCI) quality is lower in parent-child dyads where children show stronger inattentive and/or hyperactive-impulsive behavior (IHIB), which exposes both children and parents at a higher risk of impairments in well-being. However, children's IHIB level does not only differ inter-individually, but it also fluctuates intra-individually. So far, it remains unclear whether and how transient within-person changes in IHIB are related to environmental factors, such as PCI quality. The purpose of this study was therefore to investigate this association between PCI quality and children's IHIB levels within parent-child dyads. Over the course of 13 consecutive school days, children between 9 and 11 years old, and one of their parents (N = 55 dyads), rated PCI quality daily using a single item. Furthermore, both informants reported children's IHIB levels daily using four items adapted from Conners 3. The data from this intensive longitudinal design was analyzed using hierarchical linear models. Results suggest that PCI quality and children's IHIB levels are negatively associated both between, and within parent-child dyads in parental reports. A negative within-dyad association between PCI quality and IHIB levels also showed for children's self-reports, however no between-dyad association was found. Thus, PCI quality and children's IHIB levels were experienced as being related in families' everyday lives across time by both children themselves, as well as their parents. This has implications for parenting practice, in that parents should be aware of their concurrent perception of children's IHIB and PCI quality, which might bear on family well-being in the long run.

14:35 - 14:45

## Dyadic coping of kidney transplant recipients and their partners: Sex and role difference

T. Zimmermann<sup>1</sup>, L. Peters<sup>1</sup>, D. Tkachenko<sup>1</sup>, L. Neubert<sup>1</sup>

<sup>1</sup>Hannover Medical School, Germany

**Background:** An organ transplantation represents a stressful situation not only for the transplanted person but also for the family environment. Psychological stress is therefore also experienced by the relatives - especially the partners. The present study therefore examines the dealing with this stressful experience on an individual as well as on a dyadic level, taking into account role and gender differences.

**Methods:** N = 56 kidney transplant recipients and their partners completed self-report questionnaires on dyadic coping (DC), depression, anxiety, and relationship satisfaction. The average age of the patients was 58.1 years and of the partners 57.2 years; 64.3% of the patients were male; time since transplantation was on average 9.7 years.

**Findings:** Sex and role differences occurred. No significant differences between male patients and male partners occurred whereas female patients showed higher own stress communication, supportive DC, common DC, total positive DC, total DC and relationship satisfaction compared to female caregivers (role differences). The same differences were found comparing female with male patients. No differences occurred between male and female caregivers (sex differences).

**Discussion:** The results demonstrate the relevance of DC in couples with kidney transplantation and show differences between males and females as well as between patients and partners.

14:45 - 14:55

## When partners beg to differ in dyadic longitudinal data: How reliable are dyadic differences?

G.(. Stadler<sup>1,2</sup>, J. Lüscher<sup>3</sup>, P. Shrout<sup>4</sup>, N. Bolger<sup>5</sup>, N. Knoll<sup>6</sup>, U. Scholz<sup>3</sup>

<sup>1</sup>Charité - Universitätsmedizin Berlin, Germany

<sup>2</sup>University of Aberdeen, United Kingdom

<sup>3</sup>University of Zurich, Switzerland

<sup>4</sup>New York University, United States

<sup>5</sup>Columbia University, United States

<sup>6</sup>Freie Universität Berlin, Germany

In dyadic research, many constructs are correlated between partners, but often there are also meaningful differences between partners. For example, couples' levels in affect, relationship satisfaction and companionship are of interest, but also how much partners differ. This poses the question how to best address couple means and differences. A dyadic score model provides one approach to model both means and differences for predictors and outcomes. But how reliable are these means and differences? This paper presents reliability analyses from three intensive longitudinal studies (Study 1: 57 community couples; Study 2: 99 smoker-nonsmoker couples; Study 3: 83 dual-smoker couples), where both partners reported their daily affect, relationship satisfaction, and companionship. The reliability for daily fluctuations in couple means and differences was high throughout, even with a limited number of items, as was the reliability for means and differences on the between-couple level. These findings show that the means and differences in a dyadic score model are reliable and promise a more comprehensive use of dyadic longitudinal data.

14:55 - 15:05

## Daily Support and Negative Control During a Quit Attempt in Single-Smoking Couples

A. Buitenhuis<sup>1</sup>, M. Tuinman<sup>1</sup>, G.(. Stadler<sup>2</sup>, M. Hagedoorn<sup>3</sup>

<sup>1</sup>University Medical Center Groningen, Netherlands

<sup>2</sup>Charité - Universitätsmedizin Berlin, Germany

<sup>3</sup>University of Groningen, Netherlands

**Objective:** Research has shown a beneficial influence of partner support on smoking cessation. Previous studies mainly focused on support and neglected negative behaviors. Less is known about differences in support perceptions between partners. This study aims to examine how supportive as well as negative control behaviors relate to smoking and relationship satisfaction in single-smoking couples during a quit attempt.

**Methods:** Smokers and their non-smoking partners (n = 170 cohabiting couples) participated in an intensive longitudinal study over 21 days with end-of-day diaries. A dyadic score model was used, emphasizing couple levels and differences for the explanatory variables (i.e., support and negative control) and the outcome variables (smoking (for smokers only); relationship satisfaction).

**Results:** Smokers whose partner showed more supportive and less negative control behavior had a lower probability of smoking, and both partners had higher relationship satisfaction. On days with more supportive and less negative control behavior than usual, smokers had a lower probability of smoking and both partners had higher relationship satisfaction. For smokers who reported more support than their partner reported providing, the couples' relationship satisfaction was higher and the smokers' relationship satisfaction was higher than their partners'. Differences between received and provided support/control at the between-couple and daily level were unrelated to smoking.

**Conclusions:** Support seems important during a quit attempt as it was related to a lower probability of smoking and higher relationship satisfaction in couples, while negative control behaviors should be avoided as they were associated with higher probability of smoking and lower relationship satisfaction.

# Using habit theory to predict and change behaviour

14:15 - 15:15

Barbara Mullan and Caitlin Liddelow

14:15 - 14:30

## A Cross-Lagged Model of Habit, Implicit Attitude, Autonomous Motivation, and Physical Activity During COVID-19

D. Phipps<sup>1</sup>, T. Hannan<sup>1</sup>, K. Hamilton<sup>1</sup>

<sup>1</sup>Griffith University, Australia

Background: Although the relationship between autonomous motivation and constructs underpinning impulsive processes has been acknowledged in the context of physical activity, the directionality of this relationship is not clearly understood. The COVID-19 pandemic provides a unique opportunity to investigate such relationships as contextual changes brought about by government restrictions (e.g., stay at home orders, indoor gymnasium closures) have likely influenced people's physical activity habits and motivation. The purpose of this study, therefore, was to investigate the bi-directional relationships between physical activity and previously empirically established correlates of physical activity behaviour: intrinsic motivation, implicit attitude, and habit. Methods: A sample of 109 university students completed measures of physical activity behaviour, autonomous motivation, implicit attitude, and habit during the coronavirus period at two time points, two weeks apart in a cross-lagged panel design. Data were analysed as a PLS-SEM model. Findings: Path analysis found a significant reciprocal relationship between habit and autonomous motivation (T1 Habit → T2 Autonomous Motivation  $\beta=.149$ ,  $p=.023$ ; T1 Autonomous Motivation → T2 Habit  $\beta= .160$ ,  $p=.016$ ). Behaviour at follow-up was predicted by autonomous motivation ( $\beta= .223$ ,  $p=.002$ ), implicit attitude ( $\beta= .167$ ,  $p=.013$ ), and habit ( $\beta= .175$ ,  $p=.010$ ), but T1 behaviour did not predict T2 autonomous motivation, implicit attitude, or habit ( $p's>.092$ ). No reciprocal relationship was found between implicit attitude and autonomous motivation ( $p's>.186$ ) or between implicit attitude and habit ( $p's>.092$ ). Discussion: Current findings provide preliminary formative evidence of associations between autonomous motivation and impulsive behavioural correlates, indicating a bi-directional relationship between autonomous motivation and physical activity habits.

14:30 - 14:45

## A longitudinal exploration of forming and breaking habits

B. Mullan<sup>1</sup>

<sup>1</sup>Curtin University, Australia

**Background:** During COVID-19 lockdowns, the routines and daily lives of most people were largely changed, giving us a unique opportunity to look at the breaking and forming of healthy and unhealthy habits.

**Methods:** Data collection occurred between May and July, 2020. Participants were asked to choose a behaviour they had noticed a change in during lockdown: social media use (n = 42) or physical activity (n = 41). Participants completed measures including past behaviour, habit strength, and self-control and chose a novel cue to assist them to enact or inhibit the behaviour. Participants reported their behaviour frequency, habit strength, and novel cue use over the previous two days, every two days for 12 weeks.

**Results:** A logarithmic curve produced the best fit for data for habit change in both conditions. Social media habit strength decreased over the study period from 5.93 to 3.50 and physical activity habit strength increased from 2.82 to 3.34. Further, people who used cues more frequently over time had a steeper decrease of habit strength related to social media use compared to those who less frequently used a cue.

**Discussion:** Overall, results are consistent with previous research. However, habit strength for social media decreased more than physical activity increased, likely due to social media being a less complex behaviour than physical activity. Additionally it may be that it is easier to break a habit than to build one. These findings provide insight into the different complexities of behaviours and can inform future interventions in this area.

14:45 - 15:00

# The Role of Habit, Self-control and Intention on Medication Adherence Behaviours: A Meta-Analysis

C. Liddelow<sup>1</sup>, B. Mullan<sup>1</sup>, M. Boyes<sup>1</sup>

<sup>1</sup>Curtin University, Australia

**Background:** Temporal self-regulation theory (TST) is a comprehensive theory of behaviour and shows promise in predicting medication adherence. However, the relationships between the constructs (intention, behavioural prepotency and self-regulatory capacity) and medication adherence should be established prior to applying the theory to adherence.

**Methods:** This study aimed to conduct three meta-analyses to evaluate the predictive ability and importance of the constructs of TST in medication adherence. A search of electronic databases identified 69 studies that reported a correlation between one of the constructs and adherence.

**Results:** A random-effects meta-analysis was conducted for each construct and identified weak-to-moderate positive associations between intention ( $r = .302$ ), behavioural prepotency ( $r = .282$ ), self-regulatory capacity ( $r = .137$ ) and medication adherence. There was no evidence of publication bias and associations were invariant across illness type and study design. There was high heterogeneity, specifically in the measurement of adherence, making quantitative synthesis difficult. None of the studies explored the interactions between any of the TST variables.

**Discussion:** Future research should consider applying the theory to medication adherence to assess the relationships in the theory. We also call for action regarding the use of similar measures of medication adherence to ensure greater ease of synthesis of findings in the future.



15:00 - 15:15

## Considering the promise and limitations of habitual action for health behaviour maintenance

L.A. Phillips<sup>1</sup>

<sup>1</sup>Iowa State University, United States

**Introduction:** Decades of habit research has focused on the promise of habitual action for health behavior maintenance. However, the degree to which habitual action is sufficient for behavioral maintenance likely depends on the type, complexity, and purpose (for health management) of the behavior. Identifying and considering limitations of habit strength for behavioral maintenance can inform theory and future intervention efforts.

**Method:** The role(s) of habit strength for behavioral outcomes was assessed in three different studies. In Study 1, patients with Type 2 diabetes (T2D; N=52) on twice-daily dosing regimens had medication-taking behavior (habit strength, adherence) objectively monitored for one month. In Study 2, young adults (N=367) attempted to form a new habit for either taking a calcium supplement or a brisk 20+ minute walk. In Study 3, patients with T2D (N=100) reported on their habit and frequency for self-monitoring of blood glucose (SMBG); HbA1c was obtained from medical charts.

**Results:** Study 1 found conflicting evidence regarding patients' levels of habit and adherence to AM versus PM dosing; habit strength, operationalized as dose-timing consistency, did not differentiate AM vs PM pill-taking behavior, but patients were more adherent to their AM doses. Study 2 found that habit strength increased in weeks 1-3 but showed a marked dip by the final intervention week. Study 3 found that SMBG habit strength was unrelated to illness management ( $r=.05$ ,  $p=.65$ ).

**Discussion:** Upon reflection, these unexpected results suggest some important possibilities that researchers should consider, as we proceed to promote health habit formation for long-term behavioral maintenance.

# Qualitative perspectives on experiences of the COVID-19 pandemic in different cultural contexts

14:15 - 15:15

Sabrina Cipolletta and Irina Todorova

14:20 - 14:30

## Combining qualitative and quantitative analysis to understand traumatic experiences during the COVID-19 pandemic

S. Cipolletta<sup>1</sup>, D. Winter<sup>2</sup>, M. Rivest-Beauregard<sup>3</sup>, A. Brunet<sup>3</sup>

<sup>1</sup>University of Padua, Italy

<sup>2</sup>University of Hertfordshire, United Kingdom

<sup>3</sup>Douglas Mental Health University Institute Research Centre, Canada

**Background:** Traumatic stress symptoms associated with the COVID-19 pandemic have been well documented. No study has yet explored the association of these symptoms with personal narratives of specific experiences. The aim of the present study was to understand the worst experiences associated with traumatic symptoms in terms of personal construct theory (PCT).

**Methods:** Participants were 1098 people in Italy and the USA who filled in an online survey during the first wave of the COVID-19 pandemic. A mixed-method analysis was conducted on socio-demographic data, COVID-19 tests and diagnosis, quarantine and social isolation, social support, use of social media, traumatic and peritraumatic stress symptoms and narratives concerning the worst experience during the COVID-19 pandemic.

**Findings:** The main themes related to participants' worst experiences were: anxiety, threat, loss, loss of role, anger and conflict, general distress, constriction and coping strategies. Threat of self was the crucial experience in trauma related disorders. Threat was correlated with being quarantined, being tested oneself, a loved one being tested, receiving a COVID-19 diagnosis, and a loved one receiving the diagnosis. Anxiety, threat, guilt, and loss were positive predictors and coping and constriction were negative predictors of traumatic stress symptoms.

**Discussion:** The study provided evidence of the utility of a mixed method approach in conceptualizing experiences associated with COVID-19 pandemic related symptoms and the risk of them. Its findings may inform healthcare interventions and policies for tackling the new challenges posed by the COVID-19 pandemic.

14:30 - 14:40

# Life on Pause: Stories of Living During a Pandemic in Bulgaria

I. Todorova<sup>1,2</sup>, Y. Panayotova<sup>1</sup>, T. Kotzeva<sup>3</sup>, E. Dimitrova<sup>3</sup>, A. Zlatarska<sup>1</sup>

<sup>1</sup>Health Psychology Research Center, Bulgaria

<sup>2</sup>Northeastern University, United States

<sup>3</sup>Institute for Population and Human Studies, Bulgarian Academy of Sciences, Bulgaria

## Background

The pandemic of the novel coronavirus SARS-CoV-2 and the measures undertaken to mitigate its spread have had a significant impact on physical and mental health throughout the globe. Our international study with 15 countries aims to understand the commonality of experiences, as well as the specificity of local meanings. A narrative approach illuminates how people make meaning of the disruptions introduced by this unexpected health crisis.

## Methods

Data were collected through an anonymous on-line survey using the Qualtrics platform; three open ended questions asked about experiences during the initial months of the pandemic. The stories were analyzed through thematic content analysis as well as through in-depth narrative analysis. In the current paper we present the narrative analysis for 29 stories collected from Bulgaria.

## Findings

Findings illustrate how people made sense of the challenges evoked by the pandemic. The pain of social isolation and separations was narrated as leading to rethinking which relationships are valued; the “paused life” instigated by the pandemic was made meaningful as an opportunity for reflection and turning to activities and ways of being one had been missing; the threat to life posed by the virus provoked greater appreciation of health, of every moment of life and of “the little things”.

## Discussion

The discussion will contextualize the narrative ways of making meaning within the country’s epidemiological situation during the first wave of the pandemic, as well as within the social and media discourses on the pandemic and what is perceived as an inadequate government response.

14:40 - 14:50

# COVID-19 stories in the UK: a personal construct perspective

D. Winter<sup>1,2</sup>, R. Hammoud<sup>3</sup>, S. Cipolletta<sup>3</sup>, I. Todorova<sup>4</sup>

<sup>1</sup>University of Hertfordshire, United Kingdom

<sup>2</sup>Colombo Institute of Research and Psychology, Sri Lanka

<sup>3</sup>University of Padua, Italy

<sup>4</sup>Harvard University, United States

## Background

The psychological impact of the COVID-19 pandemic has been demonstrated in numerous studies, including a thematic content analysis of narratives from the USA about participants' worst experiences. This analysis indicated the utility of a personal construct psychology perspective in understanding such experiences. The aim of the present study was to apply this perspective to narratives from another country with very high rates of coronavirus infection and mortality, the UK. The study also aimed to consider not only negative, but also more positive, experiences of the pandemic.

## Methods

A panel of 100 participants from the UK responded to an on-line survey in which they provided narratives in answer to questions concerning the main difficulties they were facing during the pandemic, what they had learnt, and what they were looking forward to after the pandemic. Responses were analysed by deductive thematic content analysis.

## Findings

Themes generated in relation to difficulties were anxiety, threat, loss of role, loss, anger, general distress, constriction, and coping strategies. Those generated in relation to what had been learnt concerned revision of superordinate constructs. Those generated in relation to the future were dilation, aggression, hostility, and recovery of certainty.

## Discussion

The findings provide further evidence of the value of a personal construct theory framework in conceptualising distress associated with the COVID-19 pandemic and indicate that this framework can be extended to understanding of participants' reconstruing and anticipations of the future. The framework can also provide a basis for interventions that may facilitate such reconstruing.

14:50 - 15:00

## Caregiving for a parent with dementia during the pandemic, challenges and stories from Northern Italy

S.C.M. Tomaino<sup>1</sup>, S. Cipolletta<sup>1</sup>

<sup>1</sup>University of Padua, Italy

The COVID-19 pandemic posed new challenges to family caregivers. The aim of the present study was to explore how and to what extent the emergency affected everyday lives and care routine of the family caregivers of patients with dementia.

Twenty family caregivers (adult children of the patient) were interviewed via phone and video call to explore the changes inside the family (care routine, interactions, other caregivers) and the external support networks (health professionals, emergency support and associations). Thematic analysis was performed on data.

Results pointed out five main themes: caregiver's experience (lockdown experience, concerns about covid-19, nostalgia of social life, economic difficulties, concerns for the care recipient), care recipient's experience (comprehension of the situation, behavioral changes), relationship with the care recipients (contact limitations, dilemmas in respecting preventive measures, video and phone calls), changes in the care routine (grocery shopping, prevention and attention to hygiene, physical activity, dedicated time to caregiving), resources (other family members' support, home care aides, healthcare system, patients' associations, general practitioners).

Depending on the personal experience of COVID-19, personal approaches to preventive rules, availability of resources, and formal or informal support, three main approaches to care were identified: apprehensive, mindful and fatalistic. The pandemic amplified the typical challenges and difficulties experienced by family caregivers, and resulted in an increased burden, which was connected to practical difficulties, emotional stress, and difficulties in reaching for help. These results underline the importance of strengthening the external support network for older people to help family caregivers, especially during emergencies.





