EXAMINING THE CHANGES IN PHYSICAL ACTIVITY PARTICIPATION, SEDENTARY BEHAVIORS, AND EATING HABITS OF UNIVERSITY STUDENTS DURING THE COVID-19 PANDEMIC

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ABSTRACT

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During the COVID-19 pandemic, measures such as curfews and social distancing that will seriously change people's daily lives have been taken by the authorities to prevent the spread of COVID-19 infection. This study aimed to examine the changes in physical activity (PA) participation, sedentary behaviors (SB), and eating habits of university students, one of the most affected populations of society by these changes, during the COVID-19 pandemic. The mixed-methods sequential explanatory design was used in this study. Participants from different universities in Ankara were reached. There were 294 students surveyed online, and then 10 of whom also participated in the semi-structured interviews. The results revealed that the number of participants participating in physical activities such as walking, running, and team sports decreased, while participation in sports (workouts) that can be done at home increased. Besides, a considerable increase in sedentary behaviors was revealed, specifically in screen time. Moreover, it is possible to say that there is a decrease in the consumption of fast food, and participants preferred to consume more vegetables and fruits. However, participants' snack consumption also increased. The findings clarified both

the positive and negative effects of the COVID-19 pandemic on university students' PA participation, SB, and eating habits. This study emphasizes the need for strategies that can be developed by experts to increase university students' participation in physical activity and to reinforce their healthy eating habits in unusual situations, such as the COVID-19 outbreak and the spread of online education with developing technology.

Keywords: Physical Exercise, Physical Inactivity, Dietary Habits, Coronavirus, College Students

ÖZ

COVID-19 PANDEMİSİ SIRASINDA ÜNİVERSİTE ÖĞRENCİLERİNİN FİZİKSEL AKTİVİTE KATILIMLARINDAKİ, SEDANTER DAVRANIŞLARINDAKİ VE YEME ALIŞKANLIKLARINDAKİ DEĞİŞİMLERİN İNCELENMESİ

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COVID-19 pandemisi sırasında, COVID-19 enfeksiyonunun yayılmasını önlemek için yetkililer tarafından sokağa çıkma yasakları ve sosyal mesafe gibi insanların günlük hayatını ciddi şekilde değiştirecek önlemler alınmıştır. Bu çalışmanın amacı, COVID-19 pandemisi sırasında toplumun bu değişimlerden en çok etkilenen popülasyonlarından biri olan üniversite öğrencilerinin fiziksel aktivite (FA) katılımındaki, sedanter davranışlarındaki (SD) ve beslenme alışkanlıklarındaki değişiklikleri incelemektir. Bu çalışmada karma yöntem sıralı açıklayıcı tasarım kullanılmıştır. Ankara'nın farklı üniversitelerinden katılımcılara ulaşılmıştır. Çevrimiçi olarak anket yapılan 294 öğrenci vardı ve ardından 10 öğrenci yarı yapılandırılmış görüşmelere de katılmıştır. Sonuçlar, yürüyüş, koşu ve takım sporları gibi fiziksel aktivitelere katılanların sayısının azaldığını, evde yapılabilecek sporlara (antrenmanlara) katılımın ise arttığını ortaya koymuştur. Bunun yanı sıra, hareketsiz davranışlarda, özellikle ekran süresinde, önemli bir artış olduğu ortaya konulmuştur. Ayrıca fast food tüketiminde azalma olduğunu ve katılımcıların daha çok sebze ve

meyve tüketmeyi tercih ettiklerini söylemek mümkündür. Fakat katılımcıların atıştırmalık tüketimi ise artmıştır. Bulgular, COVID-19 pandemisinin üniversite öğrencilerinin FA katılımları, SD ve beslenme alışkanlıkları üzerindeki hem olumlu hem de olumsuz etkilerine açıklık getirmiştir. Bu çalışma, COVID-19 pandemisi ve gelişen teknoloji ile online eğitimin yaygınlaşması gibi alışılmadık durumlarda üniversite öğrencilerinin fiziksel aktiviteye katılımlarını artırmak ve sağlıklı beslenme alışkanlıklarını pekiştirmek için uzmanlar tarafından geliştirilebilecek stratejilere olan ihtiyacı vurgulamaktadır.

Anahtar Kelimeler: Fiziksel Egzersiz, Fiziksel Hareketsizlik, Beslenme Alışkanlıkları, Coronavirüs, Üniversite Öğrencileri

I dedicate this thesis to my significant other, Batuhan ÖKSÜZ; my stand-in parent, İpek KARAYAPRAK; my godfather, Ahmet YILDIRIM; who give meaning, endless support, and eternal love to my life. I would not be the person I am today if it was not for them. You all are my sense of inspiration, and I love you so much!

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LIST OF ABBREVIATIONS

COVID-19 Coronavirus Disease 2019

SARS-CoV-2 Virus Severe Acute Respiratory Syndrome Coronavirus 2

PA Physical Activity

SB Sedentary Behavior

METs Metabolic Equivalents

MD Mediterranean Diet

RQ Research Question

CHAPTER 1

INTRODUCTION

The first chapter includes the background of the study, the purpose of the study, research questions, the significance of the study, and the definition of concepts and terms used in the study, respectively.

1.1. Background of the Study

Regularizing being physically active, reducing sedentary behaviors, and having healthy eating habits are important elements for maintaining physical health and well-being (Biddle et al., 2016; Blair & Morris, 2009). Despite this, the majority of people do not meet the physical activity requirements, adopt a sedentary life, and do not pay enough attention to healthy eating (Biddle et al., 2016). In Turkish society, physical inactivity and obesity (related to unhealthy eating habits) are also some of the biggest problems among people. Many people started to prefer a more sedentary life that promotes obesity day by day (İlhan, 2010). This preference brings along undesirable problems like various diseases, loss of the body's defense power, and even early death. For example, Ekelund et al. (2019), when examining the relationship between death risk and sedentary behavior, they stated that the risk of death increased gradually as a result of sedentary behavior presented between 7.5 and 9 hours, and the risk of death increased significantly after sedentary behavior presented for 9.5 hours or more.

Moreover, major diseases (non-communicable) such as hypertension, diabetes, obesity, and heart disease are triggered by physical inactivity and unhealthy (insufficient in nutritional value) eating habits (Sidebottom et al., 2021). Here, it is also possible to say that the immune system, which protects people against chronic diseases and various other illnesses like influenza, is negatively affected by inactive and sedentary life, and eating habits that include low-nutrient foods (Andersen et al., 2016; Nieman & Wentz, 2019). For example, the risk of transmission of SARS-CoV-

2, an infectious disease, the severity of this infection, and its fatal effects are much higher in people with non-communicable diseases triggered by inactivity and unhealthy eating habits (Sidebottom et al., 2021). SARS-CoV-2 infection, referred to as coronavirus disease (COVID-19), leading to a mild to moderate respiratory illness, appeared first in December 2019 in Wuhan, China, and soon became a pandemic. It is a contagious disease and is caused by the SARS-CoV-2 virus. People of all ages can get this disease, but while some survive with mild to moderate respiratory illness, it can have severe or even fatal consequences for some people, especially those with chronic conditions such as cardiovascular disease, diabetes, chronic respiratory disease, or cancer (Velavan & Meyer, 2020). In order to reduce the spread and fatal effects of this disease, almost all countries have started to take measures that may also affect people's physical activity participation, sedentary behaviors, and eating habits.

Because of COVID-19, rules of isolation, which is the separation of people known as infected from uninfected people to prevent transmission of the disease, and rules of quarantine, which is a more aggressive strategy to control the epidemic and pandemic and means restricting the movement of a more significant number of people who are likely to be sick but do not show symptoms during the contagious period of the disease, were enforced strictly and globally (Rothstein, 2015). It means people need to follow the mandatory isolation and quarantine rules strictly. Also, they must be careful about paying attention to social distancing, which is a public health practice that intends to keep sick individuals from contacting healthy individuals to diminish the possibilities of disease transmission, and self (personal)-isolation, which includes the decision to cancel or limit events that will involve large masses in narrow spaces such as concerts, cinemas, and festivals, staying away from crowded groups of their own accord (Pearce, 2020).

In early March, the Turkish state also made its first COVID-19 case detection; and then, the public health response had been emphasized by increasing contacted people control and quarantine periods. Beginning on March 21, the government gradually issued the most mandatory stay-at-home orders and curfews, which over time had an impact on the whole of Türkiye. Therefore, people had to take a break from their daily work/tasks, hobbies, or many habits that required physical action and activity by staying home. The pandemic changes people’s life radically by directing people to work from home or get everything done online. Especially after COVID-19,

students' education and social lives have changed at all. Orders from the Turkish Government initiated campus-wide closures at universities and canceled classes or switched to classes in an online format. They have started taking online education, and their active lifestyles turned into more sedentary lifestyles. Since most university students live independently and separately from their parents in Türkiye, they experienced a staggering change by returning to their families' homes or always staying home and disconnecting from their social lives.

Accordingly, these changes have had new effects on physical activity participation, sedentary behavior, and eating habits. In terms of physical activity participation and sedentary behavior, people had to stay in their homes, and they avoided any kind of physical contact with other people and activities such as working, traveling, playing, and engaging in recreational pursuits which take place in daily life with energy consumption (Bull et al., 2020). Having to stay at home for long hours may lead to an increase in sedentary behavior, which means after waking up, any waking behavior with an energy expenditure of 1.5 metabolic equivalent task (MET) or less (Thorp et al., 2011). Also, people who had to stay at home needed to cook their meals or order them from outside. Before the pandemic, they could go to restaurants or use their companies'/universities' cafeterias and canteens. So, people also needed to change their eating habits according to pandemic conditions and adapt them to their new lifestyles.

Moreover, parallel to possible changes on physical activity, the vast majority of research states that social distance and COVID-19 restrictions have negatively affected people's physical activity levels (Ács et al., 2020; Barkley et al., 2020; Gallè et al., 2020). Even people who were previously physically active have begun to be less active and show more sedentary behaviors with increased usage of technological devices such as laptops, mobile phones, and TV, and so on (Castañeda-Babarro et al., 2020). Moreover, the state of staying at home restricted going out, and this situation caused the state of stocking and limitation in grocery shopping. The fact that it is often not possible to do grocery shopping on a daily basis can limit the consumption of especially fresh fruits and vegetables. Consequently, consumption of highly processed and high-fat, sugar, and salt-containing foods, such as junk foods, snacks, fast foods, and ready-to-eat products, may increase (Di Renzo et al., 2020). Contrary to these findings, it has also been noticed that the frequency of training increases in people who

are physically active, already doing sports, and occasionally exercising, as they have more free time at home during the confinement period (Di Renzo et al., 2020). In addition, according to some studies, people have started to prefer healthier diets like MedDiet (, and instead of consuming fast foods, their fresh-made meals, vegetables, and fruits consumption has increased (Husain et al., 2020; Rodríguez-Pérez et al., 2020; Wang et al., 2021). In short, it would be correct to say that people's physical activity and sedentary behaviors, and eating habits have differed from the pre-covid period.

Thus, taking all these into account, it is of great importance to reveal the changes in physical activity and sedentary behaviors, and eating habits in Türkiye. By doing this, it may be possible to take the necessary precautions to reduce sedentary behaviors and increase physical activity participation and healthy eating habits, both to combat infections such as COVID-19 and to maintain the general physical health of people. The population of university students, who have had remarkable changes in their lives during the pandemic and are in the dynamic part of society, is primarily worth examining in terms of these changes. Thus, this concern constitutes the main subject of this study. Examining the changes in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic in Türkiye may contribute to the literature and provide valuable data for future research.

1.2. Purpose of the Study

The purpose of this study is to examine the changes in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic.

1.3. Research Questions

Four research questions (RQ) were identified for the purpose of this study. The followings were the research questions of this study:

1. What are the changes in the physical activity participation of university students during the COVID-19 pandemic?

2. What are the changes in the sedentary behaviors of university students during the COVID-19 pandemic?

3. What are the changes in the eating habits of university students during the COVID-19 pandemic?

4. What are the experiences of university students in their physical activity participation, sedentary behaviors, and eating habits during the COVID-19 pandemic?

1.4. Significance of the Study

This study is significant in terms of examining the changes in the physical activity and sedentary behaviors, and eating habits of university students during the COVID-19 pandemic, which has changed everyone's life in many ways, in Ankara. In addition to reasons such as intense work pace, being under pressure, fatigue, and being in front of the TV and computer for a long time, it is also necessary to examine in detail how the changing and developing world order and unexpected crises such as COVID-19 affect people's physical activity participation, sedentary behaviors, and eating habits in order to generate valuable solutions and suggestions. Also, university students are people who are in the transition period to adulthood (Leslie et al., 2001). The habits that these people will acquire during this period are likely to affect them positively or negatively throughout their lives. These habits may be permanent throughout their lives. Therefore, examining the physical activity participation, sedentary behaviors, and eating habits of these students may be beneficial in terms of understanding the changes in these behaviors and habits during the pandemic according to the findings to be obtained. Understanding these changes may make it easier to take useful action for these behaviors and habits displayed by university students.

Moreover, although there have been studies examining the change in people's physical activity and sedentary status, and eating habits separately (e.g. Ammar et al., 2021; Castañeda-Babarro et al., 2020; Marty et al., 2021; Meyer et al., 2020; Rodríguez-Pérez et al., 2020; Suzuki et al., 2020), few studies have been done to examine both sides together (Husain et al., 2020; Wang et al., 2021). Moreover, studies that examine the changes in physical activity participation, sedentary behaviors, and eating habits of university students separately or together are even more limited (e.g. Antekolović & Kovačić, 2020; Bánhidi & Lacza, 2020; Bertrand et al., 2021; Bulguroglu et al., 2021; Ercan & Keklicek, 2020; Intelangelo et al., 2022; Romero-

Blanco et al., 2020; Tigli et al., 2020; Wilson et al., 2021). Besides, the scarcity of studies on this subject in Türkiye also increases the importance of this study. This study provides the opportunity to present the situation in Ankara, Türkiye, and compare this situation with other countries.

So, it is essential to provide data in Ankara, Türkiye on this subject. Doing this may also present valuable data for future studies, and in the light of these data, solutions and useful public health strategies may be generated for such situations, which restrict people in many ways and push them in their active age to live inactive in their living environment.

1.5. Definition of Concepts and Terms Used in the Study

For a better understanding of this study, the following terminology and their explanations are available below.

COVID-19: "Coronaviruses are enveloped, positive single-stranded large RNA viruses that infect humans, but also a wide range of animals" (Velavan & Meyer, 2020, p. 278).

Pandemic: "An epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people" (Last, 2001, p. 131).

Isolation and quarantine: Quarantine and isolation are public protection strategies that prevent the spread of infectious diseases by limiting people's daily movements to reduce their contact with other people. (Henssler at al., 2021).

Social distance: "Grades and degrees of understanding and intimacy which characterize personal and social relations generally" (Park, 1924, p.339).

Self-isolation: Self-isolation is the avoidance of people with contagious diseases from contacting other people in order not to infect healthy people with their diseases. (Suppawittaya et al., 2020).

Physical activity: All movements during the day, including free time, are defined as physical activity. Moderate and vigorous intensity levels of physical activities contribute to human health. (WHO, 2020).

Sedentary behavior: It includes activities that involve sitting, which can be done on the road, at work, or at home, with a very low level of energy expenditure which is between 1.0 and 1.5 MET (Thorp et al., 2011).

Eating Habits: “Conscious, collective, and repetitive behaviors, which lead people to select, consume, and use certain foods or diets, in response to social and cultural influences” (Rivera Medina et al., 2020, p. 1408).

Mediterranean Diet (MedDiet): The term Mediterranean diet is a diet adopted by people living in olive-growing regions of the Mediterranean region, defined in the 1960s and later, and includes high consumption of fish, fruits, vegetables, legumes, nuts, whole grains, monounsaturated fats from olive oil, and moderate alcohol (wine) consumption (Trichopoulou & Lagiou, 1997; Widmer et al., 2015).

CHAPTER 2

LITERATURE REVIEW

The chapter includes the (1) theoretical framework, (2) physical activity, (3) sedentary behaviors, (4) eating habits, (5) physical activity and sedentary behaviors, and eating habits, (6) COVID-19, and (7) COVID-19, physical activity and sedentary behaviors, and eating habits respectively.

2.1. Theoretical Framework

Bronfenbrenner's (1977) social-ecological model (SEM) argued that behaviors are influenced by a variety of factors at the individual level and also the larger levels such as social, physical, and policy environments. The social-ecological model takes a multidimensional approach that considers both the social and physical environments, as well as personal factors that influence health behavior (McLeroy et al., 1988). If this model is analyzed in the context of this study, demographic characteristics such as beliefs and attitudes related to behaviors are some parts of individual-level variables. The factors that take into account how much people around the individuals encourage them to be physically active and follow a regular and balanced diet are named the social environment factors. The issue of accessibility of the facilities needed for people to participate in physical activity, and of healthy foods and meals are considered within the scope of physical environmental factors. The last factor that plays a role in the social-ecological model is the policy environment. It is shaped around the laws, regulations, and policies of the governing agents regarding engagement in physical activity and encouragement of healthy eating (Lee & Park, 2021).

Individual factors (susceptibility of individuals to avoid contracting COVID-19), socio-environmental factors (the situation of individuals staying away from their usual social environment that supports their physical activities because of the transition

to distance education), physical environment factors (moving away from the various student-friendly facilities provided by the campus; suspending the services of many private and public facilities), and policy environment factors (the entry into force of pandemic rules that restrict movements significantly, such as social distancing, quarantine, and isolation obligations) caused by COVID-19 can also be evaluated within the context of the social-ecological model. In the light of these, it can be assumed that COVID-19 may change the physical activity participation and sedentary behaviors of university students (Figure 2.1).

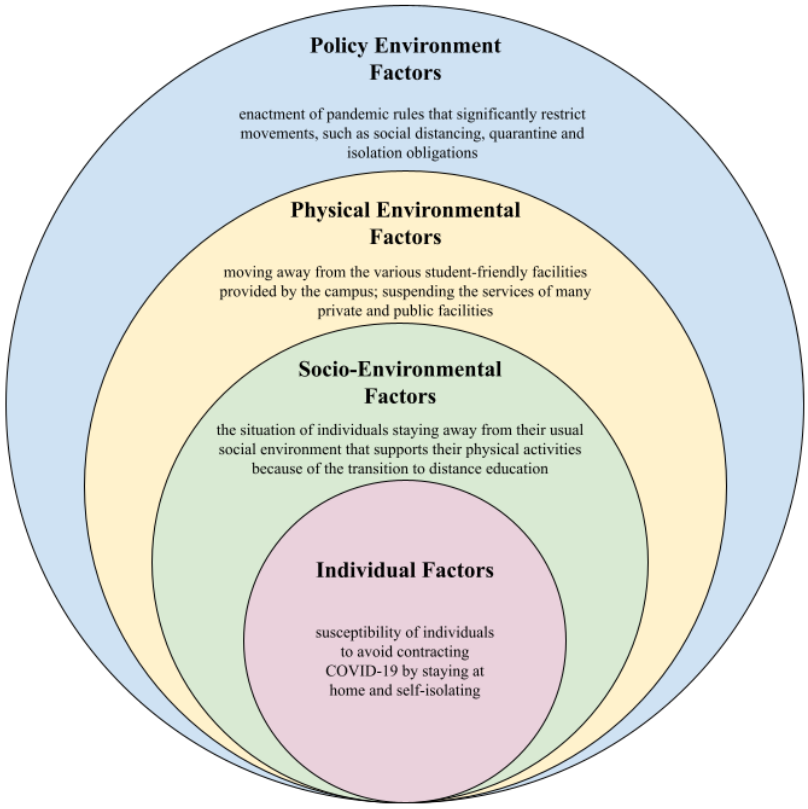

Figure 2.1 SEM factors that may affect physical activity participation - adapted from Sallis et al. (2008)

Moreover, individual factors (susceptibility of individuals to avoid contracting COVID-19 by changing eating habits), socio-environmental factors (the situation in which the eating habits adopted by individuals in their student life change when they start living with the family), physical environment factors (changes in the living space that may affect eating habits of individuals due to the transition to online education), and policy environment factors (enactment of the pandemic rules restricting the service hours and service status of places that provide food and beverage services such as restaurants and cafes) caused by COVID-19 may also be evaluated within the context

of the social-ecological model. In the light of these, it can be assumed that COVID-19 may change the eating habits of university students (Figure 2.2).

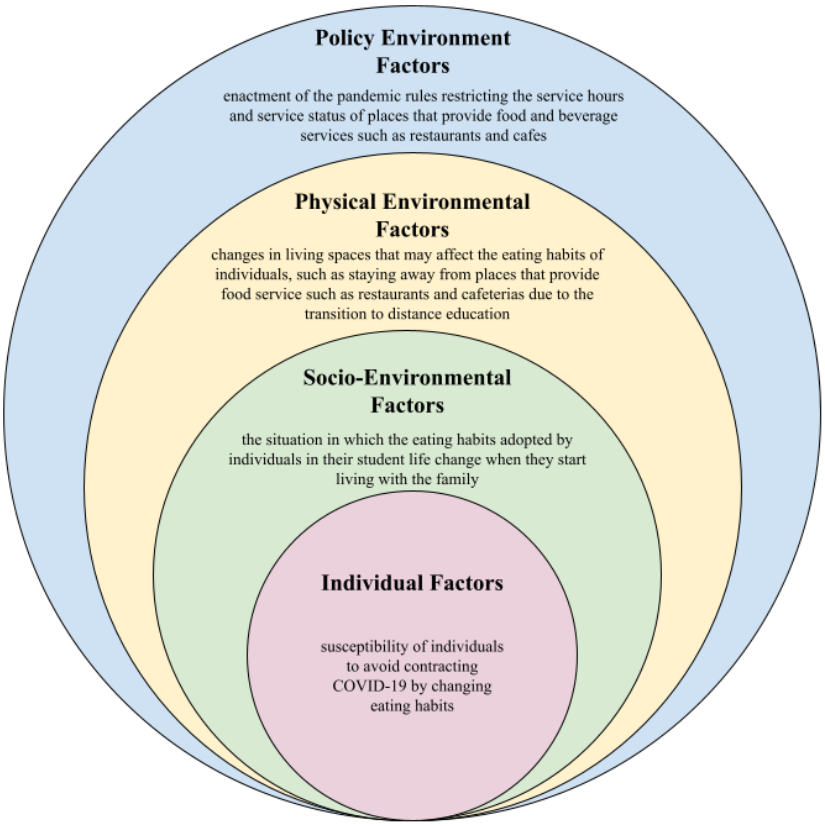

Figure 2.2 SEM factors that may affect eating habits - adapted from Sallis et al. (2008)

2.2. Physical Activity Participation

Physical activity is any bodily movement produced by skeletal muscle contraction that requires a significant expenditure of energy (World Health Organization, 2019). Physical activity is a multifaceted and complicated behavior. Varied activities, such as occupational (for example, a job that demands physical exertion or impact), domestic (for example, cleaning the home, gardening), transportation (for example, walking, cycling to work or school), and leisure-time activities (for example, dancing, swimming) support overall physical activity. Physical activity is also divided into three categories: frequency, duration, and intensity. The frequency and duration of an activity pertain to how often and for how long it is done. A person's hard work rate or the proportion of energy expenditure that an activity necessitates is referred to as intensity (Miles, 2007).

The World Health Organization's global recommendations for physical activity of adults aged 18-64 are 150-300 minutes of moderate-intensity aerobic physical activity per week, 75-150 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent mix of moderate and vigorous-intensity aerobic physical activity per week (Bull et al., 2020). This recommendation is also valid for various components of physical activity, such as work (paid and unpaid, domestic work), transportation (walking and cycling), recreation, and sports. Physical activity is also a beneficial tool that provides benefits and support for individuals to protect their bodily integrity and health. Public health practitioners around the world should stress the need for increased activity levels in spare time as well as incorporating physical activity into daily tasks because increased physical activity is known to reduce the risk of many diseases such as coronary heart and cerebrovascular diseases, hypertension, non-insulin-dependent diabetes mellitus, colon and breast cancers and osteoporosis (Lee et al., 1997). Canadian Community Health Survey (CCHS), which was collected between January and December 2005 and contained 132,221 people (Statistics Canada, 2006), demonstrates that people who participate in physical activity are at lower risk of developing diseases such as diabetes, high blood pressure, heart disease, asthma, and arthritis, as well as having the lower presence of negative health status (Humphreys et al., 2014).

However, many people, including university students, know little about this situation. For example, a study conducted by Haase et al. (2004) with 19,298 university students from 23 countries states that few of the university students had any idea of the relationship between physical activity and health, and only 40% to 60% of them were aware of an association between physical activity and heart disease risk. It is recommended to investigate this awareness at the international level, especially in underdeveloped countries, and to identify physical activity mediators that can be associated with health. Awareness is critical because late adolescence and the early years of adulthood can be essential periods in the transition to adulthood, the period when acquired habits are more permanent (Leslie et al., 2001). Promoting physical activity among university students means giving people a chance to develop habits to stay active later in their life. It is because university students are in a position to make independent decisions about their future, and the decision should be about preferring an active lifestyle (Maselli et al., 2018).

On the other hand, Caspersen et al. (2000) carried out a study to identify the age ranges in which the change in the physical activity participation of individuals is relatively large and distinctive. According to this study, among adolescents (the ages of 15-18) physical activity participation are generally corroded (for men, from 40% to 24%; for women, from 30% to 20%); among individuals between the ages of 12 and 21 regular and vigorous physical activity, and strengthening levels decrease continually (for men's physical activity, from 76% to 42%; for women's physical activity, from 66% to 28%; for men's strengthening, from 55% to 41%; for women's strengthening, from 36% to 23%); people between the ages of 18-29 (young adulthood) display consistent breakdown in their activity behaviors. The study emphasized the necessity of interventions that would start at an early age and continue on an ongoing basis to control declines in physical activity. In addition, one longitudinal research assessed how many of college students, for at least one month, maintained a level of physical activity essential for health benefits (Irwin, 2007). This study was conducted with 392 university students, and only 35% percent of these students followed the physical activity guideline for health (PAGH). Since insufficient participation in physical activity can lead to serious health problems, taking necessary precautions and interventions to ensure the continuation of physical activity among university students is needful.

Therefore, it is critical to track changes in young people's physical activity, and to comprehend elements like their behaviors and understanding towards health advantages that can possibly be linked to activity levels (Haase et al., 2004).

2.3. Sedentary Behaviors

Behaviors with low energy expenditure (<1.6 METs of rest) for long hours, such as prolonged sitting in occupational environments, watching TV, using a computer, and traveling by vehicles like cars and buses, are called sedentary behaviors (Salmon et al., 2011; Owen et al., 2011). It would be a more accurate approach to consider sedentary behaviors independently of physical activity participation (≥1.6 METs; light, moderate, and vigorous activities) because it is still possible to exhibit high levels of sedentary behavior even if the physical activity recommendations that require daily participation are met (Salmon et al., 2011). In this context, it is useful to understand sedentary behavior in itself and correctly.

Moreover, it is possible to associate sedentary behaviors with human health independently. An increasing number of scientific studies on adults have revealed the harms of excessive time spent sedentary on human health (Biswas et al., 2015). Also, as a result of the evaluation of data obtained from cross-sectional, longitudinal, and intervention studies, it has been indicated that there are consistent affiliations between the time spent in front of screens like television and computer and overweight/obesity in children and adolescents (Nunez-Smith et al., 2008). For instance, Mark and Janssen (2008) conducted research with 1803 adolescents aged 12-19 to examine the relation between screen time and metabolic syndrome (MetS) in adolescents. Results have shown that young people who spend three hours and more than three hours a day in front of the screen are 3.07 times more likely to have MetS than young people who spend 1 hour and less than 1 hour a day in front of the screen. This study recommended that interventions to improve the healthy lifestyle of the youth population need to be developed to shorten the time spent in front of the screen. Another study (Ford et al., 2005), which was carried out with 1626 participants aged 20 years and older, aimed to determine the relation between physical activity, sedentary behavior, and metabolic syndrome in U.S. adults. According to the results, sedentary behaviors such as watching television and using a computer for long periods of time have been found to be associated with having metabolic syndrome or an increased risk of having metabolic syndrome. The metabolic syndrome seen in people who spend 1 hour or less than 1 hour in front of a screen (18.5%) is almost half of the metabolic syndrome seen in people who spend four hours or more than four hours (35%). This study suggested that future studies should examine the benefits of reducing TV and computer time on metabolic syndrome.

Also, the prevalence and risk of cardiovascular disease and other causes related to mortality in both men and women are higher in individuals who engage in sedentary behavior for long hours of the day, regardless of moderate or vigorous physical activity intensity (Prapavessis et al., 2015). Research conducted by Stamatakis et al. (2011) with a population sample of 4,512 examined the independent associations between television viewing or other screen time activities and mortality from all reasons and diagnosed cardiovascular disease (CVD) cases. Results have shown that the risk of mortality from all causes is 48%, and the risk of cardiovascular disease (CVD) is 125% higher in participants engaging in ≥4 h/day of screen time compared to participants

engaging in <2 h/day of screen time. Researchers recommended further experimental studies to determine the exact mechanisms in explaining the relationship between sitting time and cardiovascular disease risk.

In spite of these associations and results, things about behaviors of university students' sedentary behavior are known little (Peterson et al., 2018). However, a much higher increase was observed in the sedentary behavior of individuals in this age group compared to individuals in all other age groups; on the contrary, a decrease in their MVPA was also observed compared to individuals in all other age groups (Nelson et al., 2008). Related to this, a study (Farinola & Bazán, 2011) conducted with 425 university students from the University of Flores investigated the sedentary behavior of these students. While 50% of the participants in this study stated that they sit between six and ten hours a day, 34% of them stated that they spent time sitting for 10 hours or more than 10 hours a day. It has been determined that 16% of these students had great levels of sedentary behaviors and had a higher risk of chronic diseases. It has been suggested that more studies and surveys should be conducted on sedentary behaviors during leisure time, transportation, or study. Another study (Carpenter et al., 2021) which examined the sedentary behavior of 272 college students, stated that students spent an average of 12 hours, or more than 12 hours per day with mostly screen-based sedentary behaviors. More intervention studies were suggested to reduce sedentary behaviors in university students and the negative effects of these behaviors on their health.

Thus, by considering these studies and their results, regularly examining university students' sedentary behaviors and the changes in these behaviors have great importance in order to come up with useful solutions for the health of future generations.

2.4. Eating Habits

People feel more energetic and better throughout the day thanks to healthy foods. They require food to satisfy their basic requirements, such as pumping blood, moving, and thinking. The nutritional value and quality of these foods are important parts of assisting individuals to live healthier and longer lives. People can avoid several diseases, such as some cancer types, heart attacks, type-2 diabetes, stroke, osteoporosis, constipation, digestive problems, cataracts, aging-related memory loss

or dementia, by choosing the appropriate eating alternatives (Willett & Skerrett, 2017). This situation may indicate that by consuming healthier food products, people may aim to control their body weight, contribute positively to their immune system and make it more potent.

However, eating habits have changed drastically and globally in the previous 40 years in a negative sense (Gorski & Roberto, 2015). The majority of the active living population has started to include processed foods such as fast food and street food, which have low nutritional value but are high in energy (calorie) values and portion amounts, much more in their diets. This situation has led individuals to excessive consumption. An increase is also observed in the production and consumption of foods of animal origin, oils, and caloric sweeteners (Gorski & Roberto, 2015). In short, despite the overconsumption of unhealthy foods and drinks in the population's diets, high-nutrient and low-energy foods such as legumes, coarse grains, and various vegetables are consumed in extremely low quantities (Popkin et al., 2012). It is possible to say that such a change in eating habits has important consequences on public health. In practically every country on the planet, unhealthy dietary patterns, which include high consumption of added sugars, trans fats, and salt, and physical inactivity are currently among the major reasons of avoidable mortality, disability, and diseases such as obesity, stroke, cancer, heart disease, high blood pressure, and type-2 diabetes (Gorski & Roberto, 2015). One of the studies (Nola et al., 2010) assessed the dietary habits of cardiovascular patients and the control group. This study revealed that cardiovascular patients had statistically significantly higher ($p < 0.05$) unhealthy eating habits, such as eating a lower number of daily meals, skipping breakfast more often, dinner with big portions, and night snacks, compared to the control group. The study highlighted that the majority of people with or at a high risk of cardiovascular diseases require several changes to their lifestyles and personal behaviors.

In addition, students who have reached university age and live more independently have more difficulties in choosing and consuming healthy foods. Individual factors (e.g. personal choice of food and self-control), social factors (e.g. absence of parental control and influence of friends and peers), physical environment factors (e.g. presence, reachability, affordability, and attractivity of food products), and macro-environment factors (e.g. global effects of media and advertising on food consumption) have substantial effects on students' food choices (Deliens et al., 2014).

Thus, university authorities should take action to positively change and improve the impacts of these factors on students (Deliens et al., 2014). A study (Papadaki et al., 2007), for example, assessed the current and pre-university eating habits of 84 Greek undergraduate university students who live away from their family homes or with their families. There was no significant change in the eating habits of the students living with their families during their university life. On the other hand, the consumption of fresh fruit, cooked and raw vegetables, oily fish, seafood, pulses, and olive oil decreased, and the consumption of sugar, wine, alcohol, and fast food increased in students living far from their family home. Further intervention studies were recommended to guide university students toward healthy eating habits, such as the Mediterranean diet (a type of diet that includes many healthy foods). Another study conducted by Lanuza et al. (2022) stated the relation between eating habits and quality of life (QOL) in 1,212 Chilean university students. It was observed that students with high healthy eating habits had a higher quality of life in parallel. It has been determined that having breakfast, eating homemade meals, and including fruit, vegetables, and fish products in meals are necessary to maintain the quality of life in almost every area. Consumption of sweet snacks and fast food were shown as the biggest risk factors for life quality. University administrations were advised to develop effective implementations to support the quality of life of university students.

As a result, it would not be wrong to say that the eating habits of university students are at the point of changing and affecting their lives. For this reason, it is important to determine the status of their eating habits and to lead intervention studies that will improve them positively.

2.5. Physical Activity Participation, Sedentary Behaviors, and Eating Habits

Scientific studies have shown that physical activity and eating habits are related to human health (Bergier et al., 2015). There are views, and some research suggests that physical activity is often supported or should be supported by healthy eating habits (Pavičić Žeželj et al., 2019). For example, Pavičić Žeželj et al. (2019) carried out a study with 400 full-time workers to detect the association between the Mediterranean diet (healthy diet) preference and high physical activity in Croatia. It has been recognized that one-third of the participants who perform more than 150 minutes of moderate-to-vigorous physical activity have healthier eating habits. These people

mostly prefer the Mediterranean diet, which includes unprocessed or less processed foods high in nutrients, such as olive oil, fruits, vegetables, legumes, milk, and dairy products. By considering that people spend most of their days at work, researchers of this study suggested that training such as diet training should be given in order for these people to develop healthy eating habits and thus increase workplace productivity. Also, physical activity has been observed to play a role in reducing sugar and fried products (Christofaro et al., 2021). It is also stated that some reasons related to eating habits lead people to physical activity. For instance, a study conducted by Bergier et al. (2015) to examine association between the level of activity and eating habits among university students (1,291 female students at the age of 19.5 ± 1). It has been noticed that people with a fear of gaining weight increase their physical activity levels significantly, and most of the female students are directed to exercise to gain or lose weight.

On the other hand, bad eating habits such as a tendency to skip breakfast, low fruit and vegetable consumption, insufficient meat, milk, and fish consumption, high salt and sugar consumption have increased among young people (Al-Hazzaa et al., 2011). Such eating habits invite obesity and excessive weight gain and affect physical activity participation. A study (Janssen et al., 2004) determined the relationship between overweight, obesity and eating habits and leisure-time physical activities with 5890 Canadian adolescents. Results showed that overweight and obesity were significantly related to less physical activity participation ($p \leq .05$) but longer television watching times ($p < .01$). The study recommended the implementation of effective national public health campaigns to reduce the prevalence of obesity and sedentary behaviors in the youth population and increase the participation of the population in physical activity. With the rapid development of technology, young people's sedentary behaviors and sedentary time spent in front of the screen has also increased considerably due to the widespread use of technological devices such as television, computer and the internet (Musaiger & Al-Hazzaa, 2012). A related study conducted by Santaliestra-Pasías et al. (2014) assessed the association between eating habits and sedentary behaviour in 2202 adolescents. It has been revealed that the consumption of fruits and vegetables is lower, the behavior of skipping breakfast is common, the consumption of snacks is higher, and the health awareness is lower in boys who spend more than four hours a day in front of the television. In girls who

spend more than four hours a day in front of the TV and computer, it is stated that snack consumption is higher and healthy eating awareness is lower. In general, long hours of computer and internet use have been associated with higher consumption of snacks. This study recommends creating interventions to reduce unhealthy eating habits and sedentary behaviors. Another study, which is also about the association between sedentary behaviours and eating habits, carried out by Compernolle et al. (2016) with 6,037 adults in Europe. According to this study, low consumption of fruits and vegetables, high consumption of fast food and sugary drinks are associated with increased sitting behavior such as spending longer hours in front of the TV. The research recommended further research to confirm and explore this association (between domain-specific sedentary behaviours and eating habits), taking into account age, gender, and socio-demographic status.

While these are considered, it seems possible to say there is an interaction between physical activity, sedentary behavior, and healthy eating habits. Thus, by considering this interaction, and studies exaiming the changes in physical activity participation, sedentary behaviors, and eating habits and suggestions that will contribute positively to these behaviors and habits should be presented for the well-being of people, especially university students (young adults) who are in the period to acquire permanent habits for their future lives (Leslie et al., 2001).

2.6. COVID-19 Pandemic

People The coronavirus 2 (SARS-CoV-2), which causes severe acute respiratory syndrome, was identified on 7 January 2020 in Wuhan, China. Later, this virus spread worldwide, and on October 14, 2022, a total of 620.878.405 people were infected with this virus, and 6.543.138 of those patients died (“WHO Coronavirus (COVID-19) Dashboard,” n.d.).

Symptoms of patients with SARS-CoV-2 infection may be mild or severe. On the other hand, most of these patients are asymptomatic carriers. The most common of these symptoms can be listed as fever (83%), cough (82%), and shortness of breath (31%). Chest X-rays of patients with pneumonia usually demonstrate numerous mottling and ground-glass opacity (Ciotti et al., 2020). So, Coronavirus cases may be classified as asymptomatic, suspected, mild, and severe/critically ill according to the severity of patients’ symptoms. In accordance with these classifications and according

to the medical resources currently available, different treatment locations, such as homes, health care facilities, mobile cabin hospitals, and Intensive Care Units (ICU), can be selected to follow and quarantine patients (Ciotti et al., 2020).

In order for the public to avoid this disease, it has become mandatory to implement a number of measures such as hand and respiratory hygiene, maintaining social distancing, being mindful of individual isolation, the use of suitable private protective materials, reliable injection techniques, environmental cleaning, fresh linens, and sterilization of patient care equipment (Ciotti et al., 2020). That is, COVID-19 has inevitably created significant changes in the life routine of people, as it is a disease with severe and deadly consequences and has massive effects, as mentioned above. Especially personal hygiene and isolation rules have changed many things in people's daily lives. For instance, with an unprecedented amount of remote labor and distance education, the nature of work and education has altered dramatically.

As a result of the COVID-19 precautions, employees and students had to lose almost all social opportunities and privileges they had acquired due to their work and education life, and had to radically change their daily routines. It would not be wrong to say that the effect of this situation on physical activity participation, sedentary behavior, and eating habits is worth investigating.

2.7. COVID-19, Physical Activity Participation, Sedentary Behaviors, and Eating Habits

As it is known, COVID-19 has caused significant changes in the life order of almost everyone. Physical distancing, self-isolation, and confinement rules highly affected the lives of people and their routines such as eating habits and everyday behaviors (Di Renzo et al., 2020). Changes in eating habits and lifestyle, which are crucial factors for human health, may also be harmful to health. For example, during confinement periods, the increase in daily calorie intake and, parallelly, the decrease in physical activity level may cause an increase in metabolic diseases. Also, inadequate intake of Mediterranean foods leading to oxidative damage, and being overweight or having obesity (people with BMI≥40 kg/m2) makes people more vulnerable to COVID-19 and are at high risk for the deadly effects of this disease (Di Renzo et al., 2020). On the other hand, maintaining physical activity participation in the COVID-19 pandemic may support healthy eating habits. For instance, a study conducted by

Christofaro et al. (2021) with 1,874 Brazilian adults investigated the relationship between physical activity and eating habits during the COVID-19 pandemic. Results have clearly shown that fried foods and sugar consumption were lower in participants with higher levels of physical activity, while healthy eating habits were more common in these participants ($p < 0.001$). It is recommended that interventions to support physical activity be put in place to improve the health status of individuals during a pandemic for future research.

Moreover, it has been emphasized by global organizations that it is necessary to adapt physical activity habits to changes in the lives of individuals (Natalucci et al., 2020). Given the risks of engaging in physical activity in public spaces due to social distancing measures to counter the spread of COVID-19 disease, physical education experts recommend that some kind of physical activities such as walking, stretching, jogging, doing pilates/yoga can be continued by taking into account the social distance rules in open areas close to home or by participating in training that supports physical activity online at home (Natalucci et al., 2020). Also, acquiring proper eating habits and maintaining these habits are more important during the COVID-19 pandemic when the immune system must be robust. In this sense, regularly consuming foods such as fresh fruits and vegetables, which are rich in antioxidants and are in their exact season, are highly protective against diseases that require a strong immune system (Di Renzo et al., 2020). Moreover, it is indicated that adopting proper nutritional intake and a healthy lifestyle (physically active) can increase the recovery rate while reducing the severity and fatal consequences of COVID-19 disease (Messina et al., 2020). According to all these, it can be can said that it is important to gain and maintain physical activity participation and healthy eating habits during the COVID-19 pandemic.

On the other hand, in the majority of the studies conducted during the COVID-19 pandemic, a decrease in physical activity participation and healthy eating habits was observed, while an increase in sedentary behaviors was observed. For example, Górnicka et al. (2020) analyzed lifestyle and dietary changes during the COVID-19 pandemic with 2381 Polish adults in their cross-sectional study. According to the results, while physical activity (PA) level decreased in 43% of the subjects, sedentary behavior (time spent in front of a screen) increased by 49%, and food consumption (overeating status) increased by 34%. This study suggested that the importance of

physical activity should be emphasized during the mandatory confinement period. Another study carried out by Cancello et al. (2020) with 490 participants examined the perceived physical activity participation, sleep (sedentary behavior), and eating habits changes of Italian adults. Results indicated that only 14% of participants who were physically active prior to the COVID-19 period maintained their activity level; only 18% of them increased the level; but 68% of them decreased the level. Also, only 27% of sedentary participants increased their physical activity level. While 42% of participants increased their food consumption, only 13% of them decreased it. Moreover, 38% of the participants who are smokers increased their use of cigarettes. This study underlined the importance of sharing the necessary information to maintain a healthy lifestyle even under quarantine conditions, both through online channels such as mobile applications and non-online channels such as newspapers, brochures, posters, and television.

In addition, as schools, colleges, universities, and other educational institutions needed to be closed in order to control the spread of the COVID-19 virus (SARS-CoV-2) and reduce the risk of transmission, many students' lifestyle has changed dramatically (Cofré et al., 2022). These considerable changes caused by the COVID-19 also had visible effects on students' physical activity participation, sedentary behaviors, and eating habits (Cofré et al., 2022). Romero-Blanco et al. (2020) conducted research with 213 university students to examine their physical activity and sedentary behaviors before and during COVID-19 pandemic. Increased physical activity and sedentary behavior (sitting time) in university students were observed as a result of the study. It recommended creating strategies to increase physical activity levels and reduce sedentary behaviors (sitting time) to encourage students to adopt a healthy lifestyle. Another study was conducted by Bertrand et al. (2021) with 125 university students to analyze COVID-19 effects on students' physical activity and sedentary behaviors, and dietary intake. Results show that weekly time spent doing moderate to vigorous intensity levels of physical activity reduced around 20% during COVID-19 ($p < 0.001$); there was an increase of three hours per day in the sedentary behaviors of the students ($p < 0.001$); there was an increase in alcohol consumption ($p = 0.03$) and a decrease in dietary intake ($p = 0.03$) in this period. It is recommended that university students need to be taken into account in intervention studies to improve their physical activity participation and eating habits during and after the pandemic.

Moreover, more studies examining physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic and their results can be seen in Table 2.1.

Thus, it would not be wrong to say that COVID-19 has effects on physical activity participation, sedentary behaviors, and eating habits, and they also have a role in the transmission and recovery process of COVID-19. So, changes in physical activity participation, sedentary behaviors, and eating habits during the COVID-19 pandemic are worth observing for the benefit of university students.

Table 2.1

Changes in PA Participation, SB, and Eating Habits

Author, year	Country	Study Design	Population	Sample Size (included in the analysis)	Age (mean ± SD or median (range or IQR) (years)	Recruitment	Measures	Findings (PA, SB, Dietary)
Ács et al., 2020	Hungary	Cross-sectional study	Students of 10 faculties at the University of Pécs	827	25.3 ± 8.1	Online survery.	IPAQ	Walking, min/week: 162.5 ± 237.8 (↓52.6%) [p <0.001] Moderate, min/week: 136.7 ± 220.6 (↑7.9%) [p= 0.170] Vigorous, min/week: 138.7 ± 180.5 (↓2.9%) [p= 0.484] Total PA, min/week: 435.4± 472.0 (↓28.6%) [p< 0.001]
Barkley et al., 2020	United States	Cross-sectional with one cut-off point	University (undergraduate and graduate) students and employees.	100 undergraduate students; 84 graduate students	Undergraduate students = 26.9 ± 8.9; Graduate students = 29.9 ± 9.7	E-mail	Godin physical activity questionnaire IPAQ	Godin score/week; mean ± SD ↓(from 16.3 ± 22.6 to 10.8 ± 12.9)
Imas-Aramburu et al., 2021	Spain	Longitudinal	Students enrolled at a health science university	267	Nursing and medical students at the beginning of the second year Physiotherapy students at the beginning of the third year	Face to face questionnaires	IPAQ MedDiet 14-item questionnaire	PA frequency: usually (from n=137, 51.9% to n=139, 52.6%) occasional (from n=116, 43.9% to n=106, 40.2%) none (from n=11, 4.2% to n=19, 7.2%) MedDiet: mean; SD ↑(from 9.03; 1.69 to 9.27;1.71)
Intelangelo et al., 2022	Argentina	Cross-sectional	University students	1021	Between 18 and 70 (median 22)	Web survey	IPAQ-SF	Reduction in activities lasting more than 1 hour from 39.6% to 12.6% (p<.001) Reported bad sleep quality (22.82% of participants) Reduction in good feeding pattern from 61.9% to 39.47% (p<.001)
Karuc et al., 2020	Croatia	Longitudinal survey design	University students	91	♂ = 32 (21.5 ± 0.3) ♀ = 59 (21.6 ± 0.4)	Online questionnaire	SHAPES	♂ MVPA, min/day (median ± IQR): 85.7 ± 56.8 (↓36.5%; ↓57.7 min/day [p = 0.006]) ♀ MVPA, min/day (median ± IQR): 64.3 ± 75.0 (↓46.4%; 64.8 min/day [p< 0.0001])
Luciano, 2020	Italy	Cross-sectional with two cut-off points	6th-year Italian medicine students (undergraduate stu-dents).	Fist survey = 714; Second survey= 394	First survey= 25.0 ± 2.0; Second survey = 25.0 ± 2.0	Student representatives invited all the students in their class to fill in the online questionnaire (convenience sampling)	IPAQ	PA: MET-min/week; median ↓(from 693 to 99) SB: min/day; mean ± SD ↑(from 418.6 ± 201.6 to 525.4 ± 194.6)

Table 2.1

Continued

Author, year	Country	Study Design	Population	Sample Size (included in the analysis)	Age (mean ± SD or median (range or IQR) (years)	Recruitment	Measures	Findings (PA, SB, Dietary)
Maher et al., 2021	United States	Longitudinal (uncontrolled pre-post study)	Kinesiology undergraduate students	107	21.7 ± 2.6	Online questionnaire	IPAQ	PA: min/week; mean ± SD ↓(from 424.6 ± 372.0 to 324.7 ± 316.6)
Romero-Blanco et al., 2020	Spain	Longitudinal (uncontrolled pre-post study)	First to fourth year health sciences students (undergraduate students)	213	20.5 ± 4.6	The study was carried out within the context of another study. No further details.	IPAQ	SB: min/day; mean ± SD ↑(418.6 ± 201.6 to 525.4 ± 194.6)
Savage, et al. 2020	United Kingdom	Longitudinal (uncontrolled pre-post study)	Undergraduate students.	214	20.0 (mean)	Online survey	Exercise Vital Sign questionnaire	PA: min/week; mean ± SD ↓(from 249.2 ± 239.6 to 221.4 ± 220.6) SB: hours/week; mean ± SD ↑(from 55.2 ± 25.1 to 78.1 ± 32.1)
Yang et al., 2020	China	Cross-sectional with one cut-off point	Undergraduate and graduate students.	7024 undergraduate students; 234 graduate students	Undergraduate students = 20.6 ± 1.8; Graduate students = 24.6 ± 3.5	Social media platforms (snowball sampling)	IPAQ	PA: hours/day; median ↓(from 1.2 to 1.0) SB: hours/day; median ↑(from 4.0 to 5.0)

PA: Physical Activity
SB: Sedentary Behaviour
SD: Standard Deviation
IPAQ: International Physical Activity Questionnaire
IPAQ-SF: International Physical Activity Questionnaire - Short Form
MedDiet: Mediterranean Diet
MET: Metabolic Equivalent Task
SHAPES: School Health Action, Planning, and Evaluation System
Source: Prepared by the authors of this study.

CHAPTER 3

METHODS

The main aim of the current study was to examine changes in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic. This chapter contains the study's research design, research participants, data collection instruments, data collection procedures, data analysis, and limitations, respectively.

3.1. Research Design

The design of this research was conducted as a mixed methods research design. In order to provide a better understanding of the research problem, collecting, analyzing, and integrating both quantitative and qualitative data in the same study means using mixed methods in research (Creswell, 2005; Tashakkori & Teddlie, 2003). It was measured if there is any change in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic compared to before the COVID-19 pandemic. Cross-sectional surveys were used in this study. The mixed-methods sequential explanatory design was used in this study. According to this design, for a single study, first and foremost, quantitative data is collected and analyzed, and then qualitative data is collected and analyzed. Then, these two data sets are integrated and presented in the study (Ivankova et al., 2006). To support and expand the quantitative data, the qualitative data was collected in this study. Original data was collected from the university students studying in Ankara by using questions about demographic information, physical activity participation, sedentary behaviors, and eating habits. To collect qualitative data, interviews were conducted with some (10) of the university students who participated in the online survey.

Snowball sampling, which is the survey sample technique used to reach rare and hard-to-find populations, was used in this study to reach participants because it was needed to get participants who met the inclusion criteria of this study (Wright & Stein, 2005). In this technique, initial contacts are established to reach the population to be researched, and then through these contacts, other samples that will be eligible for the study are reached until the desired number of participants is reached (Wright & Stein, 2005). So, with the help of the faculty instructors at METU, first their students and their colleagues from other universities, then the student participants were reached. With these volunteer students' assistance, other eligible students were also invited as samples to the study.

Moreover, convenience sampling was used to select the participants for the qualitative part of the research. It is a sampling technique that does not ensure that every member of the population the researchers aim to study participates in the study, but the researchers choose the participants by themselves, the participants are directed to the researchers, or the participant chooses to participate in the study voluntarily (Stratton, 2021). So, the participants, who were sure that they participated in the survey prepared for the quantitative part of the research, were asked whether they also would like to participate in the interviews prepared for the qualitative part of the research, and interviews were conducted with those who agreed to participate.

3.2. Research Participants

The population of the study consisted of university students who study in Ankara. Three hundred thirty-two samples were reached in total. Participants were chosen based on inclusion criteria: (1) being a university student (prep, bachelor, master, and Ph.D.) in Ankara during the COVID-19 pandemic, (2) being a healthy student that has no limitations to participate in physical activity. The study sample was limited to university students who study in Ankara due to the limited budget and limited network needed to reach universities, academic staff, and students from other Turkish cities, and mandatory conditions (everything has to be online and distant) to find and convince the participants. In order to collect my research data, all participants were reached via online tools and sent an online survey because of COVID-19 confinements.

Out of 332 participants, 38 of the participants were excluded because they did not complete the survey properly and meet the inclusion criteria. In accordance with the purpose of the study and inclusion criteria, 294 university students answered all questions in the online survey appropriately. Table 3.1 demonstrate the demographic characteristics of the participants included in the study (n=294). The sample consists of students with an average age of 22.9 (*SD* = 5.55) who enrolled in universities in Ankara. According to Table 3.1, it is seen that 116 male (39.46%) and 178 (60.54%) female participants answered all questions appropriately. Seventeen of the university students are married, and two hundred seventy-seven of them are single. Samples mostly consist of undergraduate students (81.97%) from Ankara (a metropolitan city). It means most of the participants are single undergraduate students from 10 different universities (mainly from Middle East Technical University) in Ankara (a metropolitan city). Lastly, participants' self-reported anthropometric data were calculated and demonstrated in the result section (Figure 4.1, Figure 4.2, Figure 4.3, Figure 4.4).

Table 3.1

Participants' Sociodemographic Characteristics

	Male		Female	
	N	%	n	%
Participant	116	39.46	178	60.54
Marrital Status				
Married	7	2.38	10	3.40
Single	109	37.07	168	57.14
Years of University				
Prep Student	21	7.14	19	6.46
1st Year Student	29	9.86	58	19.73
2nd Year Student	11	3.74	21	7.14
3rd Year Student	11	3.74	21	7.14
4th Year Student	21	7.14	29	9.86
Master Student	18	6.12	19	6.46
Ph.D. Student	5	1.70	11	3.74
Total	116	39.46	178	60.54

Moreover, ten volunteer university students from the main sample were interviewed in order to deeply analyze the challenges in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic. Questions for semi-structured interviews were answered by 10 university students. Seven of them are graduate students, and three of them are undergraduate students from five different universities in Ankara. More details on the profiles of these 10 participants can be seen in Table 3.2.

3.1. Data Collection Instruments

3.1.1. Online Survey

In social sciences, it is common to use the survey due to its concern with examining and measuring human behaviors (Ponto, 2015). In an online survey, questions can be prepared by using online programs such as Google Forms (preferred in this study) and Survey Monkey, and delivered to participants via online tools such as e-mail, social media, and messaging apps. In addition, there are some positive and negative aspects of conducting an online-based survey (Schmidt, 1997). The positive aspects are that it saves money as it eliminates the cost of transportation to physically reach the participants and the cost of paper used to apply the survey to the participants. Since there is no need for one-on-one physical contact with the participants, the researcher saves more time and has the opportunity to reach more participants at the same time. Also, if one-to-one attention is not given when distributing the paper-based surveys, some of the questions may not be answered, and the survey may not be completed properly.

Moreover, with the Web-based survey, it is possible to set the necessary conditions not to make the survey complete until all questions have been answered, so it is ensured that all questions are answered by the participants and the number of missing participants may be less. However, there are also negative situations that can occur in an online survey, such as internet connection problems that may occur and irrelevant answers to some open-ended questions. To overcome these situations, the participants were advised to make sure their internet connection was strong when answering the questions, and the questions were prepared and presented as clearly and unambiguously as possible.

Table 3.2

Profiles of Participants Participating in the Interviews Within the Qualitative Study (During COVID-19)

Participant Number	Grade	University	Physical Activity Participation	Sedentary Behaviors	Eating Habits
Participant 1 (P1)	Undergraduate	Hacettepe University	Less Physical Activity Participation; ↓Walking	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time, Sleep Time	Overeating; ↑Snacks, ↑Junk Food, ↑Pastries, ↑Supplements (Vitamins C and D), ↑Protein-Containing Foods, ↑Fruits, and ↑Vegetables
Participant 2 (P2)	Graduate	Middle East Technical University	Less Physical Activity Participation; ↓Walking	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time, Sleep Time	Overeating; ↑Snacks, ↑Junk Food, ↑Pastries, ↑Supplements (Vitamins C and D), ↑Protein-Containing Foods, ↑Fruits, and ↑Vegetables
Participant 3 (P3)	Graduate	Middle East Technical University	Less Physical Activity Participation; ↓Walking	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time, Sleep Time	Consuming Healthier Foods More; ↑Home Cooking, ↑Eating Mainly Fruits and Vegetables, and ↑Consuming Nuts
Participant 4 (P4)	Graduate	Middle East Technical University	More Physical Activity Participation, Muscle-Strengthening Activities like Yoga, Pilates, and Home Workouts	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time	Consuming Healthier Foods More; ↑Dieting, and ↑Eating Mainly Fruits and Vegetables
Participant 5 (P5)	Graduate	Hacı Bayram Veli University	Less Physical Activity Participation; ↓Walking	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time, Sleep Time	Overeating; ↑Home Cooking, ↑Eating Mainly Fruits and Vegetables, and ↑Consuming Nuts

Table 3.2

Continued

Participant Number	Grade	University	Physical Activity Participation	Sedentary Behaviors	Eating Habits
Participant 6 (P6)	Graduate	Hacı Bayram Veli University	Less Physical Activity Participation; ↓Walking	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time	Consuming Healthier Foods More; ↑Home Cooking, ↑Eating Mainly Fruits and Vegetables, and ↑Consuming Nuts
Participant 7 (P7)	Undergraduate	Yıldırım Beyazıt University	Less Physical Activity Participation; ↓Walking, Dancing	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time, Sleep Time	Overeating, ↑Protein and Vegetables, ↑Vitamins, ↑Carbohydrates (pastries, snacks)
Participant 8 (P8)	Graduate	Middle East Technical University	More Physical Activity Participation, Muscle-Strengthening Activities like Yoga, Pilates, HITT Workouts	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time	Consuming Healthier Foods More; ↑Home Cooking, ↑Eating Mainly Fruits and Vegetables, and ↑Consuming Nuts
Participant 9 (P9)	Undergraduate	Ankara University	Less Physical Activity Participation; ↓Walking	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time	No Change
Participant 10 (P10)	Graduate	Middle East Technical University	Less Physical Activity Participation; ↓Walking, Gym Workouts	Increased Sedentary Behaviors; ↑Sitting Time, Screen Time	Consuming Healthier Foods More; Home Cooking, ↑Taking Nutritional Supplements, ↑Eating Mainly Fruits and Vegetables, and Consuming Nuts

Source: Prepared by the authors of this study.

3.1.1.1. Development of Online Survey "Survey of Physical Activity Participation, Sedentary Behaviors, Eating Habits During the Pandemic"

In this study, the ways that needed to be followed in order to develop and apply the online survey appropriately have been followed (Büyüköztürk, 2005). Firstly, in the study, the problem was started to be defined with a wide literature review regarding people's and students' physical activity levels, types, and theories (The Social Behaviors Theory, The Theory of Planned Behavior, The Self-Determination Theory, The Transtheoretical Model, and The social ecological model), sedentary behaviors such as sitting and screen-time, eating habits such as MedDiet preference or fast-foods and snacks consuming. At the end of the problem definition, the purpose of the study and the questions to be answered in this study were formed. Therefore, the answers to the questions of what kind of information will be collected from where/from whom and what to do with the collected information were given. Then, the items were designed and written by determining the theoretical framework related to the subject and by reaching similar research that was done before. The online survey questions were composed of close-ended (structured) questions with clear answer options.

After that, the stage of getting experts opinions was started. At this stage, the answer to what extent are the items in the survey sufficient to cover and collect the needed factual and/or judgmental data question is sought. The opinions of 4 experts working in the field of physical education and sports, one of whom worked in exercise physiology and three of whom worked in physical activity, were consulted to get the answer to this question, which is related to the content validity and face validity of the survey. Experts evaluated the items in the Survey Draft Form in terms of content validity and face validity. "Content validity measures the comprehensiveness and representativeness of the content of a scale" (Yaghmaie, 2003, p. 25). Face validity is concerned with the extent to which the prepared questions measure what they are intended to measure. The fact that most people agree that the prepared questions measure what they are expected to measure means that face validity is strong (Johnson, 2021). Based on the experts feedback, necessary modifications were made to the Survey Draft Form as a result of expert evaluation, and the Pre-Application Form was created.

Finally, in order to evaluate the clarity of the instructions and questions, the response time, and to detect its possible neglects and errors, a preliminary application (pilot study) of the survey was made. It was necessary because pre-application is the stage in which the validity and reliability of the survey are questioned with data based on observation (Büyüköztürk, 2005). After the last modifications made by taking the feedback obtained from a total of 10 participants, as a result of the pre-application, into account, the survey was sent to the participants to be applied.

In the study, the online survey included questions (items) under five different parts to be asked to the participants. These are demographic information form, questions related to physical activity participation, questions related to sedentary behaviors, questions related to eating habits, and Turkish Physical Activity Stages of Change Questionnaire (APPENDIX A).

3.1.1.2.Demographic Information Form

The information, which may be helpful and distinctive for this study, on participants' age, sex, marital status, place of living, place of residence, and other demographics, such as which grades they studied at the university, which universities they attended, and whether they were involved in any sports clubs and societies before and during the pandemic, was gathered by using twenty-five questions.

3.1.1.3.Questions Related to Physical Activity Participation

This section of the survey was divided into two parts. While the first part of it contains 11 questions to determine the participants' status of participation in physical activity before the COVID-19 pandemic, the second part includes 13 questions to determine the participants' status of participation in physical activity during the COVID-19 pandemic.

Questions, according to the FITT (frequency, intensity, time, and type) principle, were asked for before and during the COVID-19 pandemic separately to identify university students' participation status in physical activity, the types of physical activities they are involved in, their intensity levels of physical activity, how many days of the week, on which days and at what time of the day they do physical activity, how long they do physical activity, where and with whom they usually participate in physical activity, factors affecting their physical activity status, and their

self-reported physical activity status. The questions of “Approximately how many days a week do you do physical activity during the pandemic?” and “Approximately how many days a week were you doing a physical activity before the pandemic?” are some of the exemplary questions in this part.

3.1.1.4.Questions Related to Sedentary Behaviors

This part of the survey contains seven questions in total to indicate the sedentary behaviors of the participants before and during the pandemic. It was determined which behaviors were mostly related to sedentary behaviors, and questions focused on these behaviors. In order to indicate how many hours they displayed sedentary behaviors for various reasons before and during the pandemic, questions asked participants before and during the pandemic to detect the number of hours they slept on average, the number of hours they spent sitting and lying down, the number of hours they used various technological devices, and reasons that push them to inactivity. The questions of "Before the pandemic, how many hours per day on average did you spend sitting/lying down?" and "During the pandemic, how many hours per day do you spend on average sitting/lying down?" are the exemplary questions in this part.

3.1.1.5.Questions Related to Eating Habits

In this part of the survey, a total of 33 questions were asked to the participants to analyze the change in the eating habits of the participants during the pandemic compared to the pre-pandemic period. There are two main types of questions that are questions about the consumption of foods that can be harmful to health, such as fried food, snacks, fast food, carbohydrates, refined sugar, coffee, carbonated drinks, alcohol, and cigarettes; and also, the questions about their consumption of foods that can be beneficial for health, such as vegetables, legumes, milk and dairy products, white and red meat, seafood, nuts, fruit, water, and herbal tea. So, questions related to the Mediterranean diet have been added to this part of the survey, as it is a type of diet that includes many healthy foods such as whole grains, fruits, vegetables, seafood, beans, and nuts. Also, additional questions were asked about other factors affecting eating habits, such as extra vitamin supplements taken from outside, frequency of eating, number of main meals consumed, significant weight changes, and special diets

followed. From a study examining the changes in people's eating habits during the COVID-19 pandemic in Spain (Rodríguez-Pérez et al., 2020), some items related to the Mediterranean diet (MEDAS), which mostly includes healthy foods, were utilized with the permission and approval of the researchers of the study. The exemplary questions of this part are stated below:

1) Has there been a change in your consumption of foods containing high/refined sugar (chocolates, candies, instant fruit juices, instant sugary foods, etc.) during the pandemic?

- Yes, I am consuming more high/refined sugar
- Yes, I am consuming less high/refined sugar
- First, I consumed more high/refined sugar; now, I am consuming less
- First, I consumed less high/refined sugar; now, I am consuming more
- No, I consume high/refined sugar as usual
- I do not consume high/refined sugar

2) Has there been a change in your vegetable consumption during the pandemic?

- Yes, I am consuming more vegetables
- Yes, I am consuming fewer vegetables
- First, I consumed more vegetables; now, I am consuming fewer vegetables
- First, I consumed fewer vegetables; now, I am consuming more vegetables
- No, I consume vegetables as usual
- I do not consume vegetables

3.1.2. Turkish Physical Activity Stages of Change Questionnaire

In this study, an adapted Turkish version of the Physical Activity Stages of Change Questionnaire (Marcus et al., 1992; Marcus & Lewis, 2003) was implemented to analyze the exercise stages of university students. Turkish adaptation of the scale was made by Cengiz et al. (2010). According to the adaptation, the reliability and validity of this questionnaire were tested, and the test-retest reliability of the Turkish version of this questionnaire was determined as 0.80.

This questionnaire has four questions. Two of them are about moderate physical activity participation, and another two questions are related to participants' regular physical activity participation. These are closed questions. Participants can answer by marking "Yes" or "No" options. A copy of these questions is presented in the appendix.

Based on answers, participants were associated with five different physical activity stages, which are pre-contemplation, contemplation, preparation, action, and maintenance. Participants who are not physically active and do not think they will be are included in the pre-contemplation stage. Participants who are not physically active but intend to be within six months are included in the contemplation stage. Participants who are physically inactive but intend to be within a month are included in the preparation stage. Participants who are physically active at the moderate-intensity level for 30 minutes or more every day of the week but for less than six months are included in the action stage. Participants who are physically active at the moderate-intensity level for 30 minutes or more every day of the week for six months or more than six months are included in the maintenance stage.

3.1.3. Semi-structured Interviews

In this study, as a qualitative data collection, semi-structured interviews were applied to find out more about the experiences in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic compared to before the COVID-19 pandemic (APPENDIX B). The semi-structured interview is conducted through conversation with one participant, lasting a maximum of 1 hour, and a mix of closed and open-ended questions can be used. Usually, why and how questions accompany these questions. The questions are not blindly adhered to as in a standard questionnaire, and the interview can be directed according to the needs of the participant (Newcomer et al., 2015). Semi-structured interviews have some disadvantages and advantages. These interviews require intensive labor, long hours, and expertise. After these interviews, it is often necessary to analyze a large number of notes and sometimes hours-long transcripts (Newcomer et al., 2015). On the other hand, in mixed methods research, if it is aimed to explore the riddles that emerged after analyzing the questionnaire findings and support and

strengthen these findings, these interviews can be helpful to contribute and add depth to the study (Newcomer et al., 2015).

3.3.3.1. Development of Semi-structured Interviews "Interviews of Physical Activity Participation, Sedentary Behaviors, Eating Habits During the COVID-19 Pandemic"

Open-ended questions for the semi-structured interviews were prepared by examining qualitative studies on physical activity, sedentary behavior, and eating habits during the COVID-19 pandemic. The interview questions were formed to cover the topics in the online survey in more detail and to support its results. In order to evaluate the content validity, the opinions of three experts in the field of physical activity and one expert who focused on qualitative research in her studies were taken, and the questions were finalized according to their feedback on the content. Then, cognitive interviews were conducted with three university students who did not participate in this study before. Cognitive interviewing, which is an oral protocol, is interviews to identify questions that may be answered incorrectly. The general purpose of these interviews is to understand how the participants perceive and interpret the questions prepared for them to answer, to identify the problems that may arise, and to finalize the questionnaire to be applied (Drennan, 2003). According to the feedback obtained as a result of the cognitive interviews, the questions were modified again and took their final form (APPENDIX B).

The online interviews were conducted with 10 participants in order to obtain more in-depth and detailed information about the physical activity participation, sedentary behaviors, and eating habits of university students during COVID-19 and to complement the data obtained from the online survey. These open-ended questions created a space for university students to express themselves more easily and thus give clearer and more detailed information about the change in their physical activity participation, sedentary behaviors, and eating habits during the pandemic. Also, as the convenience of semi-structured interviews, the freedom to go beyond pre-prepared questions and ask more questions when necessary provides an opportunity to obtain specific and detailed information (Savin-Baden & Howell-Major, 2013).

3.2. Data Collection Procedures

Approval from the Human Subjects Ethics Committee of Middle East Technical University (APPENDIX C), supports of the universities and instructors in Ankara, and participants' consents for both online survey (APPENDIX D) and semi-structed interview (APPENDIX E) were taken. The ethical rules that Cohen (2002) stated should be followed while applying the survey were followed while applying the survey of this research. Participants were informed that they could end the study whenever they wanted. A statement was made that the study would not affect the participant negatively for any reason. It is ensured that the personal information and answers shared by the participants will not be used in any other field where they will only be used in a scientific study. The study was done on a completely voluntary basis and anonymous. No participant was forced to participate in the study in any way. At the beginning of the survey, participants were also informed about what the survey is about and the procedure for using their personal information. Based on this information, their preferences for terminating and continuing the survey were obtained.

In addition, the interviews were carried out considering the ideal interview behaviors determined by Fraenkel and Wallen (2012). During the interviews, a respectful approach was shown to the private lives of all participants, including their physical environment and other living conditions. In order to give more freedom to the participants and to get more detailed and explanatory information from them, open-ended questions were prepared instead of closed-ended questions, and they were asked in the interviews. In order to prevent the participants from getting confused and distracted during the interview, instead of asking more than one question in a row, after getting an answer to a question asked, the next question was passed. During the interviews, the participants were given sufficient time to answer the questions, and care was taken not to interfere with their answers, such as interrupting their answers.

The data collection process for the quantitative data started on April 9, 2021, and ended on November 1, 2021 (in the period when universities do not prefer to provide face-to-face education with some exceptions). The data collection process for the qualitative data started on November 1, 2022, and ended on November 15, 2022. During this time period, retrospective questions regarding the pandemic period were

asked of the participants (ten participants) who participated in the quantitative research and then volunteered to participate in the qualitative research. All of the participants completed the survey and all of the questions through online (Google Forms). The online questionnaire with 92 questions took about 20-25 minutes for each participant in total. Each question and answer were prepared and kept by Google Forms. Ten participants known to have participated in the online survey were contacted and invited for the interview. Applications that allow remote calls, such as Skype, Zoom, and WhatsApp, were offered to the participants. The semi-structured interviews were held for a minimum of 10 minutes and a maximum of 20 minutes. Then, the results were integrated and evaluated by considering changes in participants' physical activity participation, sedentary behaviors, and eating habits during the COVID-19 pandemic.

3.3. Data Analysis

In this study, only the participants who filled out all sections of the questionnaire were included in the analysis considering the quantitative analysis criteria. From the total of 332 survey responses, 33 participants were excluded, as they did not answer all survey questions properly. Because their university conditions (not a student in Ankara) were not appropriate, five participants were also excluded. So, data of 294 participants were analyzed. According to the quantitative research questions, components of descriptive statistics (frequency distribution, measures of central tendency, and measures of variability) were analyzed in Microsoft Office/Excel (2021) and Google Sheets by considering a quantitative data set. Frequency tables and histograms, which are about changes in physical activity participation, changes in sedentary behaviors, and changes in eating habits, were presented to show the statistical results of this study.

In the qualitative part of this study, participants were given numbers from one to ten: Participant 1 (P1), Participant 2 (P2), Participant 3 (P3), Participant 4 (P4), Participant 5 (P5), Participant 6 (P6), Participant 7 (P7), Participant 8 (P8), Participant 9 (P9), and Participant 10 (P10). The data analysis was carried out by following some required steps (Pitney & Parker, 2009). First, while reading the notes and transcripts obtained by using MAXQDA 2022, it was considered the questions asked in the interviews and the purpose of the study. By considering the importance of the study, the information reflecting the research questions was highlighted. Then, highlighted

information was labeled with a code that reflects the meaning of that information. Data were organized into themes by using labeled information with codes. This means that selected labels that look alike are grouped together. The themes, as primary findings, were examined, and titles reflecting their meanings were given. After that, in order to ensure the accuracy of the findings, which reflect the purpose of the study and are related to the study questions, four participants were contacted to be confirmed the themes (member check), and three experts were requested to check over the themes. Lastly, the data obtained were clarified and written in accordance with the aim of the study and the themes. In brief, in this study, six phases of reflexive thematic analysis described by Braun and Clarke (2006) were applied: (1) familiarizing myself with my data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report.

3.4. Limitations

This study is not without limitations. In this study, two major limitations of online surveys were recognized. Firstly, this study is not generalizable. The number of participants and universities that could be reached was limited as this work had to be done on a limited budget without any incentives. While the targeted number of participants was at least 500 university students enrolled in a university with formal education in Ankara, 332 were reached, and 294 university students were included in the study. Also, because the participants do almost everything online due to online education, they were possibly less motivated to fulfill the online survey, and they did not have a chance to ask the researcher their instant questions about the questions in the survey in order to complete the online survey better. So, without the researcher's assistance, the questions may not have been fully understood and answered in the desired format, whereas the answers obtained are based solely on university students' self-reports. Besides, it is quite difficult to find results to compare the results of this study since there is not much research done questioning university students in terms of physical activity and sedentary behaviors, and especially eating habits together during the pandemic of COVID-19 in Türkiye.

Moreover, the changes in physical activity and sedentary behaviors, and eating habits of university students during the COVID-19 pandemic compared to before the COVID-19 pandemic were examined by gathering cross-sectional data. The COVID-

19 pandemic covers several years, but this survey was conducted in just six to seven months of these years. So, longitudinal data are still necessary to confirm the changes detected in this study.

In addition, there were some limitations related to interviews. Since all of the interviewees were university students and due to the intensity of the homework/tasks they had to complete and the exams they had to study, it was challenging to create a mutually appropriate time for the interviews. Additional problems, such as the occasional disconnection or slowdown of the internet connection, also occurred.

CHAPTER 4

RESULTS

This study aimed to find out the changes in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic. According to this aim, university students' demographic information, physical activity participation, sedentary behaviors, and eating habits were questioned. This chapter presents the statistics obtained as a result of the quantitative research (online survey) on these four topics (demographic information, physical activity participation, sedentary behaviors, and eating habits), respectively. In addition, the chapter also presents the themes captured as a result of the qualitative research (semi-structured interviews) on physical activity participation, sedentary behaviors, and eating habits, respectively.

4.1. Demographic Information

4.1.1. Online Survey

In this part, questions were asked to reveal some extra demographic characteristics, which are participants' place of living, housing, and sports club membership before and during the pandemic. The changes in the participants' place of living, housing, and sports club memberships during the pandemic are shown in Table 4.1. According to Table 4.1, during the pandemic, there is a considerable decrease in the number of participants who are members of sports clubs (from 87 to 40). During the pandemic, there is a decrease in the number of students living in metropolitan (from 89.12% to 79.93%), and an increase in the number of students living in smaller cities (from 10.88% to 20.07%; town, suburban, village). Also, compared to the pre-pandemic period, while there is a sharp decrease in the number of students staying in

dormitories (from 30.95% to 1.70%) during the pandemic period, there is a dramatic increase in the number of students living with their families (from 55.11% to 85.72%).

Table 4.1

Participants' Place of Living, Housing, and Sports Club Membership Before and During the Pandemic

	Pre-Pandemic		During Pandemic	
	N	%	n	%
Sports Club Membership				
Member	87	29.59	40	13.61
Not a Member	207	70.41	254	86.39
Place of Living				
Metropol	262	89.12	235	79.93
City	15	5.10	19	6.46
Suburban	14	4.76	28	9.52
Village	3	1.02	12	4.08
Housing				
Lives with Parents	162	55.10	252	85.71
Shares Flat	17	5.78	17	5.78
Lives Alone	24	8.16	20	6.80
Dormitory Residence	91	30.95	5	1.70
Total	294	100.00	294	100.00

Moreover, based on participants' self-reports, histograms that show participants' mean (average) age and height are presented in Figure 4.1 and Figure 4.2, respectively. Figure 4.3 also shows the comparison of the average weights of the participants before and during the pandemic (based on participants' self-reports). Participants' average BMI (Body Mass Index) for both before and during the pandemic is demonstrated in Figure 4.4 (based on participants' self-reports). According to the figures, the average age of the participants is 22.9, male (23.2), and female (22.8); the average heights of male and female participants are 180.23 and 165.88, respectively. There does not appear to be any considerable change in participants' average weight and BMI during the COVID-19 pandemic. Average BMI values are within normal ranges. During the pandemic, the weight of male participants changed from 75.36 to 76.88, the weight of female participants changed from 59.20 to 59.25, and the BMI of

male participants changed from 23.19 to 23.66, and the BMI of female participants changed from 21.51 to 21.53.

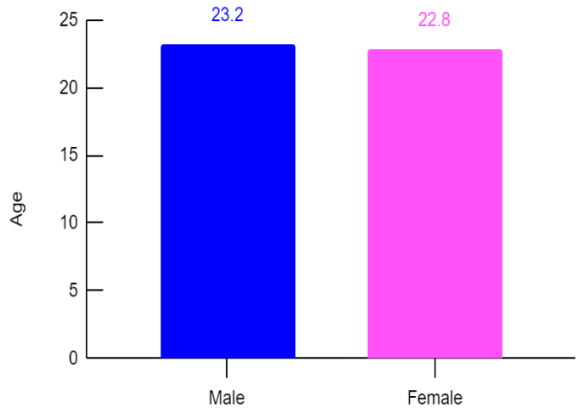

Figure 4.1 Participants' average age

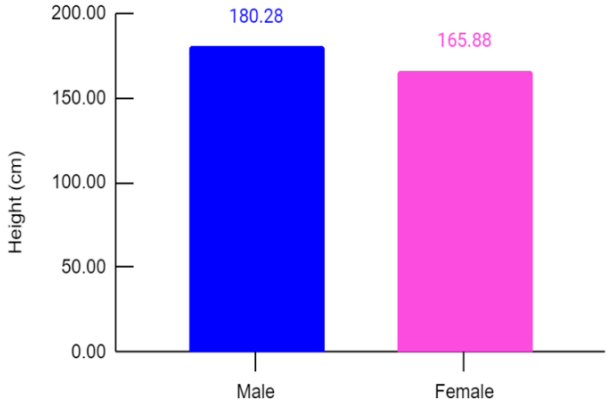

Figure 4.2 Participants' average height

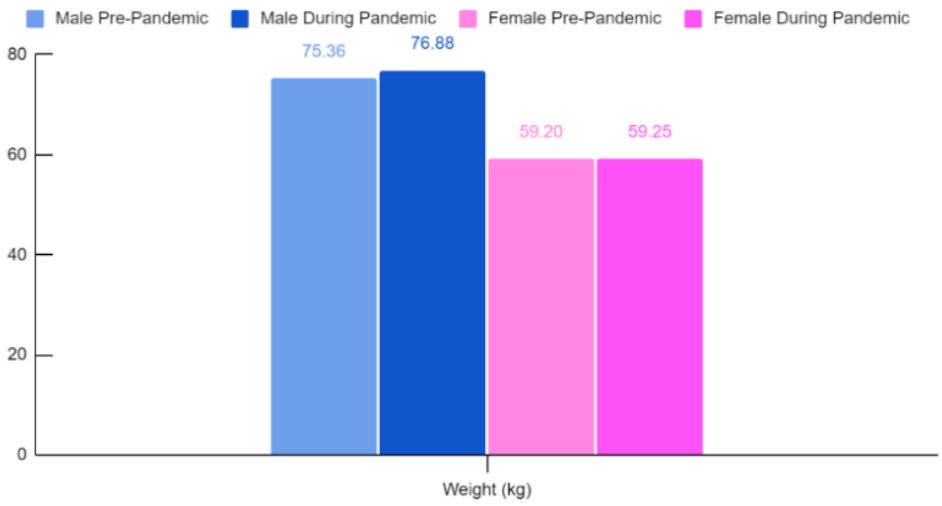

Figure 4.3 Participants' average weight

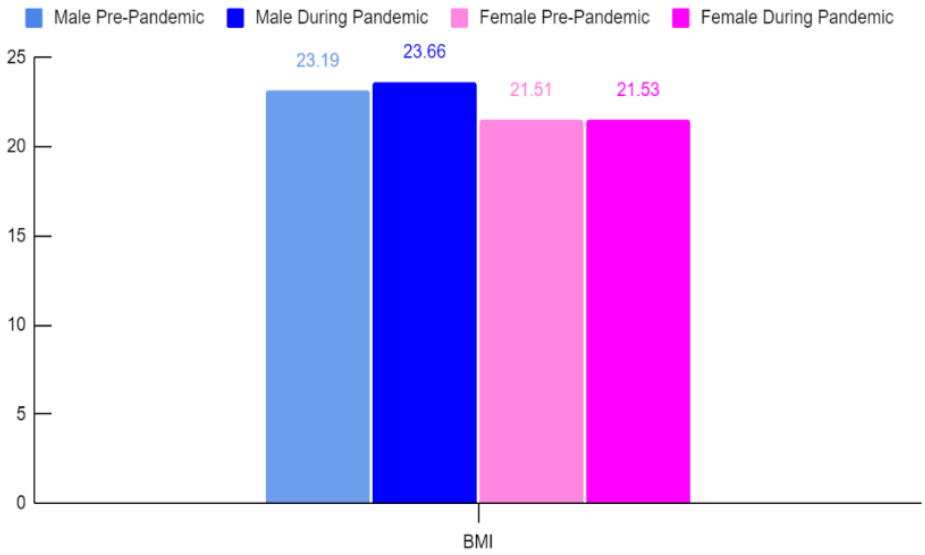

Figure 4.4 Participants' average BMI

4.2. Physical Activity Participation

4.2.1. Online Survey

In this part, the results of the online survey, which examines the change in participants' participation in physical activity during the pandemic period, are demonstrated (**RQ1**).

Participants were asked about their physical activity participation status before and during the pandemic. According to Table 4.2, compared to the pre-pandemic period, during the pandemic, there is a nonignorable increase in the participants who stated that they have been regularly exercising for less than six months (from 10.20% to 13.61%), they exercise sometimes (from 27.55% to 33.67%), and they do not exercise, but they want to exercise (from 22.11% to 30.27%). However, there is more than a half decrease in the participants who stated that they have been regularly exercising for over six months (from 32.65% to 15.65%). Also, there is almost no change in the percentage of participants who stated that they do not exercise and do not plan to do so (from 7.48% to 6.80%).

Table 4.2

Participants' Physical Activity Participation Status

	Pre-Pandemic		During Pandemic	
	n	%	n	%
I don't do exercise, and I don't intend to	22	7.48	20	6.80
I don't do exercise, but I want to	65	22.11	89	30.27
I sometimes do exercise	81	27.55	99	33.67
I have regularly been physically active for less than six months	30	10.20	40	13.61
I have regularly been physically active for more than six months	96	32.65	46	15.65
Total	294	100.00	294	100.00

Participants were asked what types of physical activities they participated in before and during the pandemic. According to their answers shown in Figure 4.5, the number of participants who participated in walking (from 156 to 127), power walking (from 84 to 70), running (from 68 to 35), cycling (from 29 to 17), dancing (from 42 to 10), individual sports (from 52 to 11), team sports (from sixty-six to nine), adventure sports (from eight to three), and fitness (from 73 to 40) decreased during the pandemic. On the other hand, the number of participants who participated in home-based exercising (from 89 to 122) and yoga/pilates (from 53 to 63) increased during the pandemic. The number of participants who participated in gardening (from 10 to 10) does not change.

Participants were asked to indicate their physical activity intensity levels before and during the pandemic. According to Figure 4.6, the number of participants who indicated moderate physical activity intensity (from 102 to 91) and vigorous physical activity intensity (from 84 to 30) decreased during the pandemic. On the other hand, the number of participants indicating light physical activity intensity (from 20 to 63) increased.

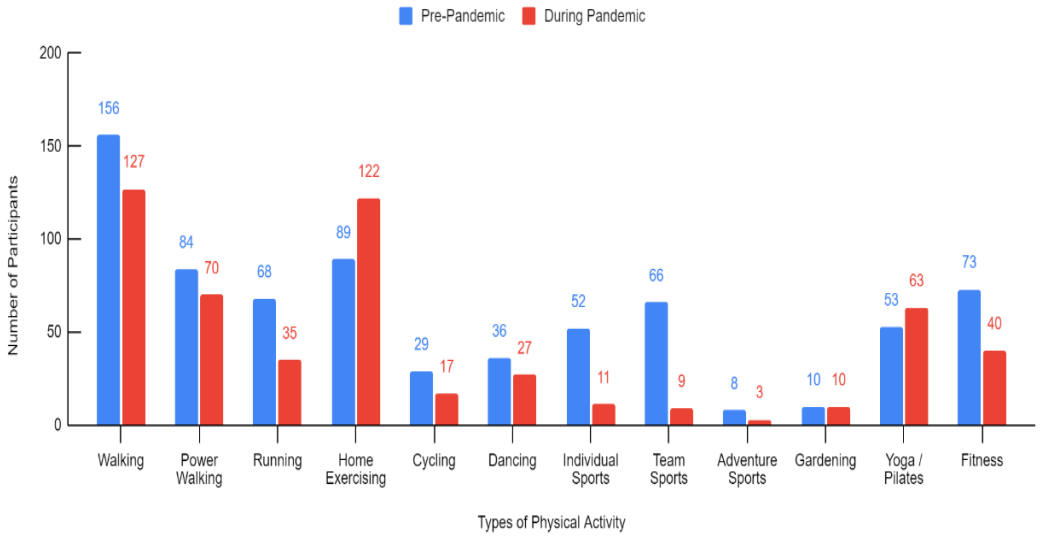

Figure 4.5 Types of physical activities that participants participate in

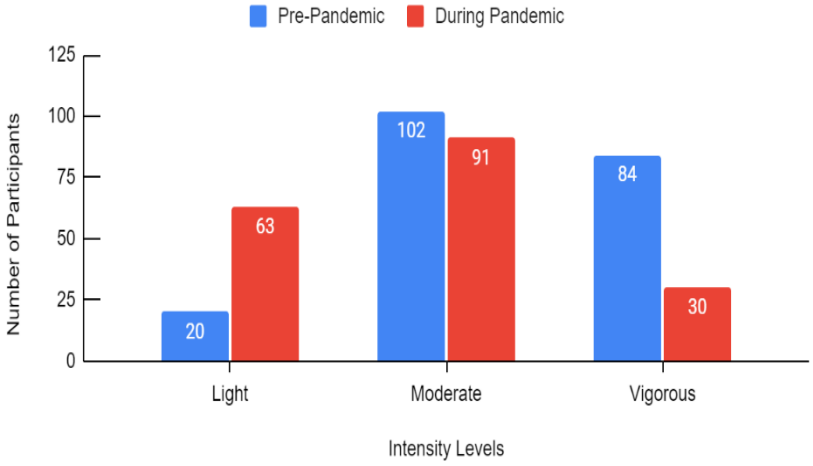

Figure 4.6 Participants' physical activity intensity levels

Participants were asked how many days a week they participated in physical activity before and during the pandemic. According to Figure 4.7, while the number of participants who stated that they participated in physical activity three (from 57 to 54), four (from 41 to 24), five (42 to 29), six (from 16 to 15), and seven (from 21 to 12) days a week during the pandemic decreased, the number of participants who participate in physical activity once (from eight to nineteen) and two (from 22 to 31) days a week increased.

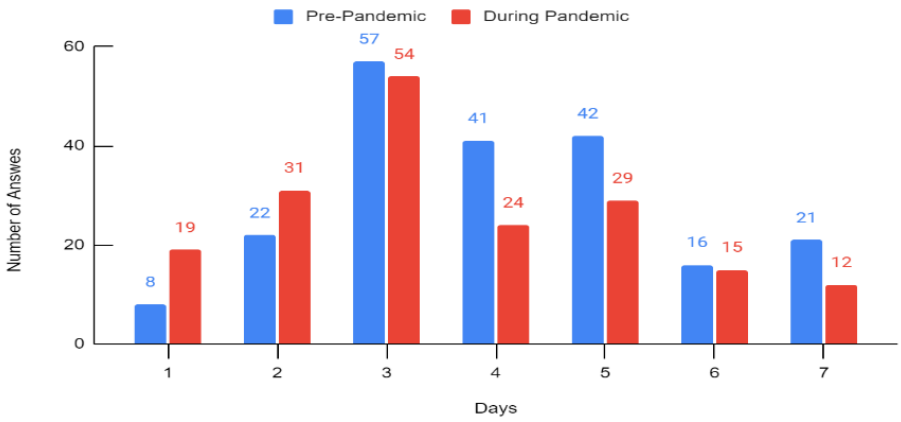

Figure 4.7 How many days a week participants participated in physical activity

According to Figure 4.8, a slight decrease was observed in the number of participants participating in physical activity on Mondays (from 138 to 126), Tuesdays (from 127 to 104), Wednesdays (from 137 to 130), Thursdays (from 129 to 98), and Saturdays (from 129 to 103) compared to the pre-pandemic period. While there is a slight increase in the number of participants participating in physical activity on Fridays (from 135 to 157), there is a considerable increase (almost double) in the number of students participating in physical activity on Sundays (from 86 to 154).

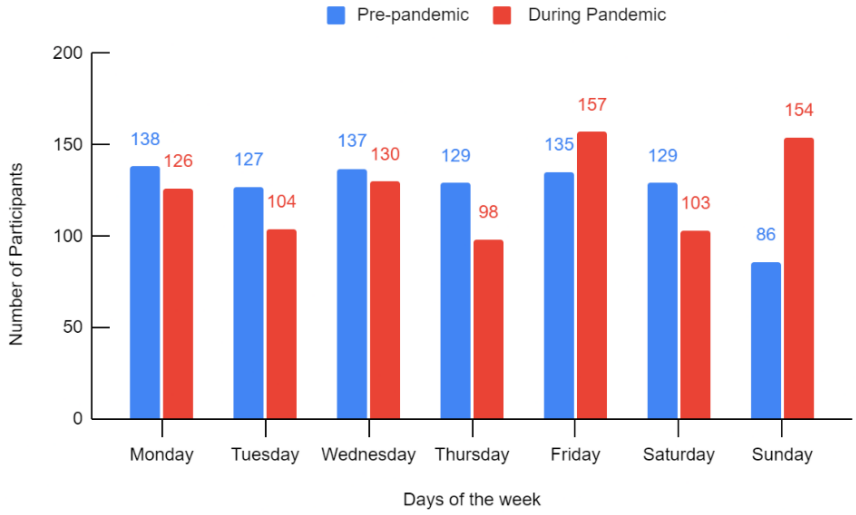

Figure 4.8 On which day or days of the week do participants participate in physical activity

Participants were asked how long, on average, they participated in physical activity before and during the pandemic. According to Figure 4.9, there seems to be a dramatic decrease in the number of participants participating in physical activity

between one and two hours (from 63 to 25) and more than two hours (from 21 to 4) during the pandemic. On the other hand, there is an increase in the number of participants participating in physical activity between 0 and 15 minutes (from five to eight), between 15 and 30 minutes (from 19 to 39), and between 30 and 45 minutes (from 50 to 60). Almost no change is observed in the number of participants participating in physical activity between 45 and 60 minutes (from 49 to 48).

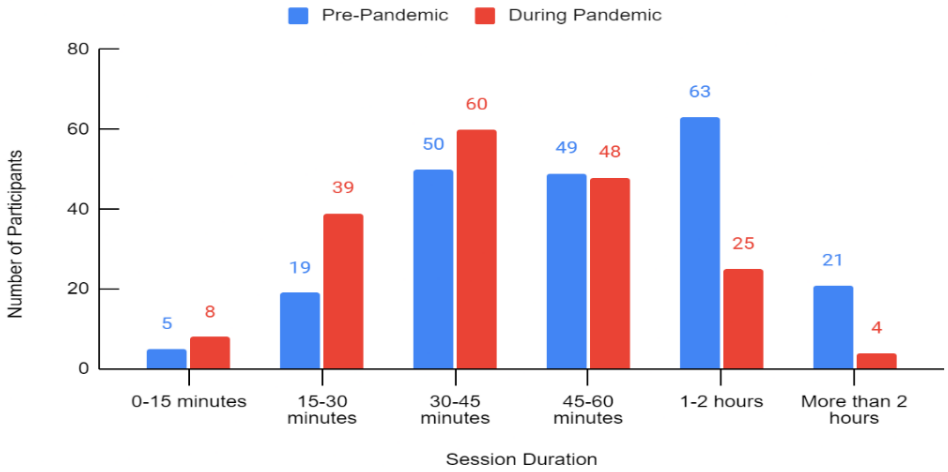

Figure 4.9 How long, on average, do participants participate in physical activity

Participants were asked what time/s of the day they usually participated in physical activity before and during the pandemic. According to their answers shown in Figure 4.10, while there is a considerable decrease in the number of participants participating in physical activity between four and six pm (from 93 to 77), six and eight pm (from 118 to 62), eight and ten pm (from 61 to 46), there is no dramatic change in other hours of the day.

Participants were asked which place or places they used while participating in physical activity before and during the pandemic. According to Figure 4.11, during the pandemic, except the homes, there is a sharp decrease in the use of all places, especially gyms (from 83 to 26) and sports facilities of universities (from 100 to 7), which the participants prefer to participate in physical activity before the pandemic. On the other hand, there is a considerable increase in the number of participants participating in physical activity at home (from 92 to 154).

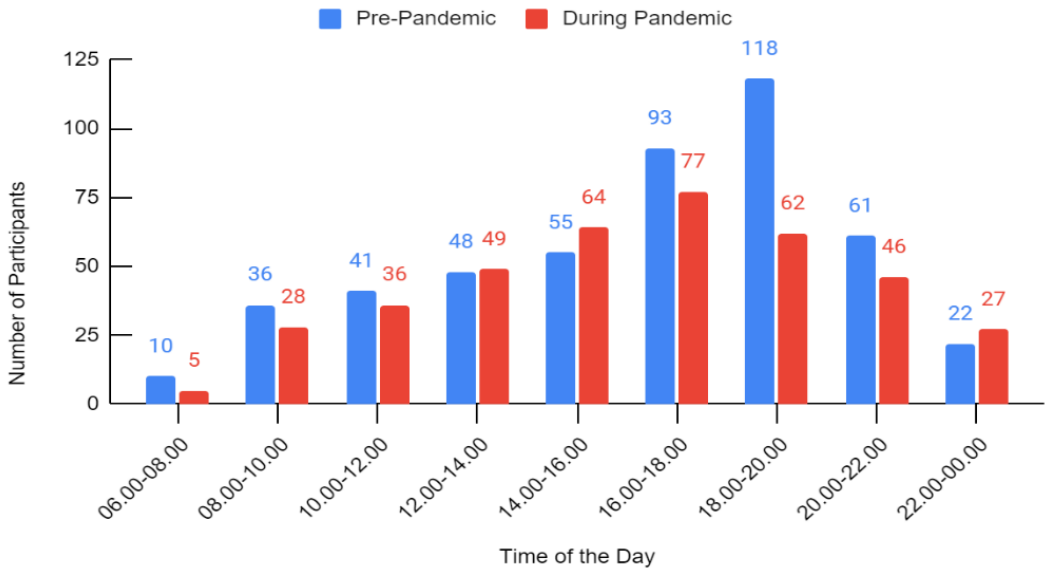

Figure 4.10 Time/s of the day participants usually participate in physical activity

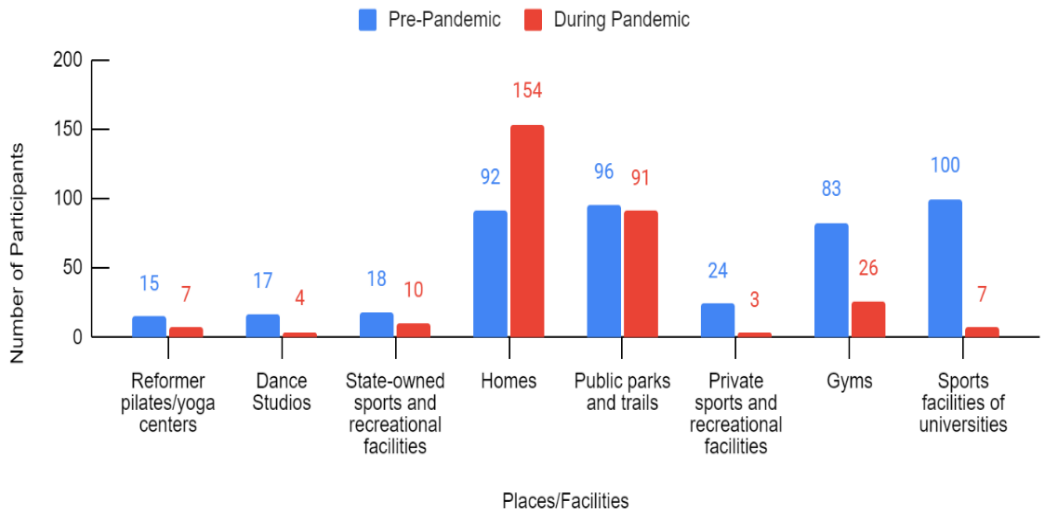

Figure 4.11 Place or places participants used while participating in physical activity

Participants were asked with whom they preferred to participate in physical activity before and during the pandemic. According to their answers shown in Figure 4.12, considerable decreases are observed in the number of participants participating in physical activity with their partners (from 25 to 17), teammates (from 63 to 11), and friends (from 120 to 45) during the pandemic. On the other hand, there is an increase in the number of participants who participate in physical activity alone (from 132 to 156) and with family members (from 27 to 48).

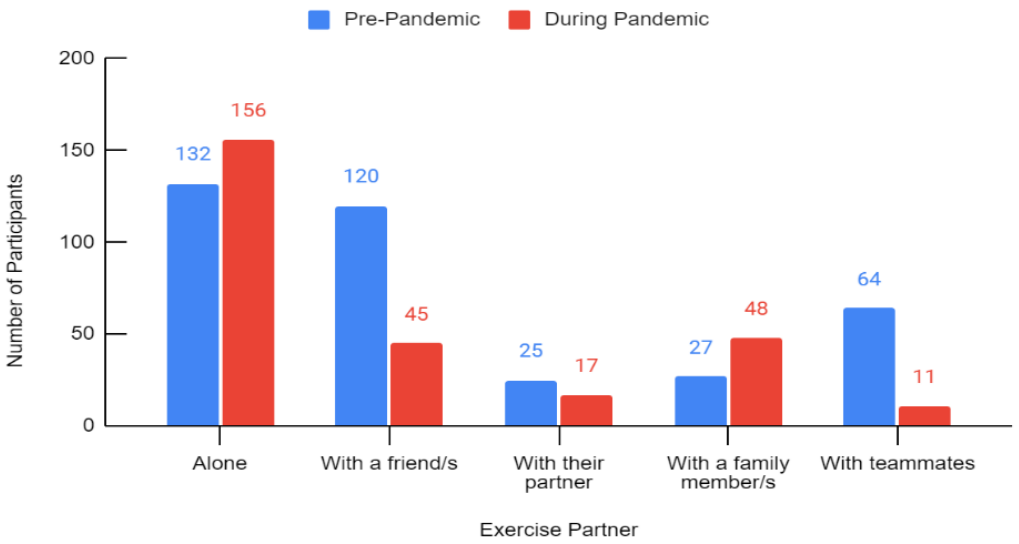

Figure 4.12 With whom participants prefer to participate in physical activity

Participants were asked what situations prevented them from participating in physical activity before and during the pandemic. According to Figure 4.13, during the pandemic, reasons such as family affairs, lack of motivation, health issues and concerns, lack of physical activity opportunities close to the location, and financial problems seem to affect participation of participants in physical activity more negatively. Before pandemic, it can be said that the responsibilities of being a parent, transportation problems, lack of interest in physical activity, and financial problems more negatively affected the participation of the participants in physical activity.

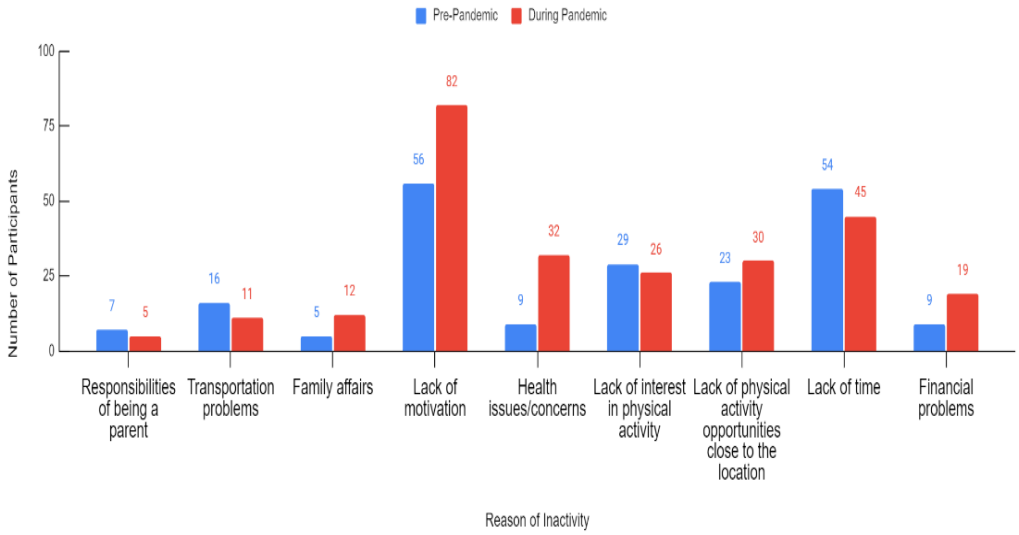

Figure 4.13 Situations prevent participants from participating in physical activity

Participants were asked whether their frequency of participation in physical activity had changed during the pandemic. According to their answers shown in Figure 4.14, during the pandemic, 147 participants, an important portion of 294 participants in total, stated that their frequency of participation in physical activity decreased. On the other hand, 46 participants, who make up approximately one-sixth of the 294 participants, stated that the frequency of their participation in physical activity has increased. Seventeen, thirty-one, twenty-six, and twenty-seven participants, respectively, stated that their physical activity participation remained as usual, first increased and then decreased, first decreased and then increased, and they do not participate in physical activity.

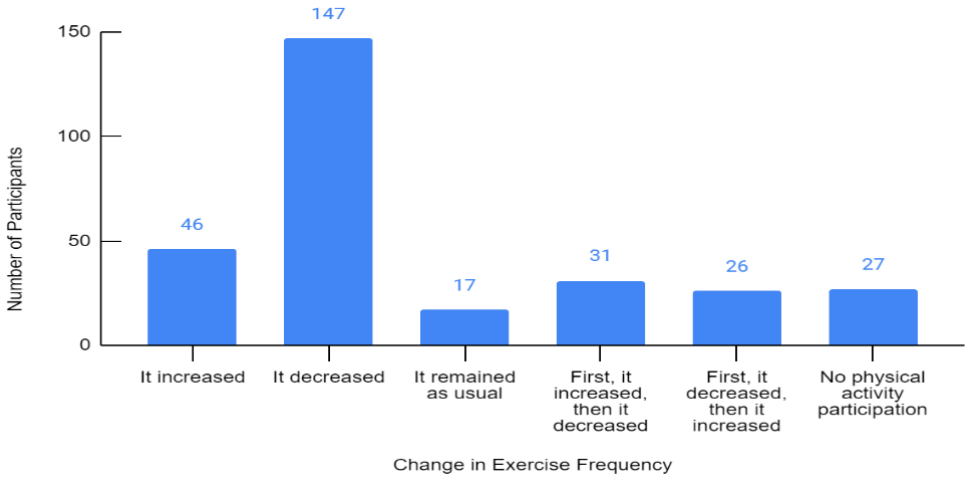

Figure 4.14 Participants' frequency of participation in physical activity

Participants were asked which of the situations that occurred due to COVID-19 affected their physical activity participation negatively. According to Figure 4.15, during the pandemic, it can be seen that many of the participants were affected negatively by mandatory quarantine sanctions (n=224), curfew restrictions (n=225), social distance (n=117), self-isolation (n=86), disadvantaged people they live with (n=106), closure of sports fields/facilities (n=137).

Overall, while there was a decrease in the number of participants who exercised regularly before the pandemic, during the pandemic, there was an increase in the number of participants who sometimes exercise and who do not exercise but want to exercise. While the participants participated less in many types of physical activities (power walking, running, dancing, team sports, etc.), their participation in home-based

exercises, Yoga, and Pilates increased during the pandemic. While the number of participants participating in moderate and vigorous intensity levels of physical activity decreased, the number of participants participating in the light intensity level of physical activity increased. While the number of participants participating in physical activity less than 45 minutes slightly increased, the number of participants participating in more than 45 minutes considerably decreased. While the number of participants participating in physical activity with friends decreased, the number of participants participating in physical activity alone or with family members increased. While the majority of the participants (n=147) stated that there was a decrease in their participation in physical activity, some of them (n=46) indicated that there was an increase. Participants noted that conditions such as mandatory quarantine sanctions, curfew restrictions, and closure of sports fields/facilities were effective in the changes they experienced in their physical activity participation.

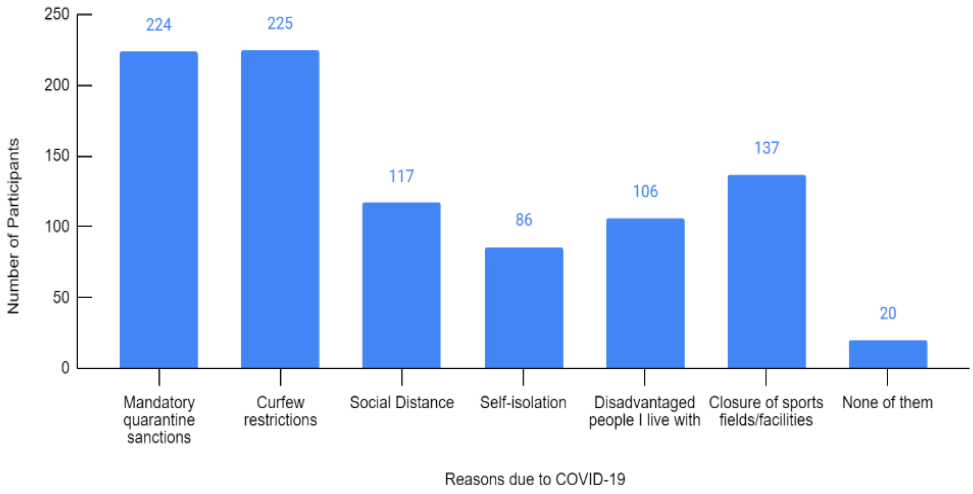

Figure 4.15 Conditions caused by COVID-19 that affect participants' participation in physical activity

4.2.2. Turkish Physical Activity Exercise Stages of Change

In this part, questions were asked to find out participants' current physical activity stages which are pre-contemplation, contemplation, preparation, action, and maintenance. Figure 4.16 shows the results for how many participants were involved in which stages. According to the table, it is seen that participants were heavily involved in the contemplation (n=93; 31.6%) and maintenance (n=87; 29.6%) stages.

The least involved phase was the pre-contemplation stage, with 22 samples (7.5%). Fifty-two participants (17.7%) and forty participants (13.6%) were involved in the preparation and decision/action stages, respectively.

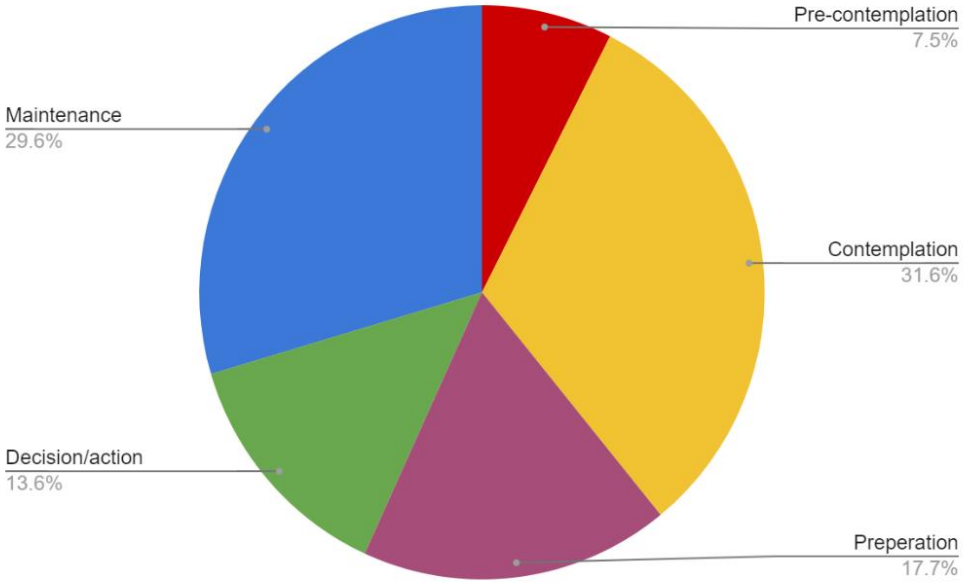

Figure 4.16 Participants' physical activity stages

4.2.3. Interviews

In this part, the results of the interviews examining the experiences in the participants' physical activity participation (**RQ4**), specifically, reasons for these changes, for which types of physical activities they experienced these changes, and strategies developed according to these changes were included. The themes and sub-themes of this part of the interview are presented in Table 4.3.

4.2.3.1.Decreases in Physical Activity Participation

During the pandemic, participants stated that staying at home, pandemic rules, pandemic psychology, and online education were the reasons that pushed them to be physically inactive. Eight of the participants expressed that their physical activity participation decreased because they did not leave or could not leave the house. P1 expressed her physical inactivity during the pandemic:

> *I was less active than usual. Since I sat at home, I did not go out for about nine months, including to the grocery stores. Therefore, I can say that I was quite affected in terms of physical activity.*

Table 4.3

Themes, Sub-Themes, and Codes of Physical Activity

Themes	Sub-Themes	Codes
Decreases in Physical Activity Participation	Reasons to Be Physically Inactive	Staying at Home
		Pandemic Rules
		Pandemic Psychology
		Online Education
	Types of Physical Activities That Participants Participate in Less	Aerobic Activities
		Anaerobic Activities
	Strategies to Increase Physical Activity Participation	Doing Muscle Strengthening Activities
		Watching Exercise Videos
		Moving More in the House
		Downloading Workout Applications
Increases in Physical Activity Participation	Reasons to Be Physically Active	Staying at home
		Reduction in Daily Tasks
		Having More Free Time
		Fear of Gaining Weight
	Types of Physical Activities That Participants Participate in More	Muscle-Strengthening Activities

P6 shared how the movement space negatively influenced her ability to move and limited her movements:

> *Since I stayed at home, I became more inactive. My space of motion was narrowed because I did not go out but stayed at home during the pandemic, so my body tended not to move, and I became more inactive.*

P7 expressed that starting to stay at home after getting used to university life during the pandemic reduced her participation in physical activity:

> *After adapting to university life, starting to stay at home again caused a lot of increase in our daily sedentary behaviors, such as sitting all the time, that is, not being able to complete our daily*

steps. We were always at home. We were always at a standstill. This situation dramatically reduced our physical activities.

P10 expressed that he was less physically active because he started to get stuck at home during the pandemic:

Before the pandemic, I was always going outside to do sports. At least I was going to the gym. I was doing sports. I was also walking outside. Due to the pandemic, we were completely stuck at home. Even going outside was abandoned. During the first year, my whole movement turned into my displacement in a three-room, one-bedroom family house.

P5, P9, and P10 expressed that they were less physically active and stayed at home because they were affected by pandemic rules, respectively:

The curfew affected my physical activity participation. Also, since we were wearing masks, these were challenging if we wanted to do something like go for a walk and run.

The reasons for the changes I experienced in my physical activity participation were environmental, not about me. I started not being able to go out because of the pandemic bans.

I was never going outside. I was always at home. In other words, we can completely reconcile the changes I experienced in my physical activity participation with the bans on going out.

It was stated by the participants that the motivational and anxiety issues during the pandemic had negative effects on their physical activity participation. P2 expressed that she was less physically active because she was affected by pandemic psychology:

Maybe you can find more activities to do at home, but instead, psychologically, you want to sit, watch something, and rest. With the effect of pandemic psychology, such chronic fatigue occurs.

P1, P3, and P6, respectively, expressed that they were less physically active and stayed at home due to the anxiety of protecting themselves and their families from COVID-19 infection:

We took great care not to infect anyone in the house, and we ordered the groceries online; we were not going outside for it, in case it could be infected from anywhere at any time.

I did not go out because I was living with my family, with older people with weaker immune systems. Of course, the restrictions of the pandemic also affected our movements, but even with certain conditions, we could go out somehow, but I did not choose; I

preferred to stay at home more, especially for the first year and a half.

I chose not to go out in order to protect myself from the disease. Since I live in a crowded neighborhood, I chose to stay at home in order to protect myself.

Another reason that caused inactivity among participants was online education which lasted for a long time. P7 clarified the situations that caused troubles in arranging appropriate physical activity programs:

The impact of distance education was great. We were constantly taking courses. Their times were not precisely determined. There were courses in the mornings and evenings. That is why I could not make an effective activity program for myself.

It was expressed that participants' participation in some aerobic and anaerobic physical activities decreased during the pandemic. As a common physical activity, walking activities were limited, as shared by eight of the interviewees. For example, P6 expressed that she stopped going for a walk:

In the mornings and evenings, I usually took a walk every day. During the pandemic, I started to move a little at home, but then it also gradually decreased.

P7 expressed that she also stopped going to the dance course:

Before the pandemic, I attended the dance course twice a week. I had to take a break because the dance course was in a public setting.

P10 expressed that he also stopped going to the gym (fitness):

Before the pandemic, I was trying to go to the gym for fitness exercises at least once a week. It was completely cut off during the pandemic.

During the pandemic, the participants applied strategies to increase their physical activity participation, such as doing muscle-strengthening activities, watching exercise videos, moving more in the house, and downloading workout applications. P2 stated that she preferred physical activities that could be done at home:

I tried to be active at home enough. I started to move around the house constantly. I tried to do stretching movements and some sports that can be done at home, like yoga and pilates.

P5 stated that she preferred watching youtube videos and walking at home:

We watched youtube videos on brisk walking at home and started to practice. During the pandemic, I started yoga for two months and took walks at home.

For example, P9 stated that an app helped her be more physically active:

I downloaded an app to the phone. It is an application that makes you exercise regularly every day. It was not anything so special, but it helped me move.

In addition to these, some participants indicated that they experienced some health problems, such as weakening of the muscles, back pains, and coccyx discomfort due to inactivity (P1, P9, and P10).

Overall, it is possible to say that during the pandemic, eight of the participants largely left the physical activities they participated in before due to the reasons caused by the pandemic. Still, they also tried to develop some strategies to avoid being completely and permanently inactive.

4.2.3.2.Increases in Physical Activity Participation

During the pandemic period, two of the participants stated that their physical activity participation increased. Participants stated that staying at home, reduction in daily tasks, having more free time, and fear of gaining weight were the reasons that led them to be physically active.

P4 expressed that she started to participate in physical activity during the pandemic:

Before the pandemic, I never participated in physical activity, but during the pandemic, I started doing sports almost five days a week.

Similarly, P8 expressed that her physical activity participation increased:

I can actually say that my physical activity participation increased during the COVID-19 pandemic. I exercised a lot because I had more free time.

Participants stated that the opportunity to stay at home for a long time, the reduction in daily tasks to be done, having more free time, and the need to lose weight were the reasons that led them to be physically active. P4 expressed that she was more physically active because of staying at home and reduced daily tasks:

Being at home all day because of the pandemic, never going out, and the decrease in activities in my daily life led me to do sports. In addition, the decrease in the tasks I had to do allowed me to make use of the remaining extra time by doing sports. Therefore, my physical activity increased.

P8 stated that she was more physically active because she stayed at home and desired to lose weight:

Having much more free time, being able to stay at home for a long time, not being able to find anything else to do, my need to lose weight, and the increased importance given to health due to COVID-19 increased my participation in physical activity. The desire to eat less and consume healthier foods and to support it by doing sports also affected me.

During the pandemic, muscle-strengthening physical activities such as fitness exercises, pilates, and HIIT workouts were reported to have increased by these two participants. P4 stated that she started to do some sports:

I started doing sports like fitness exercises and Pilates during the pandemic.

P8 stated that she started to do some sports on YouTube videos:

I practiced HIIT workouts myself at home by watching videos on YouTube.

Overall, it is possible to say that two of the participants increased their participation in physical activities such as Yoga and Pilates, which can be done at home, due to the fact that they have nothing to do at home and have a lot of free time during the pandemic.

4.3. Sedentary Behaviors

4.3.1. Online Survey

In this part, the results of the online survey examining the changes in the sedentary behaviors of the participants, such as sleeping, spending time in front of the screen, and sitting/lying down, during the pandemic period are demonstrated (**RQ2**).

Participants were asked how many hours per day they slept on average before and during the pandemic. According to their answers shown in Figure 4.17, during the pandemic, while the number of participants who slept less than six hours (from 37 to

21) and between six and eight hours (from 180 to 102) decreased, it is seen that the number of participants who spend eight to ten hours (from 25 to 92) and more than 10 hours (from 0 to 20) in sleep increased. There is no considerable change in the number of participants who declared that they slept for eight hours (from 52 to 58).

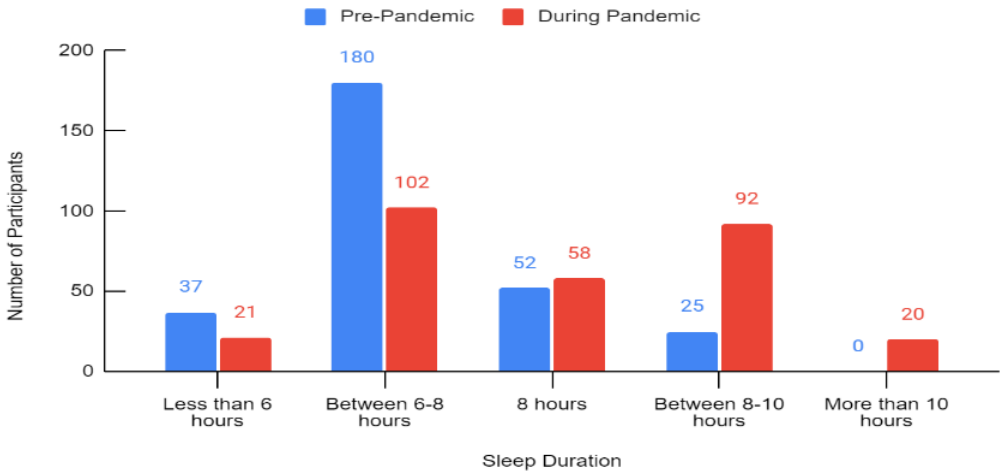

Figure 4.17 The amount of time participants spend sleeping per day

Participants were asked how many hours per day they sit or lie down on average before and during the pandemic. According to Figure 4.18, during the pandemic, while the number of participants who sit and/or lie down less than two hours (from fifty to four), between two and four hours (from 78 to 32), and between four and six hours (from 66 to 53) decreased, it is seen that the number of participants sitting and/or lying down for six to eight hours (from 47 to 70), between eight and ten hours (from 30 to 48), between 10-12 hours (from 17 to 39), and more than 12 hours (from six to fourty-eight) increased.

Participants were asked how many hours a day they spent in front of the screens of technological devices such as computers, laptops, tablets, TVs, and smartphones, on average, before and during the pandemic. According to their answers shown in Figure 4.19, while the number of participants who spent time in front of the screens less than two hours (from 51 to 7), between two and four hours (from 121 to 16), and between four and six hours (from 74 to 62) decreased, it is seen that the number of participants spending time in front of the screens for six to eight hours (from 30 to 67), between 8-10 hours (from 11 to 64), between 10-12 hours (from 0 to 48), and more than 12 hours (from seven to thirty) increased.

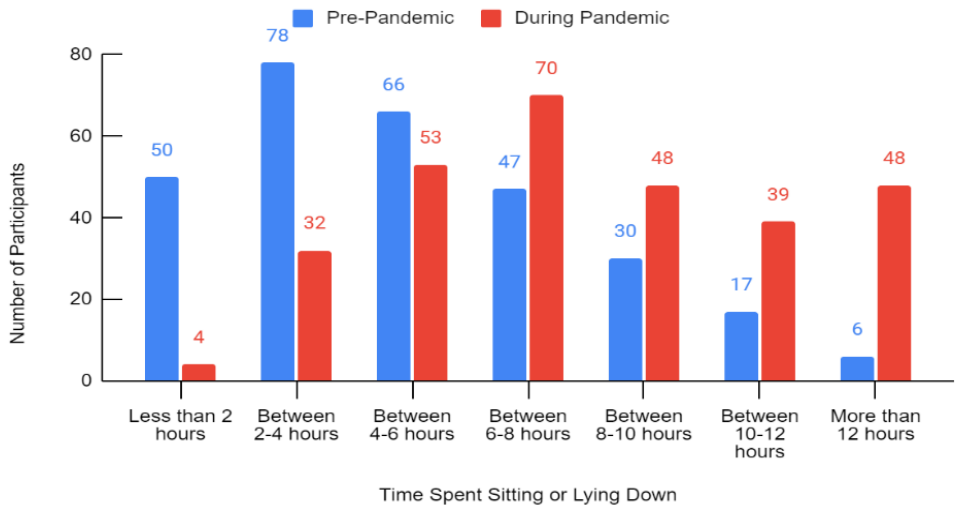

Figure 4.18 The amount of time participants spend sitting and/or lying down per day

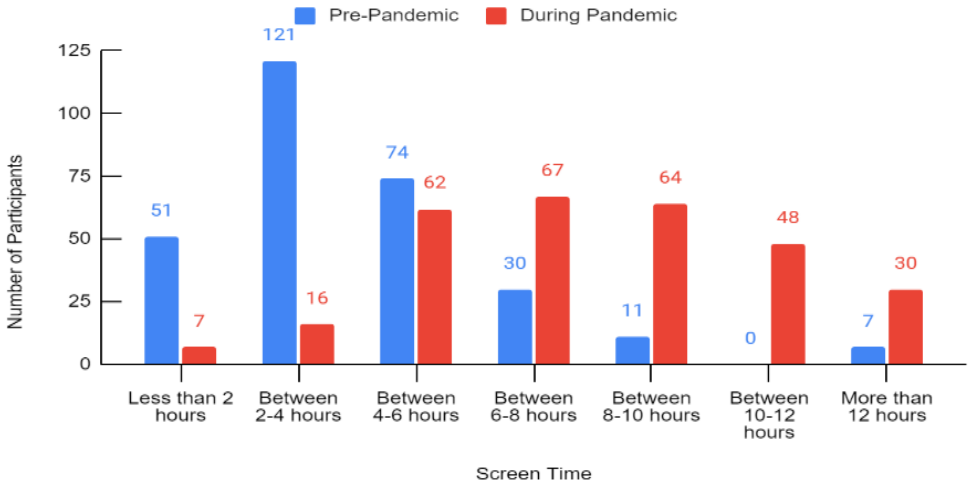

Figure 4.19 The amount of time participants spend in front of screens per day

Participants were asked about the reasons that drive them to sedentary behaviors (inactivity) during the pandemic. According to Figure 4.20, during the pandemic, it can be seen that a considerable number of participants were affected negatively by pandemic rules (n=250), online courses (n=229), remote work (n=106), meetings and interviews via the internet (n=128), the development and prevalence of online shopping (n=72), lack of motivation (n=208), fear of COVID-19 (n=49), desperation (n=125).

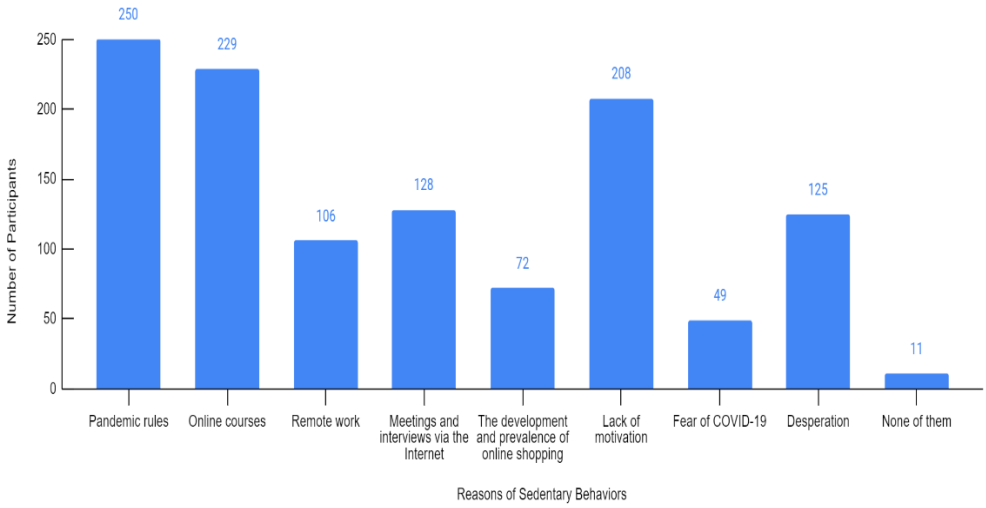

Figure 4.20 Conditions that affect participants' participation in physical activity

Overall, during the pandemic, the number of participants sleeping less than 8 hours decreased, while the number of participants sleeping 8 hours or more increased. While the number of participants sitting and lying down for less than 6 hours decreased, there was an increase in the number of participants sitting and lying down for more than 6 hours. While the number of participants who spent less than 6 hours in front of the screen decreased, there was an increase in the number of participants who spent more than 6 hours in front of the screen. In short, an increase in the time they spent as sedentary was observed. Participants attributed this situation to reasons such as pandemic rules, online education, remote work, meetings and interviews over the internet, lack of motivation, fear of COVID-19, and desperation.

4.3.2. Interviews

In this part, the results of the interviews examining the experiences in the participants' sedentary behaviors (**RQ4**), specifically, reasons for these changes, for which sedentary behaviors they experienced these changes, and strategies developed to overcome these changes were included. The themes and sub-themes of this part of the interview are presented in Table 4.4.

Table 4.4

Themes, Sub-Themes, and Codes of Sedentary Behavior

Themes	Sub-Themes	Codes
Increases in Sedentary Behaviors	Reasons for Sedentary Behaviors	Staying at Home
		Online Education
		Lack of Social Life
	Types of Sedentary Behaviors Displayed	Sleeping
		Sitting / Lying Down
		Screen Time
	Strategies to Decrease Sedantary Behaviors	Moving More in the House
		Doing Muscle-Strengthening Activities
		Walking
		Applying the 20-20-20 rule

4.3.2.1.Increases in Sedentary Behaviors

During the pandemic, participants stated that staying at home (six participants), online education (six participants), and lack of social life (five participants) were the reasons that pushed them to be in a sedentary lifestyle. According to P2, P3, P4, P5, and P10, there was an increase in their sedentary behaviors because they stayed at home during the pandemic. For example, P5 explained her situation as follows:

> *Since we stayed at home, we switched to a more sedentary life. I was more interested in things like TV, laptop or books. So, I was more inactive.*

According to P1, P6, P7, P9, and P10, there was an increase in their sedentary behaviors during the pandemic because of online education. For example, P9 explained her situation as follows:

> *The duration of my sedentary behaviors increased tremendously. I remember spending 10-12 hours a day in front of the laptop. Everything was online; courses were online, and a lot of homework was online. That is why I was always using the laptop.*

According to P1, P3 P4, P6, and P10, there was an increase in their sedentary behaviors during the pandemic because of the lack of social life. For example, P10 explained her situation as follows:

> *We did not go out; we could socialize through computers. We used to meet face-to-face with our friends before the pandemic. However, during the pandemic, we started to spend our time in front of the computers, chatting or playing games through the Zoom application.*

Moreover, most participants stated that their sedentary behaviors generally increased or, at best, did not change. For example, P4, P6, and P9 stated that while there was a serious increase in the time they spent sitting and/or lying down and in front of the screen, there was no change in their sleep time during the pandemic:

> *Due to being at home, my time looking at the screen and sitting or lying down on the sofa has definitely increased during the pandemic. I do not think there was any change in my sleep time. I do not think the time I spent asleep has increased or decreased (P4).*

> *I can say that the time I spend in front of the screen has increased by almost fifty percent. In addition, there was an increase in the time I spent sedentary independently of the smartphone and laptop; I became more inactive in general. There was no change in my sleeping pattern. I used to go to bed early and get up early, which continued to be so (P6).*

> *The time I spend in front of the screen has increased tremendously. I remember always being in front of the laptop for 10 to 12 hours a day. I do not think I messed up my sleep pattern. I mean, my sleep was regular. I used to sleep at night, wake up in the morning, and that was it (P9).*

On the other hand, the number of participants who said that both their sleep time and the time they spent in front of the screen increased was also quite high (P1, P2, P3, P5, and P7). For instance, P7 clarified the increase she experienced in these behaviors with the following words:

> *In the first weeks, when the weekly report came in, I learned that the time I spent on the phone increased by eight percent. I remember this very clearly. Later, this rate increased from eight percent to fifteen percent to twenty percent. The time I spend on the laptop has also increased considerably. I was staring at the phone screen and, on the other hand, looking at the laptop screen. After that, in the evenings, sometimes I got bored with the phone and laptop, and I would sit with my family and watch TV.*

During the pandemic, the participants applied strategies to decrease their sedentary behaviors, such as moving more in the house, doing muscle-strengthening activities, walking, and applying the 20-20-20 rule. For example, P2 expressed that she started to move more and do muscle-strengthening activities at home in order to reduce her sedentary behaviors:

> *When I saw that I was gaining weight, I tried to move more at home. For example, if there was a task to be done, if someone wanted a glass of water, I would get up and bring it immediately. So, I was trying to move a lot more, even for minor tasks. I was always trying to stand up and walk inside the house all the time. For example, I walked from room to room or, more often, did housekeeping. We felt the need to move more. For instance, we were going to the kitchen by thinking that it was also a movement. Yes, maybe we were just cooking there, but after all, it was also a movement and better than sitting for us. It happened that way. Then, I also tried to do sports. For example, I started doing Pilates movements.*

Also, P9 expressed the measures she took to control the situation of spending a lot of time in front of the screen with the following words:

> *There is a practice called the 20-20-20 rule, which says that after staring at the screen for twenty minutes, look somewhere off the screen for twenty seconds. So, I tried to rest my eyes by practicing this rule.*

Overall, during the pandemic, it is possible to say that the sedentary behaviors of all the participants, such as sleeping, sitting, lying, and spending time in front of the screen greatly increased or, at best, did not change due to the reasons caused by the pandemic, but they also developed some strategies in order not to remain completely and permanently sedentary.

4.4. Eating Habits

4.4.1. Online Survey

In this part, the results of the online survey examining the changes in the eating habits of the participants, such as the number of meals, types of food consumed, cooking frequency, and diets followed during the pandemic period, are displayed (**RQ3**).

Participants were asked how many meals a day they ate before and during the pandemic. According to their answers shown in Figure 4.21, during the pandemic, while the number of participants who ate three meals a day (from 167 to 128) decreased, it is seen that the number of participants who ate one meal (from five to ten), two meals (from 114 to 140) and 4+ meals (from eight to sixteen) a day increased.

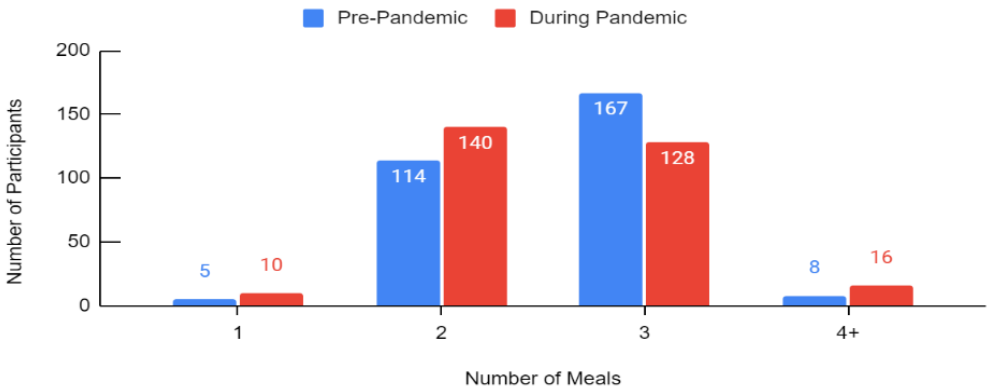

Figure 4.21 How many meals a day that participants eat

Participants were asked which cooking methods they consumed the food cooked with before and during the pandemic. According to their answers shown in Figure 4.22, while the number of participants who consumed grilled foods (from 186 to 178) slightly decreased, it is seen that the number of participants who consumed baked foods (from 211 to 242), microwaved/frozen foods (from 76 to 102), foods in the casserole (from 91 to 112), and pot meal (from 248 to 269) slightly increased. There is no considerable change in the number of participants who consumed fried food (from 219 to 220).

Participants were asked which oils they preferred to use in their meals before and during the pandemic. According to Figure 4.23, there seems to be a slight decrease in the number of participants preferring sunflower oil (from 214 to 200) and other oils (from 11 to 4) to use in meals during the pandemic. On the other hand, there is a slight increase in the number of participants preferring olive oil (from 222 to 242) and butter oil (from eight to twelve) to use in meals. No considerable change was observed in the number of participants preferring corn oil (from 15 to 13) and hazelnut oil (from 13 to 14) to use in meals.

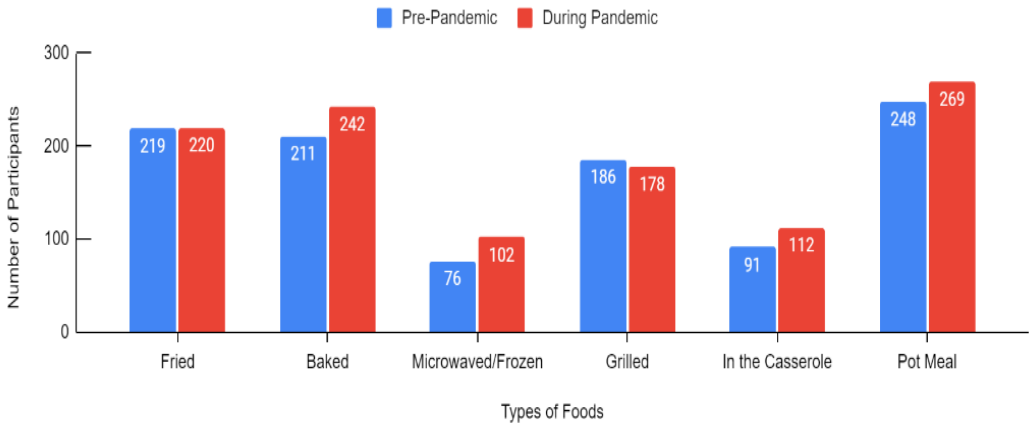

Figure 4.22 Cooking methods participants consumed the food cooked with

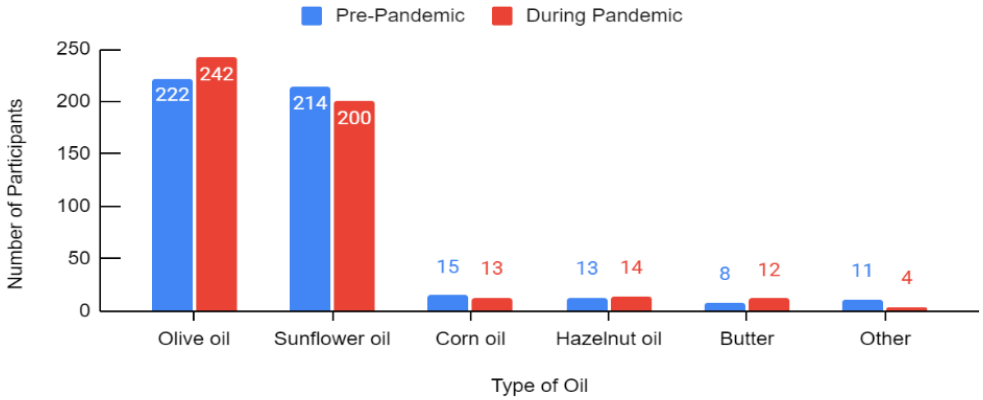

Figure 4.23 Types of oils participants preferred to use in their meals

Participants were asked whether their cooking frequency had changed during the pandemic. According to Figure 4.24, one-fifth of the participants (n=58) stated that they cooked as usual, one-fourth (n=73) stated that they generally do not cook, and one-third (n=91) stated that they cooked more. The remaining participants (a total of one-fourth) stated that they cooked less (n=22); first, they cooked more, then less (n=29); and first, they cooked less, then more (n=21).

Participants were asked if there were any changes in their consumption of foods that could be considered harmful to health, such as fried foods, snacks, fast foods, foods containing high refined sugar, coffee, acidic/high-sugar drinks, and alcohol during the pandemic. According to Figure 4.25 and Figure 4.26, the percentage of participants who stated they consumed more snacks (50%), foods containing high-refined sugar (32%), and coffee (45.9%) during the pandemic is quite high. On the

other hand, a considerable percentage of participants stated that they consumed less fast foods (43.5%), alcohol (23.1%), and fried foods (24.8%).

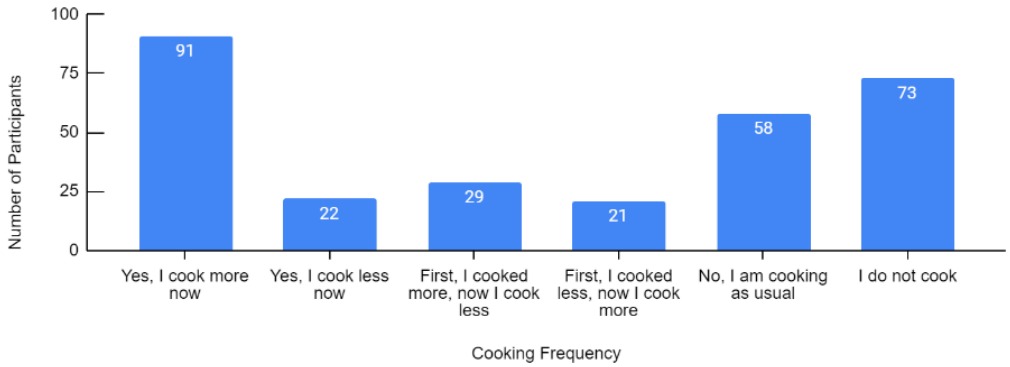

Figure 4.24 Changes in participants' cooking frequency

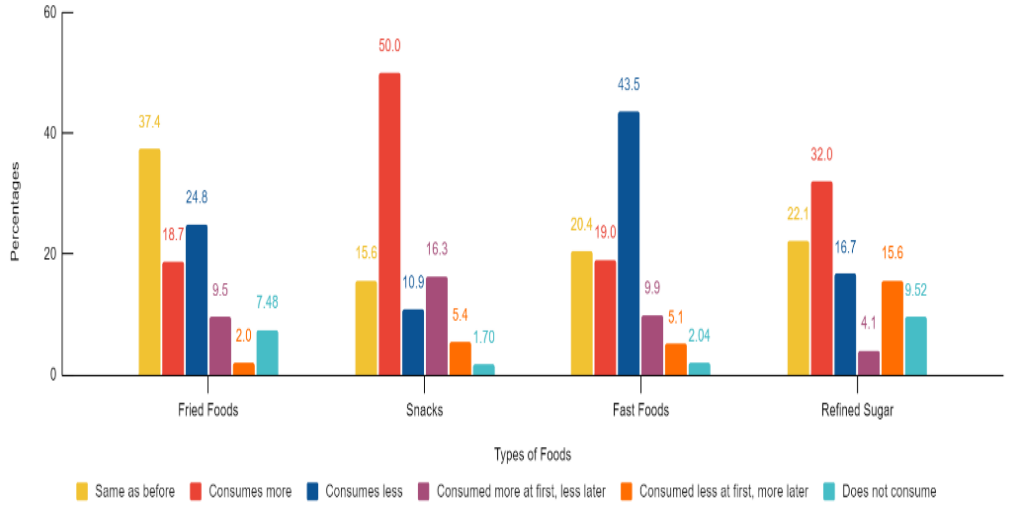

Figure 4.25 Changes in participants' consumption of fried foods, snacks, fast-foods, and high-refined sugar-containing foods

Participants were asked if there were any changes in their consumption of foods that could be considered beneficial to health, such as vegetables, legumes, fruits, dairy products, sea products, dried nuts and fruits, and water during the pandemic. According to Figure 4.27 and Figure 4.28, although the percentages of participants who stated that they consume such foods that may be considered beneficial to health in the same way are the highest, it is still possible to say that the percentage of participants who stated that they consume more of vegetables (38.8%), legumes (34%), fruits (37.1%), dairy products (32.7%), dried nuts and fruits (36.1%), and water (36.1%) are also high.

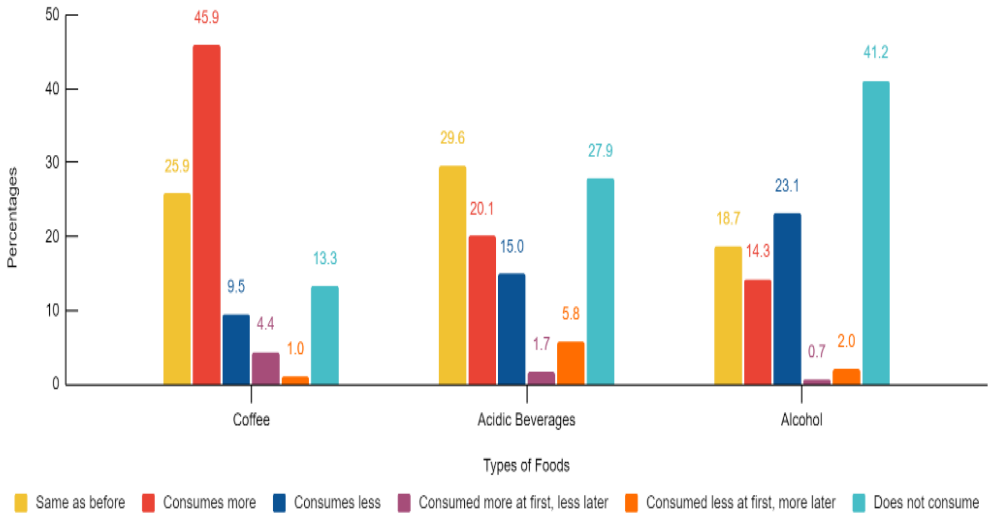

Figure 4.26 Changes in participants' consumption of coffee, acidic/high-sugar drinks, and alcohol

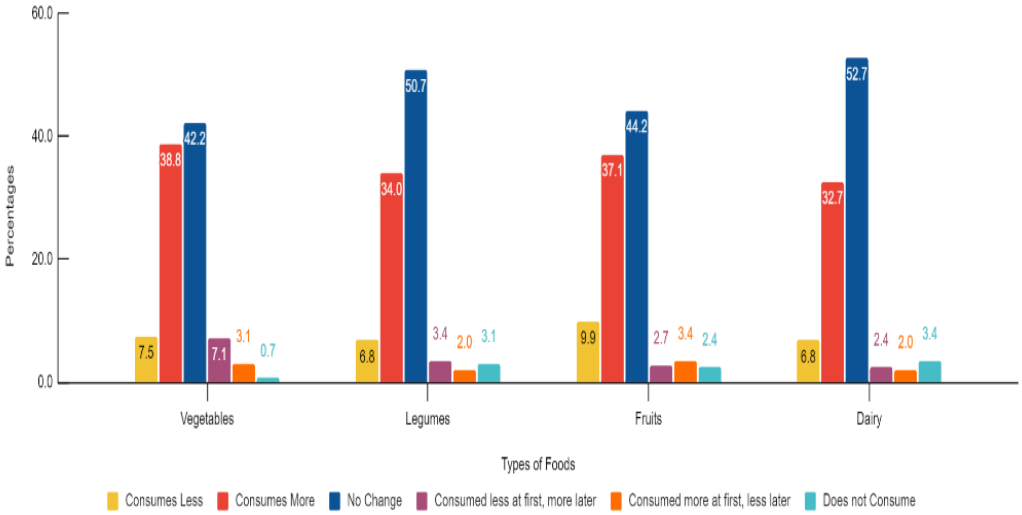

Figure 4.27 Changes in participants' consumption of vegetables, legumes, fruits, and dairy products

Participants were asked whether their meat (white/red) consumption had changed during the pandemic. According to Figure 4.29, while 52.7 percent of the participants stated that there was no change in their meat consumption, 28.2 percent of the participants stated that their meat consumption increased.

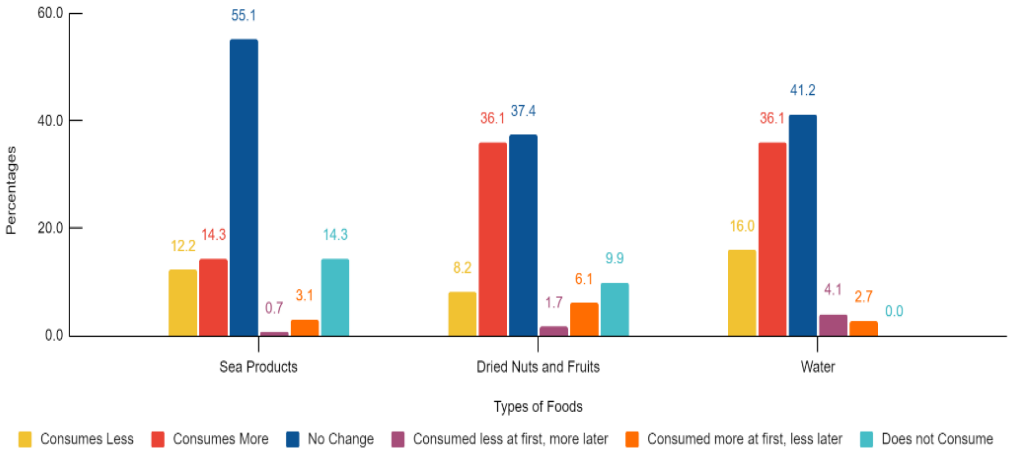

Figure 4.28 Changes in participants' consumption of sea products, dried nuts and fruits, and water

Participants were asked whether their food supplements consumptions had changed during the pandemic. According to Figure 4.30, while 54.42 percent of the participants stated that there was no change in their food supplements consumptions, 24.15 percent of the participants stated that their food supplements consumptions increased.

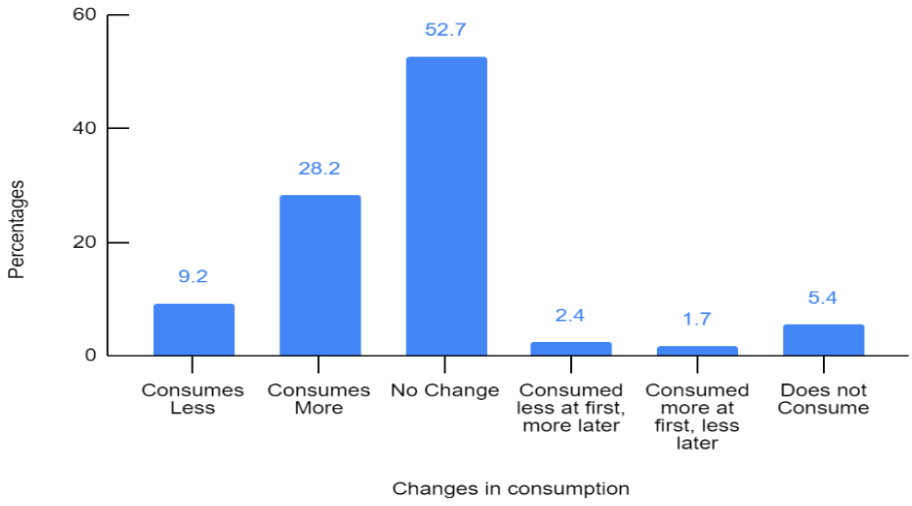

Figure 4.29 Changes in participants' meat consumptions

Participants were asked whether they ate more food than usual during the pandemic. According to Figure 4.31, while 21.1 percent of the participants indicated that they ate as usual, 54.6 percent of the participants indicated that they ate more.

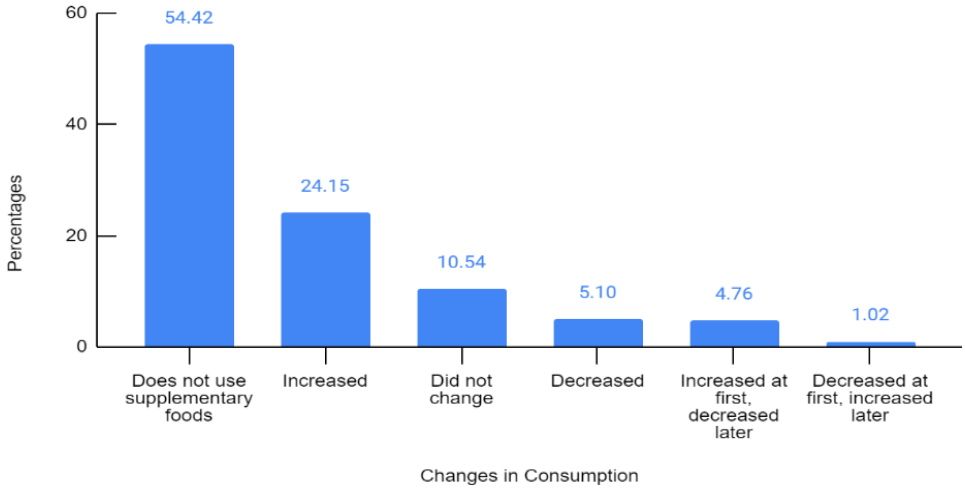

Figure 4.30 Changes in participants' food supplements consumptions

Participants were asked whether they gained weight during the pandemic. According to Figure 4.32, while 84 (28.6%) participants indicated that they did not gain weight, 122 (41.5%) participants indicated that they gained weight. The rest of the participants stated that they gained weight first, lost later (n=61), and they lost weight first, gained later (n=27).

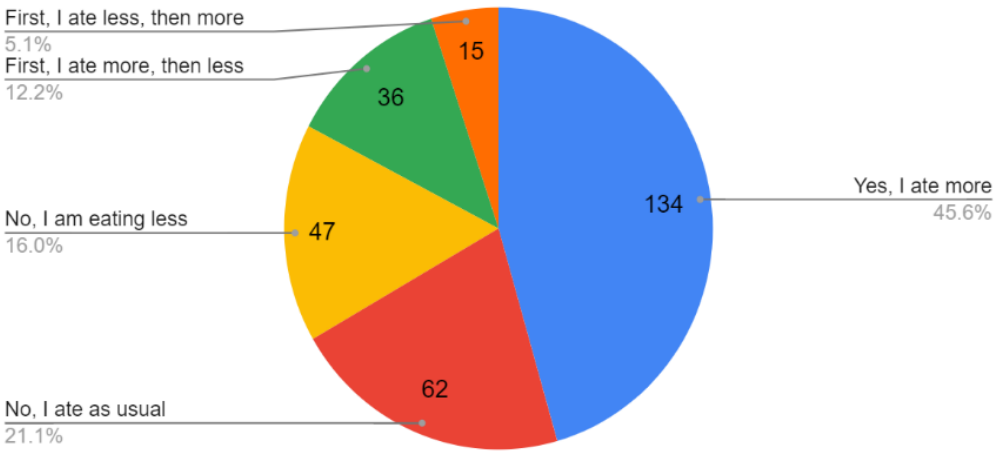

Figure 4.31 Changes in participants' general food consumptions

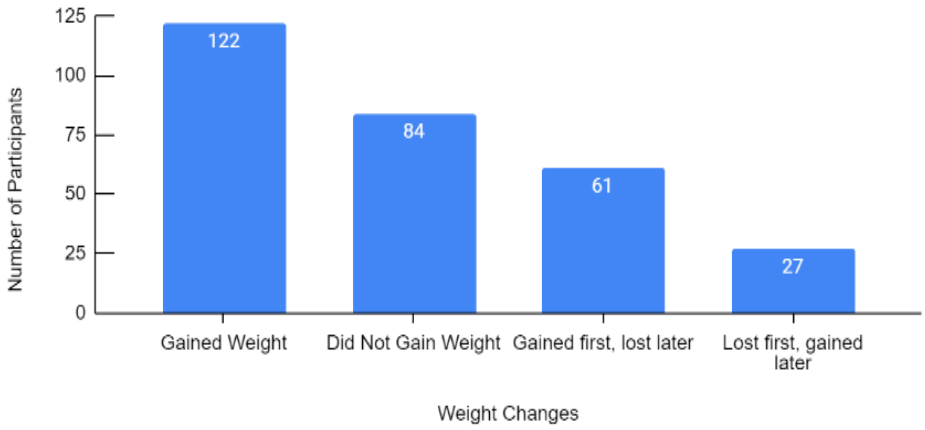

Figure 4.32 Changes in participants' weights

Participants were asked whether they followed a special diet or not. According to Figure 4.33, 196 (66.66%) participants indicated that they did not follow any special diet. The rest of the participants stated that they follow intermittent fasting (n=18), vegetarian/vegan diets (n=13), eat-based diets (n=29), ketogenic diets (n=10), diets containing organic food (n=19), and other diets (n=9).

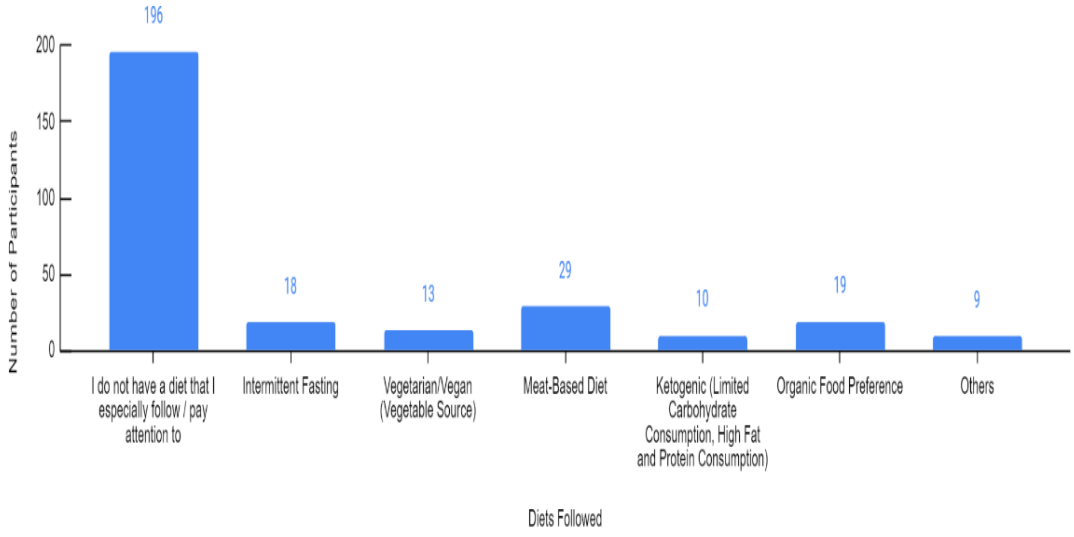

Figure 4.33 Special diets followed by the participants

Overall, during the pandemic, while the number of participants who ate three meals in a regular day decreased, the number of participants who ate two meals, four meals and more than four meals increased. While the number of participants using olive oil in meals increased, the number of participants using sunflower oil decreased. One-third of the participants stated that they cook more food. Generally, participants stated that they consumed less fast food during the pandemic; however, they indicated

that they consumed more snacks, refined sugar, and coffee. In addition, the percentage of participants who said that they consumed more foods that could be considered beneficial to health, such as vegetables, legumes, fruits, dairy products, dried nuts and fruits, and water during the pandemic is noteworthy. The rate of participants who said they use more supplements was also noteworthy. Lastly, the percentage of participants who said they ate more and gained weight during the pandemic is also notable.

Moreover, it has been compared with some findings obtained by considering the Stages of Change as inactive (pre-contemplation, contemplation, preparation) and active (decision/action, maintenance). The details of the comparison are shown in Table 4.5. According to Table 4.5, based on the findings obtained from the Stages of Change Questionnaire, during the pandemic, it is seen that the almost same and considerable percentages of both inactive and active participants indicated that they spent more than 6 hours in front of the screen (inactive ones: 70.7%; active ones: 71.7%), ate more food than usual (inactive ones: 44.9%; active ones: 45.7%), and consumed more snacks (inactive ones: 49.7%; active ones: 50.4%). On the other hand, during the pandemic, the percentage of those who say they consume more vegetables among active participants (42.5%) was higher than the percentage of those who say they consume more vegetables among inactive participants (35.9%).

Table 4.5

Comparison of Stages of Change with Some of the Findings

	Inactive		Active	
	n	%	n	%
More Than 6 Hours of Screen Time	118	70.7	91	71.7
Eating More	75	44.9	58	45.7
Eating More Snacks	83	49.7	64	50.4
Eating More Vegetables	60	35.9	54	42.5

4.4.2. Interviews

In this part, the results of the interviews examining the changes in the participants' eating habits (**RQ4**), specifically, reasons for these changes, for which types of food they consume they experienced these changes, and strategies produced

for these changes were included. The themes and sub-themes of this part of the interview are presented in Table 4.6.

Table 4.6

Themes, Sub-themes, and Codes of Eating Habits

Themes	Sub-Themes	Codes
Healthy Food Preference	Reasons for Healthy Food Consumption	Living At Home
		Mothers' Cooking
		Having More Free Time
		Balancing Inactivity by Dieting
		Strengthening Immunity
	Types of Healthy Foods Consumed	Home-Cooked Meals
		Nutritional Supplements
		Fruits and Vegetables
		Nuts
	Strategies for Healthy Food Consumption	Eating More Home-Cooked Food
		Avoiding Ready-To-Eat Foods
		Avoiding Refined Sugar and Pastries
		Eating More Fruits and Vegetables
		Not Eating Out
		Cooking More
		Counting Calories
Overeating	Reasons for Overeating	Boredom
		Strengthening Immunity
	Types of Foods Overconsumed Together	Harmful Carbohydrates, Fats, and Refined Sugars
		Supplements
		Protein-Containing Foods
		Some Fruits and Vegetables
	Strategies for Overeating	Not Eating Anything after 6 or 7 PM
		Eating a Bowl of Oats for Breakfast
		Moving More
		Dieting with Appearance Anxiety

4.4.2.1.Healthy Food Preference

During the pandemic, five of the participants stated that their eating habits changed positively, and they started to consume healthier foods (P3, P4, P6, P8, and

P10). Participants who care about choosing healthy foods explain their behaviors for reasons such as being in the family home, the convenience of a mother's cooking, having more free time, trying to control inactivity by dieting, and their desire to prevent disease (COVID-19) and strengthen immunity. For instance, P6 explained that the increase in the time she spends at home and the desire to improve her immunity made her concentrate more on preparing healthy meals.

> *As the time spent at home has increased, I spent my time at home cooking meals to support healthy eating. In short, I took care to eat healthy foods. The first reason for this was to prevent disease and strengthen my immunity. Another reason is, as I said, since I spend more time at home, I redeemed the time by cooking meals.*

P4 said that she took advantage of the pandemic period and focused on diet and sports:

> *During the pandemic, being more sedentary really worried me about gaining weight, as I am a person who generally does not move much. Since I have already made it a goal to lose weight regardless of the pandemic, I took the opportunity of not having anything else to do in my spare time during the pandemic, keeping that time to myself by dieting and doing sports.*

They stated that they prefer a diet rich in protein and unsaturated fatty acids and containing plenty of vitamins and minerals, such as eating home-cooked meals, taking nutritional supplements such as vitamin C and vitamin D, eating mainly fruits and vegetables, and consuming nuts. For example, P6 expressed her eating habits, which were well affected during the pandemic, with the following words:

> *My eating habits have changed for the better. Before the pandemic, I was a person who mostly ate out or ordered food, but during the pandemic, I started to pay more attention to cooking and to eat healthy foods.*

Also, P8 stated that the pandemic period was the period when she ate the healthiest in her life:

> *I can say that I was in the period when I ate the healthiest foods. I did not eat unhealthy foods such as packaged foods and more. Other than that, I did not eat pastries or things containing refined sugar. I consumed healthy foods such as fruits, vegetables, and nuts more often and mainly ate home-cooked meals.*

During the pandemic, the participants stated that they produced some strategies to develop healthy eating habits, such as eating more home-cooked food, avoiding

ready-to-eat foods, not consuming refined sugar, not consuming pastries, eating more fruits and vegetables, not eating out, cooking more, and counting calories. For instance, P6 indicated that she stopped ordering food from local cafes and restaurants and preferred to consume fruits and vegetables more in order to consume fresh and safe foods:

> *I stopped eating out or ordering take-out food. I chose to cook my own meals as I did not rely on food prepared outside to protect myself from infections. So, I started eating more vegetables. Since I was always outside before the pandemic, I was eating more fast food and fatty, fried foods, but during the pandemic, I started to eat foods such as vegetables and fruits, which are more immune-boosting.*

Also, P8 directly defined her strategies for healthy eating with the following words:

> *As I said, in the name of eating healthy, I ate more home-cooked food. I cut ready-made foods out of my life. For example, I did not consume refined sugar. I did not consume pastries. I ate more fruits and vegetables.*

In addition to these, one participant stated that her eating habits have never changed during the pandemic, and she has always eaten healthy foods throughout her life (P9).

Overall, it would not be wrong to say that during the pandemic, some participants turned to healthy eating and consumed more foods such as fruits, vegetables, and homemade meals and reduced their consumption of fast food and eating out habits.

4.4.2.2.Overeating

During the pandemic, four participants stated that their eating habits have changed to consuming almost all kinds of foods excessively (P1, P2, P5, and P7). This means they consumed more of both healthy and unhealthy foods. Participants who ate all kinds of foods excessively attributed this behavior to boredom and concerns about keeping their immunity strong against infection. For instance, P7 explained that boredom due to staying at home and worrying about avoiding the disease pushed her to eat all kinds of foods much more than before:

> *There was nothing to do in the house, so we were trying ridiculous recipes. For this reason, I ate more carbohydrates than I*

had ever eaten. I was just at home and sitting all the time. There was a constant feeling of hunger because we were sitting all the time. I think we did not want our mouths to be empty because there was nothing to do but sit at home. We also consumed a lot of protein and vegetables to prevent the disease. In addition, we were trying to consume vitamins that we had never heard of. In short, we were consuming everything.

Some of the foods that participants say they consume excessively can be listed as foods containing excessive carbohydrates, harmful fats, and refined sugars such as snacks, junk food, and pastries; supplements such as vitamins C and D; protein-containing foods such as bone broth and broth; some fruits and vegetables. For example, P1 and P2, respectively, clarified the changes they experienced in their eating habits with the following words:

I ate too much. Apart from regular meals, I also consumed junk food and snacks constantly. When I got bored, I went to the kitchen because there was only one place in the house as an interesting place to go. So, I was constantly consuming snacks. I also gained weight for these reasons. Moreover, I also consumed a lot of foods such as bone broth, vegetable dishes, and supplemental vitamins because I thought they were beneficial for coronavirus infection.

We can say that especially night snacks increased during the pandemic. In addition, the quality of the food deteriorated. Psychologically, we started to consume more carbohydrate-based, sweet-based foods. People began to make their own bread at home, and so we joined this trend and started to make and eat pastries all the time. In addition, there was a thought that I should not diet, exercise and tire myself in the first place, because I might be sick and my immunity might be damaged. That is why we tried to feed ourselves by eating all kinds of foods. In particular, we tried to consume more fruits such as parsley, green pepper, tangerine, and orange in order to get vitamin C. After that, the rumor spread that vitamin D strengthens immunity against coronavirus infection, and we started taking vitamin D supplements. In short, we can say that I have experienced everything in the name of eating.

One participant also indicated that even if she only preferred healthy foods, she also consumed these foods excessively (P5).

During the pandemic, the participants indicated that they produced some strategies to control the habit of overeating, such as not eating anything after 6 or 7 pm, eating a bowl of oats for breakfast, trying to move more, and following a diet by

worrying about taken weight (appearance anxiety). For instance, P2 indicated that she had her dinner hours under control in order to avoid overeating and gaining weight:

> *In order to eat healthily, I started to make breakfast with what we call oat bowls and ate less for a while. I also had dinner at six or seven o'clock at the latest, and then I ate nothing else. I tried to drink lots of water and move more.*

P7 indicated that she reminds herself of the importance of her appearance in order not to overeat and gain weight:

> *I thought the pandemic would end somehow, and life would continue from where it left. I am going to mingle with people at a point. When I got involved in life, I thought my appearance might be a little important. That is why I told myself to stop. I wanted to eat more calmly. I can say that I stopped myself by thinking about my appearance.*

Overall, it is possible to say that during the pandemic, some participants consumed both healthy and unhealthy foods such as fruits, vegetables, vitamin supplements, pastries, and snacks more than normal times, but they also developed some strategies in order not to continue this state of eating too much completely and permanently.

CHAPTER 5

DISCUSSION

In this chapter, to explain the research questions in detail, four different questions were discussed in four different sub-heading respectively in the light of the study findings. Also, implications for experts and university authorities, and future studies were mentioned at the end of the chapter.

5.1. Changes in the Physical Activity Participation of University Students During the COVID-19 Pandemic

This study examined the physical activity participation of university students during the COVID-19 pandemic. In this study, twenty-four questions were asked of participants to clarify their physical activity participation before and during the pandemic.

According to the survey answers, it is observed that some (12%) of students who participated in physical activity before the pandemic stated that they did not participate in physical activity during the pandemic, not answering the questions about their physical activity participation during the pandemic. Moreover, the number of participants who answered that they have been exercising regularly for more than six months to the question of which one better describes their participation in physical activity decreased by half during the pandemic. There was almost no change in the number of those who said that they were not exercising and had no intention. On the other hand, it was seen that the number of participants who said I do not exercise, but I want to, I exercise sometimes, and I have been exercising regularly for less than six months increased during the pandemic. Moreover, based on the stages of change questionnaire, only one-third of the participants stated that they regularly participated in physical activity in the last six months. On the other hand, about half of the participants stated that they do not participate in moderate physical activity (rhythmic

walking, dancing, low-intensity swimming or cycling, etc.) but intend to participate within one or six months.

In addition, based on the survey, about half of the participants stated that their frequency of participation in physical activity decreased. During the pandemic, there was also a decrease in the number of days they participated in physical activity. On the other hand, it is seen that participation in physical activities suitable for participation in the home environment, such as yoga and pilates, increased. The participants stated that they participate in physical activities alone, mostly at home and sometimes in public parks (walking). These findings were also supported by interviews. The interviewees expressed that they practiced pilates and yoga at home and took walks close to home during the pandemic. According to the survey, participants also indicated that their participation in moderate and vigorous intensity levels of physical activities dropped; however, they reported their physical activity participation at low-intensity levels tripled. While the number of participants who exercised with sessions of 45 minutes or more decreased, there was an increase in the number of participants who stated that they exercised with sessions up to 45 minutes.

In the survey and interviews, participants generally stated that staying at home, online education, lack of motivation, anxiety about getting sick, scarcity of suitable places to do sports, and the rules such as curfew, social distancing, and closure of sports facilities brought by the pandemic affect their participation in physical activity. On the other hand, according to the responses received from the interviews, they have sought to control their declining participation in physical activity, such as doing muscle-strengthening activities like yoga and pilates, watching exercise videos, moving more at home, and downloading exercise apps. Besides, some of the interviewees expressed that they took advantage of the pandemic period and started to participate in physical activity and concentrated on physical activities that can be done at home, such as yoga, pilates, HITT exercises.

The findings in this study support, in some respects, two types of research, both revealing a decrease in physical activity during the COVID-19 period and an increase in physical activity. For example, some of the research (Bertrand et al., 2021; Bulguroğlu et al., 2021; Gallè et al., 2020; Intelangelo et al., 2022; Sidebottom et al., 2021; Wilson et al., 2021) found physical inactivity or decreased physical activity among university students; however, some of them (Antekolović & Kovačić, 2020; Di

Renzo et al., 2020; Romero-Blanco et al., 2020) stated that research participants' physical activity levels increased during the COVID-19 pandemic. For example, Sidebottom et al. (2021) indicated that students' physical activity participation decreased, and low, moderate, and vigorous intensity levels of physical activity also dropped during the confinement period. On the other hand, in another study conducted by Antekolović and Kovačić (2020) in Zagreb, Croatia, many students expressed that they desire to be physically active during the pandemic, and online physical education courses were helpful for them. In this study, it is possible to say that although there was a decrease in those who do regular physical activity, their interest and tendency in physical activity increased during the pandemic. These findings support the findings of the study (Ercan & Keklicek, 2020) examined the physical activity levels of 407 Turkish university students during COVID-19. Ercan and Keklicek (2020) stated that the rate of general physical inactivity level increased and that students who continue to do physical activity tend to exercise that can be done at home. Also, students who exhibited inactivity during the COVID-19 pandemic had a high desire to develop regular physical activity participation in the future (76.08%). In that study, it was also seen that there was an increase during the pandemic only in the category of indoor (at home) exercises, pilates, and yoga, among the sports and exercises that the participants were interested in before the pandemic.

Related to the factors of the social-ecological model (SEM), the cancellation of regular training programs in private and university sports clubs (physical environment factors), confinement rules (policy environment factors; closure of private and public sports facilities, curfews, etc.), and online education methods due to the pandemic may be reasons for the decline in regular and moderate to vigorous intensity levels of physical activity. The goal of strengthening the bodies against the COVID-19 pandemic (individual factors) and the increasing emphasis on physical health in this direction (individual factors) may explain the increased interest and tendency in physical activity (Rodríguez-Larrad et al., 2021). Besides, people may have realized that inactivity is harmful to human physiology (individual factors). So, the peak of physical inactivity during the quarantine period may have overwhelmed people and increased their desire to do sports and interest in physical activity.

In the light of these, motivation-enhancing measures should be taken, and public health strategies should be developed to nurture the increased interest in

physical activities that can be done in the home environment and the awareness that may have developed about physical activity. Also, technology-based interventions can be helpful in improving physical activity levels more because there has been an increase in technology overuse, as one study (Ammar et al., 2021) revealed (15%) during the pandemic. In this way, this situation (overuse of technology) may be turned into an advantage by considering the health of university students and their increasing interest and tendency towards physical activity.

5.2. Changes in the Sedentary Behaviors of University Students During the COVID-19 Pandemic

In this study, there was a concern about identifying the changes in the sedentary behaviors of university students during the COVID-19 pandemic. Displaying inactive behaviors while awake, like spending long hours in front of a screen and sitting or lying down for long hours, can be given as examples of sedentary behaviors. This study examined the changes in these behaviors with the effect of the pandemic on university students by asking seven questions to measure sedentary behaviors.

According to the answers provided from samples, while sitting and lying-down times of less than two hours, between two and four hours, and between four and six hours were noticeably reduced, sitting and lying down times between six and eight hours, between eight and ten hours, between ten and twelve hours and over twelve hours increased significantly. In short, there was a decrease in sitting and lying down times for hours, which would be considered slight or expected, but an increase in sitting and lying down times for long hours during the COVID-19 pandemic.

Moreover, while the number of participants who spent time in front of technological devices such as TV, laptop, and smartphone less than two hours, between two and four hours, and between four and six hours was noticeably reduced, the number of participants who spent time in front of technological devices such as TV, laptop, and smartphone more than six hours remarkably increased. Briefly, it is found that the time spent in front of technological devices such as TV, laptop, and smartphone for very few or normal hours decreased, and the time spent in front of such technological devices for long hours increased during the COVID-19 pandemic. These findings were also supported by interviews. The participants stated that reasons such as staying at home, online education, and lack of social life push them to a sedentary

lifestyle, such as spending much more time in front of the screen and sitting/lying down. On the other hand, according to the responses received from the interviews, they have sought to control their increasing sedentary behaviors, such as doing muscle-strengthening activities like yoga and pilates, moving more in the house, moving more at home, and practicing the 20-20-20 rule.

Parallelly, in most studies encountered and reviewed, it was concluded that sedentary behaviors increased during the COVID-19 pandemic (Bertrand et al., 2021; Gallè et al., 2020; Rodríguez-Larrad et al., 2021; Romero-Blanco et al., 2020; Sañudo et al., 2020). For example, in a study conducted by Rodríguez-Larrad et al. (2021) with the participation of a large number of university students (13,754) in Spain, results indicated that students' sedentary behaviors and screen-time activities reasonably increased during the COVID-19 pandemic. These results, which are obtained from a great number of students, support this study. Another study carried out by Bertrand et al. (2021) with 125 university students in Canada revealed that 16% of participants were sedentary for 8 hours or less before the pandemic, while this rate increased to 30% during the pandemic.

The apparent result obtained in this study was that sedentary behaviors increased. In the light of the factors of the social-ecological model, as supported by the findings from the survey and interviews, policy environment factors such as curfews, confinement rules, and individual and socio-environmental factors such as staying at home and the concern of minimizing social contact to avoid infection may have caused the participants to stay sedentary at home for long periods of time. In addition, providing online education (physical environment factors) and online socializing (socio-environmental factors) during the pandemic period may have led to an increase in the need for technological tools and, accordingly, excessive use of these tools.

In addition, in this study, participants demonstrated that while the number of participants who slept less than six hours, between six and eight hours, and eight hours decreased, the number of participants who slept between eight and ten hours and more than 10 hours increased significantly. It means students started to sleep more during the COVID-19 pandemic. The interviewees largely confirmed this increase. The majority of the interviewees stated that they slept longer hours or that their sleep duration and hours became irregular. Although the sedentary behavior is considered

to be inactive in waking time, it is possible to say that the prolongation of the time spent in sleep may increase the sedentary behavior of individuals. It is because people tend to consider the time they spend in bed as sleep time. For example, people who spend a total of twelve hours in bed may have slept only eight hours of this time (Ross et al., 2020). So, related to SEM, having to spend most of the day at home and having to do everything that needs to be done (online courses, assignments, projects, etc.) from home may have caused students to spend more time in bed and have poor quality sleep. Parallel to this situation, Marell et al. (2021) revealed an increase in the time students spend in bed, insomnia symptoms, falling asleep, and waking up times during the COVID-19 pandemic, and a corresponding decrease in their sleep quality.

Considering these findings about sedentary behaviors, in line with the changes in the pandemic period, interventions to reduce students' sedentary behaviors and training programs for instructors that include solutions and suggestions for this situation may be developed and implemented by experts, and these implementations can be a savior for such situations that may occur in the future.

5.3. Changes in Eating Habits of University Students During the COVID-19 Pandemic

This study examined the eating habits of university students during the COVID-19 pandemic. In this study, a questionnaire consisting of thirty-three questions was applied to the participants to clarify their eating habits before and during the pandemic. According to the answers, during the COVID-19 pandemic, while the number of university students who regularly eat three meals a day has decreased, there has been an increase in the number of university students who eat two meals, four meals, or more than four meals a day. Also, the number of those who stated that they ate more and gained weight during the pandemic draws attention. Parallel to policy environment factors of social-ecological model, this situations may have happened as a result of the fact that the obligation to stay at home within the framework of the pandemic rules affects the regular eating habits of university students. The psychological effects (individual factors) of having to be at home all the time, such as boredom, may have driven them to eat more or less.

In this study, participants mostly indicated that they consume less fast food during the COVID-19 pandemic and more healthy foods that are also frequently

included in the Med Diet. They also stated that they cooked and ate more home-cooked meals. Most of the participants indicated that they consume healthy fats such as olive oil, dietary supplements intake, and healthy foods such as vegetables, legumes, fruits, dairy products, dried nuts and fruits, and water more during the pandemic.

Considering the factors of the social-ecological model, during the pandemic, participants may have tended to prefer healthy foods rich in vitamins and nutrients to reduce the risk of contracting COVID-19 infection and the complications of the disease (individual factors). In addition, the time, place (physical environment factors), and being able to live with the family advantages of staying at home (physical environment factors and socio-environmental factors) may have allowed the participants to cook more at home or to eat more mother's food, and thus may have led the participants to follow a healthier diet. On the other hand, participants also stated that they consumed more snacks, refined sugar, and coffee during the COVID-19 pandemic. This situation can also be associated with not being able to find anything else to do at home, boredom, not getting used to sudden life changes and not being able to establish a certain life order (physical environment factors, socio-environmental factors, and individual factors).

These results obtained from the applied survey were also supported by the interviews. While some participants stated that they tried to balance the effects of staying at home and inactivity by eating less, most of the participants stated that they constantly snacked because they could not find anything else to do at home, and they cooked their own foods and consumed healthy foods excessively to prevent themselves from the infection. Also, during the pandemic, one of the behavioral changes that participants reported most experienced was overeating.

Some of the studies on eating habits during COVID-19 support these results. For example, in a study conducted by Pišot et al. (2020) in nine European countries with 4,108 participants, aged 15–82 years, it was determined that participants' body mass index increased and meal sizes ($p<0.001$) and consumption of unhealthy foods ($p<0.001$) were presented as some of the reasons for this increase. Also, increased consumption of healthy foods and increased number of regular meals (44%) during the COVID-19 pandemic are among the changes detected in this study. Another study carried out by Sidebottom et al. (2021) in the United States with 403 college-aged students revealed that during the COVID-19 pandemic, the eating habits of university

students changed and students ate more meals at home. Also, in another study conducted with 3,533 participants aged 12 and over during the COVID-19 pandemic in Italy, it was revealed that 48.6 percent of the participants stated that they gained weight (Di Renzo et al., 2020). In this study, it was also observed that the diet of the participants between the ages of 18 and 30 was more compatible with MedDiet.

On the other hand, some studies have emphasized that eating habits have completely changed in a negative direction during the COVID-19 period. It was revealed, in the study conducted by Bertrand et al. (2021) with 125 Canadian students, that during COVID-19, students' nutrient and caloric intake decreased as they consumed less of foods that could be considered healthy, such as fruits, vegetables, grains, nuts, dairy products, meat, and foods that could be considered unhealthy, such as snacks. Psychological distress and the desire to balance inactivity by eating less were also considered the main reasons for this situation. Also, in the study conducted with 1,012 participants in the United Arab Emirates, it was stated that water consumption decreased in 72.2 percent of the participants, weight gain was observed in 31 percent of them, and the participants adopted an unhealthy diet away from the Mediterranean diet (Cheikh Ismail et al., 2020). Psychological based reasons such as anxiety, boredom, and lack of motivation were emphasized as possible causes of this situation.

Considering all these findings as a whole, it would not be wrong to say that the COVID-19 pandemic also had an impact on people's eating habits and that it created remarkable changes in the eating habits of university students during the pandemic. Although there are positive and negative aspects of this change, it should not be ignored that when inactivity and overeating, which may be caused by psychological reasons, come together, there may be undesirable consequences for health overall. Thus, it is important to carry out studies and improve solutions to sharpen and brighten the positive sides of this change, and to dull and rasp the negative sides.

5.4. Implications

This study provides substantial implications for policymakers, university officials, instructors, and university students by considering the socio-ecological model factors that impact physical activity participation, sedentary behaviors, and eating habits, such as individual factors, socio-environmental factors, physical

environmental factors, and policy environment factors, and by considering that an unusual situation such as COVID-19 causes a change in these factors.

First of all, policymakers should provide qualified outdoor or more secure and sanitized indoor sports facilities for citizens to continue their participation in physical activities, while taking care of their physical health, for extraordinary situations that drastically change people's lifestyles, such as COVID-19. It should be ensured that these facilities are also prepared for extraordinary conditions such as weather events, epidemics, and pandemics. Also, policymakers are responsible for promoting the general health and healthy lifestyles of their citizens. For this reason, in all possible extraordinary situations, they should lead the preparation of informative and enlightening advertisements, brochures, and booklets by experts in order to support the public in maintaining a healthy lifestyle and actively continuing their lives.

Moreover, this study is an evidence-based resource that contains important information that can help policymakers and officials of universities be aware of the importance of participation in physical activities and healthy eating habits, and the drawbacks of sedentary behaviors in possible future extraordinary situations such as COVID-19. In the light of the data obtained from this study, policymakers should produce and implement forward-looking and sustainable policies that will support a healthy lifestyle for all segments of society. Also, technological devices such as TVs, mobile phones, tablets, and laptops can be used as useful tools to benefit from the applications for healthy movement practices and diet programs. Therefore, policymakers should collaborate with experts to use technological devices for social purposes and contribute to the development, proliferation, and dissemination of useful applications for health.

In terms of university students, policymakers should produce ideas and solutions that will support the positive evolution of the perception, understanding, and openness of university students, who are a conscious segment of society, towards physical activity, and their inclusion in a physically active life. Also, by collaborating with officials of the universities, policymakers should provide opportunities such as free sports courses and gyms that will support the participation of economically dependent individuals of society, such as university students, in physical activity and curb their sedentary behaviors. In addition, in order to support their healthy eating

habits, soup kitchens, where students can have a regular and balanced diet with fresh and healthy food, should be provided free of charge or with a small fee.

Moreover, before and after extraordinary situations such as pandemics and natural disasters, university officials should organize appropriate educational programs, conferences, and talks in cooperation with experts in their fields to inform and enlighten university students about how to deal with such situations. Also, officials of the universities should be prepared for any conditions that are possible to change and should be able to react quickly when these conditions are encountered. For this reason, professional training should be organized to prepare students and instructors for educational methods and programs that may vary depending on the conditions, such as distance education and online education. Additionally, in order to keep students physically and mentally active in distance and online education, instructors, in their curriculum, should include some effective exercises, and informative content on the importance of physical activity and how to maintain being physically active. Also, they may keep the breaks longer than usual and ensure that they spend this time active.

Lastly, university students should not ignore the importance of healthy eating and physical activity and should incorporate diet programs and physical activities that can be practiced in places compatible with the current situation, such as home and outdoor areas.

5.5. Recommendations for Future Studies

Future studies should research the change in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic by considering gender differences and the university years they are involved in. Future studies should also examine how the socioeconomic status of university students affects their physical activity participation and eating habits during the COVID-19 pandemic.

More longitudinal research should be conducted to determine whether the change in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic is permanent. Besides, more cross-sectional and longitudinal studies should be conducted in order to clearly reveal

the short and long-term effects of changes in physical activity participation, sedentary behaviors, and eating habits of university students during the COVID-19 pandemic.

Moreover, in extraordinary situations such as the COVID-19 pandemic, intervention studies should be carried out to increase the physical activity levels and nutritional quality of university students. Also, in extraordinary situations such as the COVID-19 pandemic, studies should be conducted using more objective measurement tools in order to clearly and reliably determine the level of physical activity and nutritional quality.

In addition, in order to be able to easily measure and determine physical activity level and nutritional quality, studies should be carried out to develop more objective measurement tools suitable for extraordinary situations such as the COVID-19 pandemic. Besides, more studies should be done on the quality and versatile usability of indoor and outdoor sports facilities in extraordinary situations such as the COVID-19 pandemic in order to ensure the continuity of participation in physical activity.

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APPENDICES

A. ONLINE SURVEY ON PHYSICAL ACTIVITY PARTICIPATION, SEDENTARY BEHAVIORS, AND EATING HABITS

ÇEVRİMİÇİ BİLİMSEL ARAŞTIRMA ANKETİ

Bu anket Orta Doğu Teknik Üniversitesi (ODTÜ) Beden Eğitimi ve Spor Bölümü yüksek lisans öğrencisi Güncem Dilan Karayaprak tarafından COVID-19 döneminde üniversite öğrencilerinin fiziksel aktivite katılımlarındaki, sedanter (hareketsiz) davranışlarındaki ve beslenme alışkanlıklarındaki değişimi incelemek ve ortaya koymak için hazırlanmıştır.

Çalışma; katılımcıların demografik bilgilerini, fiziksel aktivite katılım durumlarını, sedanter davranışlarını ve beslenme alışkanlıklarını ölçmeye yönelik sorulardan oluşmaktadır ve soruları cevaplamak yaklaşık 20 dakika sürmektedir. Sizi rahatsız eden herhangi bir unsur olmamasına dikkat edilmiştir ancak aksi bir durumda durumda çalışmayı istediğiniz zaman sonlandırabilirsiniz. Sizlerden edinilecek bilgiler tamamen bilimsel amaçlı kullanılacak olup kişisel bilgileriniz gizli tutulacaktır. Katkılarınız bizim için önemlidir. Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz.

Doç. Dr. Irmak HÜRMERİÇ ALTUNSÖZ
Orta Doğu Teknik Üniversitesi (ODTÜ)
Beden Eğitimi ve Spor Bölümü (Tez Danışmanı)

Güncem Dilan ÖKSÜZ
Orta Doğu Teknik Üniversitesi (ODTÜ)
Beden Eğitimi ve Spor Bölümü (Yüksek Lisans Öğrencisi)

DEMOGRAFİK BİLGİ FORMU

1. Cinsiyetiniz:

Kadın

Erkek

2. Kaç yaşındasınız?

3. Boyunuz:

4. Kilonuz (Pandemi Öncesi):

5. Kilonuz (Pandemi Sırasında):

6. Medeni Durumunuz:

Evli

Boşanmış

Dul

Bekar

Diğer:

7. Yaşadığınız yer (Pandemi Öncesi):

Büyükşehir

Şehir

İlçe

Köy/Kasaba

Diğer:

8. Yaşadığınız yer (Pandemi Sırasında):

Büyükşehir

Şehir

İlçe

Köy/Kasaba

Diğer:

9. Yaşadığınız İl (Pandemi Öncesi):

10. Yaşadığınız İl (Pandemi Sırasında):

11. Yaşadığınız Ev (Pandemi Öncesi):

Üniversite Yurdu

Tek Kalma

Paylaşılan Daire

Aile Evi

Diğer:

12. Yaşadığınız Ev (Pandemi Sonrası):

Üniversite yurdu

Tek Kalma

Paylaşılan Daire

Aile Evi

Diğer:

13. Üniversiteniz:

14. Bölümünüz:

15. Sınıfınız:

Hazırlık Sınıfı

Ön Lisans

Lisans

Yüksek Lisans

Doktora

Diğer:

16. Çalışma durumunuz (Pandemi Öncesi):

Çalışıyorum

Çalışmıyorum

Diğer:

17. Çalışma şekliniz (Pandemi Öncesi):

Yarı Zamanlı

Tam Zamanlı

Yarı Zamanlı Uzaktan

Tam Zamanlı Uzaktan

Diğer:

18. Çalışma durumunuz (Pandemi Sırasında):

Çalışıyorum

Çalışmıyorum

Diğer:

19. Çalışma şekliniz (Pandemi Sırasında):

Yarı Zamanlı

Tam Zamanlı

Yarı Zamanlı Uzaktan

Tam Zamanlı Uzaktan

Diğer:

20. Sigara kullanıyor musunuz?

Cevabınız hayırsa sonraki soruyu boş bırakabilirsiniz.

Evet

Hayır

21. Ne kadar süredir ve günde kaç tane sigara kullanıyorsunuz?

22. PANDEMİ ÖNCESİ üniversitede herhangi bir spor topluluğunda/takımında yer alıyor muydunuz?

Cevabınız hayırsa sonraki soruyu boş bırakabilirsiniz.

Evet

Hayır

22. Hangi spor topluluğunda/takımında veya topluluklarında/takımlarında yer alıyordunuz belirtiniz:

23. PANDEMİ SONRASI üniversitede herhangi bir spor topluluğunda/takımında yer alıyor muydunuz?

Cevabınız hayırsa sonraki soruyu boş bırakabilirsiniz.

Evet

Hayır

24. Hangi spor topluluğunda/takımında veya topluluklarında/takımlarında yer alıyordunuz belirtiniz:

TÜRKÇE EGZERSİZ DAVRANIŞ BASAMAĞI ÖLÇEĞİ

1. Şu anda orta düzeyde fiziksel etkinliğe katılıyorum:

Orta düzeyde fiziksel etkinlikler nefes alımında ve kalp atımında biraz artış gözlenen etkinliklerdir. Ritimli yürüyüş, dans, düşük şiddette yüzme veya bisikletle gezinti gibi aktiviteler orta düzeyde etkinlik olarak değerlendirilir.

Evet

Hayır

2. Gelecek 6 ayda orta düzeyde fiziksel etkinliğe katılımımı artırmak niyetindeyim:

Orta düzeyde fiziksel etkinlikler nefes alımında ve kalp atımında biraz artış gözlenen etkinliklerdir. Ritimli yürüyüş, dans, düşük şiddette yüzme veya bisikletle gezinti gibi aktiviteler orta düzeyde etkinlik olarak değerlendirilir.

Evet

Hayır

3. Şu anda düzenli olarak fiziksel etkinlik yapmaktayım:

Fiziksel etkinliklerin düzenli sayılabilmesi için etkinliğin haftada 5 veya daha fazla günde 30dk veya daha uzun olması gerekir. Örneğin, 30 dk yürüyüş yapabilir veya 10 dk'lık 3 farklı etkinlikte 30 dk'yı doldurabilirsiniz.

Evet

Hayır

4. Son 6 ayda düzenli olarak fiziksel etkinliğe katılmaktayım:

Fiziksel etkinliklerin düzenli sayılabilmesi için etkinliğin haftada 5 veya daha fazla günde 30dk veya daha uzun olması gerekir. Örneğin, 30 dk yürüyüş yapabilir veya 10 dk'lık 3 farklı etkinlikte 30 dk'yı doldurabilirsiniz.

Evet

Hayır

FİZİKSEL AKTİVİTE KATILIMINI ÖLÇME ÜZERİNE ANKET SORULARI

1. Aşağıdakilerden hangisi PANDEMİ ÖNCESİ fiziksel aktiviteye katılım durumunuzu daha iyi tanımlar?

Egzersiz yapmıyordum ve niyetim yoktu

Egzersiz yapmıyordum ama yapmak istiyordum

Bazen egzersiz yapıyordum

6 aydan az süredir düzenli olarak egzersiz yapıyordum

6 aydan fazla süredir düzenli olarak egzersiz yapıyordum

2. PANDEMİ ÖNCESİ ne tür fiziksel aktiviteler yapıyordunuz? (Birden fazla işaretleyebilirsiniz)

Yürüyüş

Tempolu Yürüyüş

Koşu

Zıplama / Atlama

Ev İçi Egzersizleri

Bisiklet Sürme (rekreasyonel)

Dans

Bireysel Spor (Yüzme, Tenis, vb.)

Takım Sporu (Basketbol, Voleybol, Futbol, Hentbol, vb.)

Macera / Adrenalin Sporu

Bahçe İşleri

Yoga / Pilates

Ağırlık Çalışma

Fitness

Diğer:

3. PANDEMİ ÖNCESİ fiziksel aktivite şiddetinizi nasıl tanımlarsınız?

Düşük

Orta

Yüksek

Diğer:

4. PANDEMİ ÖNCESİ yaklaşık olarak haftada kaç gün fiziksel aktivite yapıyordunuz?

0 ile 7 arasında bir rakam giriniz.

5. PANDEMİ ÖNCESİ fiziksel aktivite seanslarına genellikle haftanın hangi günü veya günlerinde katılıyordunuz? (Uygun olanların tümünü işaretleyin)

Pazartesi

Salı

Çarşamba

Perşembe

Cuma

Cumartesi

Pazar

6. PANDEMİ ÖNCESİ yaklaşık olarak ne kadar sürelerde fiziksel aktivite yapıyordunuz? (Birden fazla işaretleyebilirsiniz)

0-15 dakika

15-30 dakika

30-45 dakika

1-2 saat

2 saatten fazla

Diğer:

7. PANDEMİ ÖNCESİ fiziksel aktivite seanslarına genellikle günün hangi saati veya saatlerinde katılırdınız? (Uygun olanların tümünü işaretleyin)

06.00-08.00

08.00-10.00

10.00-12.00

12.00-14.00

14.00-16.00

16.00-18.00

18.00-20.00

20.00-22.00

22.00-00.00

Diğer:

8. PANDEMİ ÖNCESİ fiziksel aktivite yapmak için hangi mekan ya da mekanları kullanıyordunuz? (Birden fazla seçenek işaretleyebilirsiniz)

Ev

Halka açık parklar ve parkurlar

Özel spor ve dinlenme tesisleri

Devlete ait spor ve dinlenme tesisleri

Spor salonları

Dans stüdyoları

Aletli pilates / yoga merkezleri

Üniversitenin spor tesisleri

Diğer:

9. PANDEMİ ÖNCESİ fiziksel aktivite yaparken ekipman kullanıyor muydunuz, kullanıyorduysanız nelerdi?

Lütfen egzersiz yaparken faydalandığınız bütün aletleri belirtiniz.

10. PANDEMİ ÖNCESİ kiminle ya da kimlerle fiziksel aktiviteye katılmayı tercih ediyordunuz? (Birden fazla seçenek işaretleyebilirsiniz)

Yalnız

Arkadaşlarımdan biri ya da birileriyle birlikte

Partnerimle birlikte

Aile üyelerimden biri ya da birileriyle (anne, baba, kardeş) birlikte

Takım arkadaşlarımla birlikte

Fiziksel aktiviteye katılmıyordum.

Diğer:

11. PANDEMİ ÖNCESİ aşağıdaki durumlardan hangisi veya hangileri sizi fiziksel aktiviteye katılmaktan alıkoyuyordu? (Uygun olanların tümünü işaretleyin)

Çocuk bakmak

Ulaşım sorunu

Ailesel durumlar

Motivasyon eksikliği

Çocuklarla birlikte katılım sağlanabilecek aktivitelerin olmaması

Sağlık sorunları/endişeleri

Fiziksel aktiviteye ilginin olmaması

Bulunulan yere yakın fiziksel aktivite olanaklarının bulunmaması

Zaman eksikliği

Paranın olmaması

Hiçbiri

Diğer:

12. Aşağıdakilerden hangisi PANDEMİ SIRASINDAKİ fiziksel aktiviteye katılım durumunuzu daha iyi tanımlar?

Egzersiz yapmıyorum ve niyetim yok

Egzersiz yapmıyorum ama yapmak istiyorum

Bazen egzersiz yapıyorum

6 aydan az süredir düzenli olarak egzersiz yapıyorum

6 aydan fazla süredir düzenli olarak egzersiz yapıyorum

13. PANDEMİ SIRASINDA ne tür fiziksel aktiviteler yapıyorsunuz? (Birden fazla işaretleyebilirsiniz)

Yürüyüş

Tempolu Yürüyüş

Koşu

Zıplama / Atlama

Ev İçi Egzersizleri

Bisiklet Sürme (rekreasyonel)

Dans

Bireysel Spor (Yüzme, Tenis, vb.)

Takım Sporu (Basketbol, Voleybol, Futbol, Hentbol, vb.)

Macera / Adrenalin Sporu

Bahçe İşleri

Yoga / Pilates

Ağırlık Çalışma

Fitness

Diğer:

14. PANDEMİ SIRASINDAKİ fiziksel aktivite şiddetinizi nasıl tanımlarsınız?

Düşük

Orta

Yüksek

Diğer:

15. PANDEMİ SIRASINDA yaklaşık olarak haftada kaç gün fiziksel aktivite yapıyorsunuz?

0 ile 7 arasında bir rakam giriniz.

16. PANDEMİ SIRASINDA fiziksel aktivite seanslarına genellikle haftanın hangi günü veya günlerinde katılıyorsunuz? (Uygun olanların tümünü işaretleyin)

Pazartesi

Salı

Çarşamba

Perşembe

Cuma

Cumartesi

Pazar

17. PANDEMİ SIRASINDA yaklaşık olarak ne kadar sürelerde fiziksel aktivite yapıyorsunuz? (Birden fazla işaretleyebilirsiniz)

0-15 dakika

15-30 dakika

30-45 dakika

1-2 saat

2 saatten fazla

Diğer:

18. PANDEMİ SIRASINDA fiziksel aktivite seanslarına genellikle günün hangi saati veya saatlerinde katılıyorsunuz? (Uygun olanların tümünü işaretleyin)

06.00-08.00

08.00-10.00

10.00-12.00

12.00-14.00

14.00-16.00

16.00-18.00

18.00-20.00

20.00-22.00

22.00-00.00

Diğer:

19. PANDEMİ SIRASINDA fiziksel aktivite yapmak için hangi mekan ya da mekanları kullanıyorsunuz? (Birden fazla seçenek işaretleyebilirsiniz)

Ev

Halka açık parklar ve parkurlar

Özel spor ve dinlenme tesisleri

Devlete ait spor ve dinlenme tesisleri

Spor salonları

Dans stüdyoları

Aletli pilates / yoga merkezleri

Üniversitenin spor tesisleri

Diğer:

20. PANDEMİ SIRASINDA fiziksel aktivite yaparken ekipman kullanıyor musunuz, kullanıyorsanız nelerdir?

Lütfen egzersiz yaparken faydalandığınız bütün aletleri belirtiniz.

21. PANDEMİ SIRASINDA kiminle ya da kimlerle fiziksel aktiviteye katılmayı tercih ediyorsunuz? (Birden fazla seçenek işaretleyebilirsiniz)

Yalnız

Arkadaşlarımdan biri ya da birileriyle birlikte

Partnerimle birlikte

Aile üyelerimden biri ya da birileriyle (anne, baba, kardeş) birlikte

Takım arkadaşlarımla birlikte

Fiziksel aktiviteye katılmıyordum.

Diğer:

22. PANDEMİ SIRASINDA aşağıdaki durumlardan hangisi veya hangileri sizi fiziksel aktiviteye katılmaktan alıkoyuyor? (Uygun olanların tümünü işaretleyin)

Çocuk bakmak

Ulaşım sorunu

Ailesel durumlar

Motivasyon eksikliği

Çocuklarla birlikte katılım sağlanabilecek aktivitelerin olmaması

Sağlık sorunları/endişeleri

Fiziksel aktiviteye ilginin olmaması

Bulunulan yere yakın fiziksel aktivite olanaklarının bulunmaması

Zaman eksikliği

Paranın olmaması

Hiçbiri

Diğer:

23. Sizce PANDEMİ SIRASINDA fiziksel aktivite sıklığınız değişti mi?

Arttı

Azaldı

Her zamanki gibi

Önce arttı sonra azaldı.

Önce azaldı sonra arttı.

Fiziksel aktivite yapmıyorum.

Diğer:

24. Aşağıdaki COVID-19 nedeniyle gerçekleşmiş durumlardan hangisi ya da hangilerinin fiziksel aktivite düzeyinizi olumsuz etkilediğini düşünüyorsunuz? (Birden fazla işaretleyebilirsiniz)

Evde zorunlu karantina

Sokağa çıkma kısıtlamaları

Sosyal Mesafe

Gönüllü İzolasyon

Birlikte yaşadığım dezavantajlı kişilere bulaştırma korkusu

Spor alanlarının/tesislerinin kapatılması

Hiçbiri

Diğer

SEDANTER DAVRANIŞLARI ÖLÇME ÜZERİNE ANKET SORULARI

1. PANDEMİDEN ÖNCE günde ortalama kaç saat uyuyordunuz?

6 saatten az
6-8 saat arası
8 saat
8-10 saat arası
10 saatten fazla
Diğer:

2. PANDEMİDEN ÖNCE günde ortalama kaç saat oturmuş/uzanmış pozisyonda vakit geçiriyordunuz?

Oturarak/uzanarak kitap okumak, örgü örmek, ders çalışmak vb. aktiviteleri de süreye dahil ediniz.

2 saatten az
2-4 saat arası
4-6 saat arası
6-8 saat arası
8-10 saat arası
10-12 saat arası
12 saatten fazla
Diğer:

3. PANDEMİDEN ÖNCE günde ortalama kaç saat bilgisayar/lap-top/tablet, televizyon, akıllı telefon vb. teknolojik aletlerin başında vakit harcıyordunuz?

2 saatten az
2-4 saat arası
4-6 saat arası
6-8 saat arası
8-10 saat arası
10-12 saat arası
12 saatten fazla
Bu teknolojik aletleri kullanmıyorum.
Diğer:

4. PANDEMİ SIRASINDA günde ortalama kaç saat uyuyorsunuz?

6 saatten az
6-8 saat arası
8 saat
8-10 saat arası
10 saatten fazla
Diğer:

5. PANDEMİ SIRASINDA günde ortalama kaç saat oturmuş/uzanmış pozisyonda vakit geçiriyorsunuz?

Oturarak/uzanarak kitap okumak, örgü örmek, ders çalışmak, profesyonel işte çalışmak, vb. aktiviteleri de süreye dahil ediniz.

2 saatten az
2-4 saat arası
4-6 saat arası
6-8 saat arası
8-10 saat arası
10-12 saat arası
12 saatten fazla
Diğer:

6. PANDEMİ SIRASINDA günde ortalama kaç saat bilgisayar/lap-

top/tablet, televizyon, akıllı telefon vb. teknolojik aletlerin başında vakit harcıyorsunuz?

2 saatten az

2-4 saat arası

4-6 saat arası

6-8 saat arası

8-10 saat arası

10-12 saat arası

12 saatten fazla

Bu teknolojik aletleri kullanmıyorum.

Diğer:

7. PANDEMİ SIRASINDA size hareketsizliğe iten sebepleri işaretleyiniz? (Birden fazla seçenek işaretleyebilirsiniz)

Pandemi yasakları

Çevrimiçi dersler

Uzaktan çalışma

İnternet aracılığıyla yapılan toplantılar, görüşmeler

İnternet aracılığıyla yapılan alışveriş çeşidinin artması

Motivasyon eksikliği

Korku

Umutsuzluk

Hiçbiri

Diğer:

BESLENME ALIŞKANLIKLARINI ÖLÇME ÜZERİNE ANKET SORULARI

1. PANDEMİDEN ÖNCE günlük evde kaç öğün ana yemek (kahvaltı, öğle veya akşam yemeği) yerdiniz?

1

2

3

Diğer:

2. PANDEMİDEN ÖNCE ne tür yemekler tüketiyordunuz? (Birden fazla işaretleyebilirsiniz)

Kızarmış

Fırınlanmış

Mikrodalga/Dondurulmuş

Izgara

Güveçte

Tencere Yemeği / Sulu Yemek

Diğer:

3. PANDEMİDEN ÖNCE yemeklerinizde tür yağ kullanıyorsunuz? (Birden fazla işaretleyebilirsiniz)

Zeytinyağı

Ayçiçek yağı

Mısır yağı

Fındık yağı

Diğer:

4. PANDEMİDEN ÖNCE kızarmış yiyecekler tüketirken EN ÇOK ne tür yağ kullanıyorsunuz?

Zeytinyağı

Ayçiçek yağı

Mısır yağı

Fındık yağı

Tereyağı

Diğer:

5. PANDEMİ SIRASINDA günlük evde kaç öğün ana yemek (kahvaltı, öğle veya akşam yemeği) yediniz?

1

2

3

Diğer:

6. PANDEMİ SIRASINDA ne tür yemekler tüketiyorsunuz? (Birden fazla işaretleyebilirsiniz)

Kızarmış

Fırınlanmış

Mikrodalga/Dondurulmuş

Izgara

Güveçte

Tencere Yemeği / Sulu Yemek

Diğer:

7. PANDEMİ SIRASINDA kızarmış yiyecekler tüketirken EN ÇOK ne tür yağ kullanıyorsunuz?

Zeytinyağı

Ayçiçek yağı

Mısır yağı

Fındık yağı

Tereyağı

Diğer:

8. PANDEMİ SIRASINDA yemeklerinizde ne tür yağ kullanıyorsunuz? (Birden fazla işaretleyebilirsiniz)

Zeytinyağı

Ayçiçek yağı

Mısır yağı

Fındık yağı

Diğer:

9. PANDEMİ SIRASINDA yemek pişirme sıklığınız değişti mi?

Evet, şimdi daha çok yemek yapıyorum.

Evet, şimdi daha az yemek yapıyorum.

Önce daha çok yemek yaptım, sonra daha az yemek yaptım.

Önce daha az yemek yaptım, sonra daha çok yemek yaptım.

Hayır, her zamanki gibi yemek yapıyorum.

Yemek pişirmiyorum.

Diğer:

10. PANDEMİ SIRASINDA kızarmış yiyecek alımını artırdınız mı?

Evet, kızarmış yiyecek alımım daha yüksek.

Hayır, kızarmış yiyecek alımım daha düşük.

Önce arttırdım, sonra azalttım.

Önce azalttım, sonra arttırdım.

Kızarmış yiyecek alımım her zamanki gibi.

Kızarmış yiyecek tüketmiyorum.

Diğer:

11. PANDEMİ SIRASINDA ne sıklıkla kızarmış yiyecek tüketiyorsunuz?

Haftada bir günden az

Haftada 1-3 gün

Haftada 4-6 gün

Haftada 7 veya 7 günden fazla

Hiç tüketmiyorum.

12. PANDEMİ SIRASINDA atıştırmalık sıklığınızı normal alımınıza göre artırdınız mı?

Evet, atıştırma sıklığım daha yüksek.

Hayır, atıştırma sıklığım daha düşük.

Önce arttırdım, sonra azalttım.

Önce azalttım, sonra arttırdım.

Atıştırma sıklığım her zamanki gibi.

Atıştırmalık tüketmiyorum.

Diğer:

13. PANDEMİ SIRASINDA fast-food tüketiminizi her zamanki tüketiminize göre artırdınız mı?

Evet, fast-food tüketimim daha yüksek.

Hayır, fast-food tüketimim daha düşük.

Önce arttırdım, sonra azalttım.

Önce azalttım, sonra arttırdım.

Fast-food tüketimim her zamanki gibi.

Diğer:

14. PANDEMİ SIRASINDA karbonhidrat (ekmek, makarna, hamur işi, vb.) tüketiminizde bir değişim oldu mu?

Evet, daha fazla karbonhidrat tüketiyorum.

Evet, daha az karbonhidrat tüketiyorum.

Önce daha fazla sonra daha az karbonhidrat tükettim.

Önce daha az sonra daha fazla karbonhidrat tükettim.

Hayır, her zamanki gibi karbonhidrat tükettim.

Karbonhidrat tüketmiyorum.

Bilmiyorum

Diğer:

15. PANDEMİ SIRASINDA yüksek/rafine şeker içeren gıda (çikolatalar, şekerler, hazır meyve suları, hazır şekerli gıdalar, vb.) tüketiminizde bir değişim oldu mu?

Evet, daha fazla yüksek/rafine şeker tüketiyorum.

Evet, daha az yüksek/rafine şeker tüketiyorum.

Önce daha fazla sonra daha az yüksek/rafine şeker tükettim.

Önce daha az sonra daha fazla yüksek/rafine şeker tükettim.

Hayır, her zamanki gibi yüksek/rafine şeker tükettim.

Yüksek/rafine şeker tüketmiyorum.

Bilmiyorum

Diğer:

16. PANDEMİ SIRASINDA sebze tüketiminizde bir değişim oldu mu?

Evet, daha fazla sebze tüketiyorum.

Evet, daha az sebze tüketiyorum.

Önce daha fazla sonra daha az sebze tükettim.

Önce daha az sonra daha fazla sebze tükettim.

Hayır, her zamanki gibi sebze tükettim.

Sebze tüketmiyorum.

Bilmiyorum

Diğer:

17. PANDEMİ SIRASINDA bakliyat (kuru fasulye, nohut, vb.) tüketiminizde bir değişim oldu mu?

Evet, daha fazla bakliyat tüketiyorum.

Evet, daha az bakliyat tüketiyorum.

Önce daha fazla sonra daha az bakliyat tükettim.

Önce daha az sonra daha fazla bakliyat tükettim.

Hayır, her zamanki gibi bakliyat tükettim.

Bakliyat tüketmiyorum.

Bilmiyorum

Diğer:

18. PANDEMİ SIRASINDA süt ve süt ürünleri tüketiminizde bir değişim oldu mu?

Evet, daha fazla süt ve süt ürünleri tüketiyorum.

Evet, daha az süt ve süt ürünleri tüketiyorum.

Önce daha fazla sonra daha az süt ve süt ürünleri tükettim.

Önce daha az sonra daha fazla süt ve süt ürünleri tükettim.

Hayır, her zamanki gibi süt ve süt ürünleri tükettim.

Süt ve süt ürünleri tüketmiyorum.

Bilmiyorum

Diğer:

19. PANDEMİ SIRASINDA beyaz/kırmızı et tüketiminizde bir değişim oldu mu?

Evet, daha fazla et tüketiyorum.

Evet, daha az et tüketiyorum.

Önce daha fazla sonra daha az et tükettim.

Önce daha az sonra daha fazla et tükettim.

Hayır, her zamanki gibi et tükettim.

Et tüketmiyorum.

Bilmiyorum

Diğer:

20. PANDEMİ SIRASINDA deniz ürünleri tüketiminizde bir değişim oldu mu?

Evet, daha fazla deniz ürünleri tüketiyorum.

Evet, daha az deniz ürünleri tüketiyorum.

Önce daha fazla sonra daha az deniz ürünleri tükettim.

Önce daha az sonra daha fazla deniz ürünleri tükettim.

Hayır, her zamanki gibi deniz ürünleri tükettim.

Deniz ürünleri tüketmiyorum.

Bilmiyorum

Diğer:

21. PANDEMİ SIRASINDA kuruyemiş tüketiminizde bir değişim oldu mu?

Evet, daha fazla kuruyemiş tüketiyorum.

Evet, daha az kuruyemiş tüketiyorum.

Önce daha fazla sonra daha az kuruyemiş tükettim.

Önce daha az sonra daha fazla kuruyemiş tükettim.

Hayır, her zamanki gibi kuruyemiş tükettim.

Kuruyemiş tüketmiyorum.

Bilmiyorum

Diğer:

22. PANDEMİ SIRASINDA meyve tüketiminizde bir değişim oldu mu?

Evet, daha fazla meyve tüketiyorum.

Evet, daha az meyve tüketiyorum.

Önce daha fazla sonra daha az meyve tükettim.

Önce daha az sonra daha fazla meyve tükettim.

Hayır, her zamanki gibi meyve tükettim.

Meyve tüketmiyorum.

Bilmiyorum

Diğer:

23. PANDEMİ SIRASINDA ekstra/takviye vitamin tüketiminizi her zamanki tüketiminize göre artırdınız mı?

Evet, takviye vitamin tüketimim daha yüksek.

Hayır, takviye vitamin tüketimim daha düşük.

Önce arttırdım, sonra azalttım.

Önce azalttım, sonra arttırdım.

Takviye vitamin tüketimim her zamanki gibi.

Takviye vitamin tüketmiyorum.

Diğer:

24. PANDEMİ SIRASINDA normalden daha fazla yemek yediğinizi düşünüyor musunuz?

Evet

Hayır

Önce daha fazla, sonra daha az yedim.

Önce daha az, sonra daha fazla yedim.

Bilmiyorum

Diğer:

25. PANDEMİ SIRASINDA kilo aldınız mı?

Evet

Hayır

Bilmiyorum

Önce aldım sonra verdim.

Önce verdim sonra aldım.

Diğer:

26. PANDEMİ SIRASINDA su tüketiminizde bir değişim oldu mu?

Evet, daha fazla su içtim.

Evet, daha az su içtim.

Önce daha fazla sonra daha az su içtim.

Önce daha az sonra daha fazla su içtim.

Hayır, her zamanki gibi su içtim.

Bilmiyorum

Diğer:

27. PANDEMİ SIRASINDA siyah çay tüketiminizde bir değişim oldu mu?

Evet, daha fazla içtim.

Evet, daha az içtim.

Önce daha fazla sonra daha az içtim.

Önce daha az sonra daha fazla içtim.

Hayır, her zamanki gibi içtim.

Siyah çay tüketmiyorum.

Bilmiyorum

Diğer:

28. PANDEMİ SIRASINDA bitki çayı tüketiminizde bir değişim oldu mu?

Evet, daha fazla içtim.

Evet, daha az içtim.

Önce daha fazla sonra daha az içtim.

Önce daha az sonra daha fazla içtim.

Hayır, her zamanki gibi içtim.

Bitki çayı tüketmiyorum.

Bilmiyorum

Diğer:

29. PANDEMİ SIRASINDA kahve tüketiminizde bir değişim oldu mu?

Evet, daha fazla içtim.

Evet, daha az içtim.

Önce daha fazla sonra daha az içtim.

Önce daha az sonra daha fazla içtim.

Hayır, her zamanki gibi içtim.

Kahve tüketmiyorum.

Bilmiyorum

Diğer:

30. PANDEMİ SIRASINDA asitli içecek tüketiminizde bir değişim oldu mu?

Evet, daha fazla içtim.

Evet, daha az içtim.

Önce daha fazla sonra daha az içtim.

Önce daha az sonra daha fazla içtim.

Hayır, her zamanki gibi içtim.

Asitli içecek tüketmiyorum.

Bilmiyorum

Diğer:

31. PANDEMİ SIRASINDA alkol tüketiminizde bir değişim oldu mu?

Evet, daha fazla içtim.

Evet, daha az içtim.

Önce daha fazla sonra daha az içtim.

Önce daha az sonra daha fazla içtim.

Hayır, her zamanki gibi içtim.

Alkol tüketmiyorum.

Bilmiyorum

Diğer:

32. PANDEMİ SIRASINDA her zamankinden daha fazla sigara içtiniz mi?

Evet, daha fazla içtim.

Hayır, daha az içtim.

Önce daha fazla sonra daha az içtim.

Önce daha az sonra daha fazla içtim.

Her zamanki gibi içtim.

Sigara içmiyorum.

Bilmiyorum

Diğer:

33. Özellikle benimsediğiniz bir beslenme şekli var mı, varsa nedir (birden fazla seçenek işareteyebilirsiniz)?

Organik beslenme

Vejeteryan/Vegan (Bitkisel kaynaklı)

Et ağırlıklı beslenme

Pesketaryen (balık ve diğer su ürünleri hariç et tüketmiyorum)

Paleo (işlenmemiş ve doğal olan tüm gıdalar, protein ağırlıklı)

Ketojenik (karbonhidrat tüketimi sınırlı, yağ ve protein tüketimi yüksek)

Çiğ Beslenme (Raw Food; 47 derecenin üzerinde herhangi bir işlem görmemiş, pişmemiş)

Aralıklı Oruç (Intermittent fasting; belirli aralıklarda beslenme-16/8 programı)

Glutensiz beslenme

Özellikle takip/dikkat ettiğim bir beslenme düzenim yok.

Diğer:

B. INTERVIEWS ON PHYSICAL ACTIVITY PARTICIPATION, SEDENTARY BEHAVIORS, AND EATING HABITS

GÖRÜŞME SORULARI

1) COVID-19 pandemisi sırasında fiziksel aktivite katılımınızda ne gibi değişiklikler oldu?

İçerik (ne tür fiziksel aktiviteler yaptınız)?

Ne sıklıkla fiziksel aktivite yapıyordunuz?

Ne kadar sürelerde yapıyordunuz?

Aktivite şiddetinizi tanımlar mısınız? Hafif (Yavaş yürüyüş, ev işleri, vb.), orta (hızlı yürümek, düşük tempolu koşu, yavaş bisiklet sürmek, dans etmek, vb.) yüksek (tempolu koşu, basketbol, futbol oynamak, tempolu dans etmek, vb.) hangisi?

Yaşadığınız bu değişimler kalıcı oldu mu?

2) Pandemi sırasında fiziksel aktivite katılımızı etkileyen en önemli faktörler nelerdir?

Bireysel (Hastalıktan korunmak için sosyal teması kesmek vb.)

Çevresel (Pandemi kuralları, uzaktan eğitim vb.)

3) Pandemi sırasında fiziksel aktivite ile ilgili yaşadığınız zorluklarla nasıl başa çıktınız? Ne gibi stratejiler ürettiniz?

4) COVID-19 pandemisi sırasında uyku, ekran başında vakit geçirme ve oturma/uzanma gibi sedanter (hareketsiz) davranışlarınızın sürelerinde ne gibi değişiklikler yaşandı?

Uyku

Ekran Süresi

Oturmak, uzanmak

Yaşadığınız bu değişimler kalıcı oldu mu?

5) Pandemi sırasındaki uyku, ekran başında vakit geçirme ve oturma/uzanma gibi sedanter davranışlarınızı etkileyen en önemli faktörler nelerdir?

Bireysel (Hastalıktan korunmak için sosyal teması kesmek vb.)

Çevresel (Pandemi kuralları, uzaktan eğitim vb.)

6) Pandemi sırasında uyku, ekran başında vakit geçirme ve oturma/uzanma gibi sedanter davranışlarınızı azaltmaya yönelik ne gibi stratejiler ürettiniz?

7) COVID-19 pandemisi sırasında beslenme alışkanlıklarınızda ne gibi değişiklikler oldu? (Daha çok sağlıklı gıdalara yönelmek ya da daha çok hazır/dondurulmuş/fast-food gıdaları tercih etmek gibi)

Balık, meyve, sebze, baklagiller, kuruyemişler, tam tahıllar, zeytinyağı gibi sağlığa faydalı sayılabilecek yiyecekleri ne sıklıkla tükettiniz?

Kızarmış yiyecekler, atıştırmalıklar, fast food, rafine şeker, çok fazla kahve, gazlı içecekler gibi sağlığa zararlı sayılabilecek yiyecekleri ne sıklıkla tükettiniz?

Yaşadığınız bu değişimler kalıcı oldu mu?

8) Pandemi sırasında beslenme alışkanlıklarınızı etkileyen faktörler nelerdir?

Bireysel (Hastalıktan korunmaya yönelik beslenmek)

Çevresel (pandemi kuralları, uzaktan eğitim vb.)

9) Pandemi sırasında sağlıklı beslenme adına ne gibi stratejiler ürettiniz?

10) Bahsettiğimiz konular hakkında eklemek veya paylaşmak istediğiniz başka bir şey var mı?

C. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
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01 ARALIK 2022

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Irmak Hürmeriç ALTUNSÖZ

Danışmanlığını yürüttüğünüz Güncem Dilan Öksüz'ün ***"COVID-19 DÖNEMİNDE ÜNİVERSİTE ÖĞRENCİLERİNİN FİZİKSEL AKTİVİTE KATILIMLARINDAKİ, SEDANTER DAVRANIŞLARINDAKİ VE YEME ALIŞKANLIKLARINDAKİ DEĞİŞİMLERİN İNCELENMESİ"*** başlıklı araştırmanız İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek **0571-ODTUİAEK-2022** protokol numarası ile onaylanmıştır.

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Sibel KAZAK BERUMENT
Başkan

Prof. Dr. İ.Semih AKÇOMAK
Üye

Dr. Öğretim Üyesi Müge GÜNDÜZ
Üye

Dr. Öğretim Üyesi Şerife SEVİNÇ
Üye

Dr. Öğretim Üyesi Murat Perit ÇAKIR
Üye

Dr. Öğretim Üyesi Süreyya ÖZCAN KABASAKAL
Üye

Dr. Öğretim Üyesi A. Emre TURGUT
Üye

D. CONSENT FORM FOR ONLINE SURVEY

ARAŞTIRMAYA GÖNÜLLÜ KATILIM FORMU

Bu araştırma, ODTÜ öğretim elemanlarından Doç. Dr. Irmak Hürmeriç Altunsöz danışmanlığında yüksek lisans öğrencisi Güncem Dilan Öksüz tarafından yürütülmektedir. Bu form sizi araştırma koşulları hakkında bilgilendirmek için hazırlanmıştır.

Çalışmanın Amacı Nedir?

Araştırmanın amacı, COVID-19 döneminde üniversite öğrencilerinin fiziksel aktivite katılımlarındaki, sedanter davranışlarındaki ve beslenme şekillerindeki değişimi incelemek ve ortaya koymaktır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Araştırmaya katılmayı kabul ederseniz, sizden yaklaşık 15-20 dakika süren bir anket doldurmanızı isteyeceğiz. Ankette size demografik bilgileriniz, fiziksel aktivite katılımınız, sedanter davranışlarınız ve beslenme alışkanlıklarınız ile ilgili açık ve anlaşılır sorular yöneltilecektir. Sorulara verilen yanıtlar araştırmacılar tarafından not alınacaktır.

Sizden Topladığımız Bilgileri Nasıl Kullanacağız?

Araştırmaya katılımınız tamamen gönüllülük temelinde olmalıdır. Çalışmada sizden kimlik veya çalıştığınız kurum/bölüm/birim belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamıyla gizli tutulacak, sadece araştırmacılar tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler toplu halde değerlendirilecek ve bilimsel yayınlarda kullanılacaktır. Sağladığınız veriler gönüllü katılım formlarında toplanan kimlik bilgileri ile eşleştirilmeyecektir.

Katılımınızla ilgili bilmeniz gerekenler:

Çalışma, genel olarak kişisel rahatsızlık verecek sorular içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz cevaplama işini yarıda bırakıp çıkmakta serbestsiniz.

Araştırmayla ilgili daha fazla bilgi almak isterseniz:

Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Çalışma hakkında daha fazla bilgi almak için ODTÜ Beden Eğitimi ve Spor Bölümü öğretim üyelerinden Doç. Dr. Irmak Hürmeriç Altunsöz (E-posta: hurmeric@metu.edu.tr) ya da yüksek lisans öğrencisi Güncem Dilan Öksüz (E-posta: gncemkarayaprak@gmail.com) ile iletişim kurabilirsiniz.

Yukarıdaki bilgileri okudum ve bu çalışmaya tamamen gönüllü olarak katılıyorum.

(Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

Adı Soyadı Tarih ---/----/----- İmza

E. CONSENT FORM FOR INTERVIEW

ARAŞTIRMAYA GÖNÜLLÜ KATILIM FORMU

Bu araştırma, ODTÜ öğretim elemanlarından Doç. Dr. Irmak Hürmeriç Altunsöz danışmanlığında yüksek lisans öğrencisi Güncem Dilan Öksüz tarafından yürütülmektedir. Bu form sizi araştırma koşulları hakkında bilgilendirmek için hazırlanmıştır.

Çalışmanın Amacı Nedir?

Araştırmanın amacı, COVID-19 döneminde üniversite öğrencilerinin fiziksel aktivite katılımlarındaki, sedanter davranışlarındaki ve beslenme şekillerindeki değişimi incelemek ve ortaya koymaktır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Araştırmaya katılmayı kabul ederseniz, sizden soracağımız yaklaşık 10 soruya cevap vermenizi isteyeceğiz. Görüşme, COVID-19 pandemisi sırasında sizin fiziksel aktivite katılımınızdaki, sedanter davranışlarınızdaki ve beslenme alışkanlıklarınızdaki değişimi sorgulayan açık ve anlaşılır sorular üzerinden ilerleyecektir. Sorulara verilen yanıtlar araştırmacılar tarafından not alınacaktır.

Sizden Topladığımız Bilgileri Nasıl Kullanacağız?

Araştırmaya katılımınız tamamen gönüllülük temelinde olmalıdır. Çalışmada sizden kimlik veya çalıştığınız kurum/bölüm/birim belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamıyla gizli tutulacak, sadece araştırmacılar tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler toplu halde değerlendirilecek ve bilimsel yayınlarda kullanılacaktır. Sağladığınız veriler gönüllü katılım formlarında toplanan kimlik bilgileri ile eşleştirilmeyecektir.

Katılımınızla ilgili bilmeniz gerekenler:

Çalışma, genel olarak kişisel rahatsızlık verecek sorular içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz cevaplama işini yarıda bırakıp çıkmakta serbestsiniz.

Araştırmayla ilgili daha fazla bilgi almak isterseniz:

Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Çalışma hakkında daha fazla bilgi almak için ODTÜ öğretim üyelerinden Doç. Dr. Irmak Hürmeriç Altunsöz (E-posta: hurmeric@metu.edu.tr) ya da yüksek lisans öğrencisi Güncem Dilan Karayaprak (E-posta: gncemkarayaprak@gmail.com) ile iletişim kurabilirsiniz.

Yukarıdaki bilgileri okudum ve bu çalışmaya tamamen gönüllü olarak katılıyorum.

(Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

Adı Soyadı Tarih ---/----/----- İmza

F. TURKISH SUMMARY / TÜRKÇE ÖZET

Giriş

Düzenli bir şekilde fiziksel olarak aktif olmak, hareketsiz davranışları azaltmak ve sağlıklı beslenme alışkanlıklarına sahip olmak, fiziksel sağlığı ve iyiliği sürdürmek için önemli unsurlardır (Biddle ve diğerleri, 2016; Blair & Morris, 2009). Buna rağmen birçok insan gün geçtikçe obeziteyi teşvik eden daha hareketsiz bir yaşamı tercih etmeye başlamıştır (İlhan, 2010). Ayrıca, hipertansiyon, diyabet, obezite ve kalp hastalığı gibi hastalıkların fiziksel hareketsizlik ve sağlıksız (besin değeri yetersiz) beslenme alışkanlıkları tarafından tetiklendiği de bilinmektedir (Sidebottom ve diğerleri, 2021). Burada insanları kronik hastalıklara ve grip gibi çeşitli hastalıklara karşı koruyan bağışıklık sisteminin, hareketsizlikten, hareketsiz yaşamdan ve besin değeri düşük gıdaları içeren beslenme alışkanlıklarından olumsuz etkilendiğini söylemek de mümkündür (Nieman & Wentz, 2019; Andersen ve diğerleri, 2016). Örneğin, bulaşıcı bir hastalık olan SARS-CoV-2'nin bulaşma riski, bu enfeksiyonun şiddeti ve ölümcül etkileri, hareketsizlik ve sağlıksız beslenme alışkanlıklarının tetiklediği uzun vadeli sağlık sonuçlarına neden olan ve genellikle uzun vadeli tedavi ve bakım ihtiyacı yaratan hastalıkları olan kişilerde çok daha fazladır (Sidebottom ve diğerleri, 2021). Hafif ila orta derecede solunum yolu hastalığına yol açan ve SARS-CoV-2 enfeksiyonu olarak da adlandırılan Koronavirüs hastalığı (COVID-19), ilk olarak Aralık 2019'da Çin'in Wuhan kentinde ortaya çıktı ve kısa sürede bir pandemi haline geldi. Bulaşıcı bir hastalıktır. Her yaştan insan bu hastalığa yakalanabilir, ancak bazıları hafif ila orta derecede solunum yolu hastalığı ile hayatta kalırken, özellikle kardiyovasküler hastalıklar, diyabet, kronik solunum hastalığı veya kanser gibi kronik rahatsızlıkları olan bazı insanlar için ciddi ve hatta ölümcül sonuçlara yol açabilir. (Velavan & Meyer, 2020). Bu hastalığın yayılmasını ve ölümcül etkilerini azaltmak için hemen hemen tüm ülkeler sonucunda insanların fiziksel aktivite davranışlarını, sedanter davranışlarını ve beslenme alışkanlıklarını da etkileyen önlemler almaya başlamıştır.

COVID-19 nedeniyle, hastalığın bulaşmasını önlemek için izolasyon kuralları ve salgın ve pandemiyi kontrol etmek için daha agresif bir strateji olan karantina kuralları sıkı ve küresel yaptırımlar alınarak uygulandı (Rothstein, 2015). Mart ayı başlarında Türk devleti de ilk COVID-19 vaka tespitini yaptı; ardından temaslı kişilerin kontrol ve karantina süreleri artırılarak halk sağlığı müdahalesi üzerinde durulmaya başlandı. 21 Mart'tan itibaren Türk hükümeti kademeli olarak en zorunlu evde kalma emirlerini ve sokağa çıkma yasaklarını uygulamaya koymuş ve zamanla bu yasaklar tüm Türkiye'yi etkisi altına almıştır. Bu nedenle insanlar günlük işlerine/görevlerine, hobilerine ya da fiziksel hareket ve aktivite gerektiren birçok alışkanlığına evde kalarak ara vermek zorunda kalmışlardır. Pandemi, insanları evden çalışmaya veya her şeyi çevrimiçi kanallarla halletmeye yönlendirerek insanların hayatında radikal bir değişime sebep olmuştur. Özellikle COVID-19 sonrası öğrencilerin eğitim ve sosyal hayatları tamamen değişime uğramıştır. Türk Hükümeti'nden gelen emirler, üniversitelerde kampüs çapında kapanışlar başlatmış ve derslerin iptaline ya da çevrimiçi formatta verilmesine neden olmuştur. Üniversite öğrencileri öğretim hayatlarını online verilen derslerle devam ettirmek durumunda kaldılar ve aktif yaşam tarzları evde kapanma nedeniyle daha hareketsiz yaşam biçimlerine dönüştü. Türkiye'de üniversite öğrencilerinin çoğu ailelerinden bağımsız ve ayrı yaşadığı için ailelerinin evlerine dönerek ya da sürekli evde kalıp sosyal hayatlarından koparak şaşırtıcı bir değişim yaşadılar.

Bu durumlar dikkate alındığında, bu yaşanan değişimlerin fiziksel aktivite ve hareketsiz davranış ve yeme alışkanlıkları üzerinde yeni etkileri olabileceğini söylemek yanlış olmaz. Dolayısıyla ülkemizdeki fiziksel aktivite ve sedanter davranışlar ile beslenme alışkanlıklarındaki olumlu veya olumsuz değişimlerin ortaya çıkarılması büyük önem taşımaktadır. Bunu yaparak hem COVID-19 gibi enfeksiyonlarla mücadele etmek hem de insanların genel fiziksel sağlığını korumak için hareketsiz davranışları azaltmak, fiziksel aktivite davranışlarını ve sağlıklı beslenme alışkanlıklarını artırmak için gerekli önlemleri almak mümkün olabilir. Pandemi sürecinde hayatında önemli değişiklikler yaşayan ve toplumun dinamik bir parçası olan üniversite öğrencilerinin nüfusu, bu değişimler açısından öncelikle incelenmeye değerdir. Dolayısıyla bu kaygı bu çalışmanın ana konusunu oluşturmaktadır. Türkiye'de COVID-19 pandemisi sırasında üniversite öğrencilerinin fiziksel aktivite ve sedanter davranışlarındaki ve yeme alışkanlıklarındaki

değişikliklerin incelenmesi literatüre katkı sağlayabilir ve gelecekteki araştırmalar için değerli veriler ortaya koyabilir.

Çalışmanın Amacı

Bu çalışmanın amacı, üniversite öğrencilerinin COVID-19 pandemisi sürecinde fiziksel aktivite katılımlarında, sedanter davranışlarında ve beslenme alışkanlıklarında meydana gelen değişiklikleri incelemektir.

Araştırma Soruları

1. COVID-19 pandemisi sürecinde üniversite öğrencilerinin fiziksel aktivite davranışlarındaki değişiklikler nelerdir?
2. COVID-19 pandemisi sürecinde üniversite öğrencilerinin sedanter davranışlarındaki değişiklikler nelerdir?
3. COVID-19 pandemisi sürecinde üniversite öğrencilerinin beslenme alışkanlıklarındaki değişiklikler nelerdir?
4. Üniversite öğrencilerinin COVID-19 pandemisi sürecinde fiziksel aktivite katılımlarındaki, sedanter davranışlarındaki ve beslenme alışkanlıklarındaki deneyimleri nelerdir?

Çalışmanın Önemi

Bu çalışma COVID-19 pandemisi sürecinde üniversite öğrencilerinin fiziksel aktivite ve sedanter davranışlarındaki ve beslenme alışkanlıklarındaki değişimlerin incelenmesi açısından önemlidir. Yoğun iş temposu, baskı altında kalma, yorgunluk, uzun süre televizyon ve bilgisayar karşısında olma gibi nedenlerin yanı sıra değişen ve gelişen dünya düzeninin ve COVID-19 gibi beklenmedik krizlerin fiziksel aktiviteyi nasıl ve ne derece etkilediğini detaylı bir şekilde araştırmak değerli çözümler ve öneriler üretebilmek açısından önemlidir. Ayrıca üniversite öğrencileri yetişkinliğe geçiş döneminde olan kişilerdir (Leslie ve diğerleri, 2001). Bu kişilerin bu dönemde edinecekleri alışkanlıklar, yaşamları boyunca onları olumlu ya da olumsuz yönde etkilemesi muhtemeldir. Bu alışkanlıklar yaşamları boyunca kalıcı olabilir. Bu nedenle bu öğrencilerin fiziksel aktivite ve sedanter davranışları ile beslenme alışkanlıklarının incelenmesi, elde edilecek bulgulara göre pandemi sürecinde bu davranış ve alışkanlıklarda meydana gelen değişikliklerin anlaşılması açısından faydalı olabilir.

Bu değişiklikleri anlamak, üniversite öğrencilerinin sergilediği bu davranış ve alışkanlıklar için faydalı adımlar atmayı kolaylaştırabilir.

Ayrıca insanların fiziksel aktivite ve sedanter durumlarındaki değişimini ve beslenme alışkanlıklarındaki değişimini ayrı ayrı inceleyen çalışmalar olmasına rağmen (örneğin, Ammar ve diğerleri, 2021; Castañeda-Babarro ve diğerleri, 2020; Marty ve diğerleri, 2021; Meyer ve diğerleri, 2020; Rodríguez-Pérez ve diğerleri, 2020; Suzuki ve diğerleri, 2020), her iki unsuru birlikte inceleyen çok az çalışma yapılmıştır (Husain ve diğerleri, 2020; Wang ve diğerleri, 2021). Ek olarak, üniversite öğrencilerinin fiziksel aktivite ve sedanter davranışlarındaki değişiklikleri ve yeme alışkanlıklarındaki değişiklikleri ayrı ayrı veya birlikte inceleyen araştırmalar daha da sınırlıdır (örn. Antekolović & Kovačić, 2020; Bánhidi & Lacza, 2020; Bertrand ve diğerleri, 2021; Bulguroglu ve diğerleri, 2021; Ercan & Keklicek, 2020; Intelangelo ve diğerleri, 2022; Romero-Blanco ve diğerleri, 2020; Tigli ve diğerleri, 2020; Wilson ve diğerleri, 2021). Bunlarla birlikte ülkemizde bu konuda yapılan çalışmaların azlığı da bu çalışmanın önemini artırmaktadır. Bu çalışma, Türkiye'deki durumu ortaya koyma ve bu durumu diğer ülkelerle karşılaştırma fırsatı sunmaktadır.

Dolayısıyla bu konuda Türkiye için veri sağlamak elzemdir. Bunu yapmak, ileride yapılacak çalışmalar için de değerli veriler sunabilir ve bu verilerin ışığında Türkiye'de insanları birçok yönden kısıtlayan ve aktif olmaları gereken çağlarında onları çeşitli nedenlerle hareketsiz yaşamaya iten bu tür durumlar için çözümler ve faydalı halk sağlığı stratejileri üretilebilir.

Yöntem

Araştırma Deseni

Bu çalışmada karma yöntem sıralı açıklayıcı desen kullanılmıştır.

Örneklem ve Katılımcılar

Nitel veri toplama aracı olan online anketi 294 üniversite öğrenisi doldurmuştur. Kartopu örneklem yöntemi kullanılmıştır.

Veri Toplama Araçları

Online Anket

Bu çalışmada anket yöntemi kullanılmıştır. Bu çalışmada çevrimiçi anket uygulanmıştır. Anketler, Google Forms kullanılarak hazırlanmış ve e-posta, sosyal medya ve mesajlaşma uygulamaları gibi çevrimiçi araçlar aracılığıyla katılımcılara ulaştırılmıştır.

Bu çalışmada, çevrimiçi anketi uygun şekilde geliştirmek ve uygulamak için izlenmesi gereken yollar izlenmiştir (Büyüköztürk, 2005). Çalışmada öncelikle geniş bir literatür taraması ile problem tanımlanmaya başlanmıştır. Problem tanımı sonunda çalışmanın amacı ve bu çalışmada cevap aranacak sorular oluşturulmuştur. Daha sonra konuyla ilgili teorik çerçeve belirlenerek ve daha önce yapılmış benzer araştırmalara ulaşılarak maddeler tasarlanmış ve yazılmıştır. Çevrimiçi anket soruları, net cevap seçenekleriyle kapalı uçlu (yapılandırılmış) sorulardan oluşmuştur. Ardından anketin kapsam geçerliliği ve görünüş geçerliği ile ilgili olan bu aşamada dört uzmana danışılmıştır. Uzman değerlendirmesi sonucunda gerekli değişiklikler yapılarak Ön Başvuru Formu oluşturulmuştur. Nihayetinde 10 üniversite öğrencisi üzerinde anketin ön uygulaması (pilot çalışma) yapılmıştır. Ön uygulama sonucunda elde edilen geri bildirimler dikkate alınarak yapılan son değişikliklerden sonra anket, uygulanmak üzere katılımcılara gönderilmiştir. Çevrimiçi anket, katılımcılara sorulacak dört farklı bölüm altında sorular (maddeler) içermektedir. Bunlar, demografik bilgi formu, fiziksel aktiviteye katılım ile ilgili sorular, hareketsiz davranışlarla ilgili sorular ve yeme alışkanlıkları ile ilgili sorulardır (EK A).

Yarı yapılandırılmış görüşmeler

Bu çalışmada nitel bir veri toplama aracı olarak yarı yapılandırılmış görüşmeler uygulanmıştır (EK B).

Görüşme soruları, çevrimiçi ankette yer alan konuları daha detaylı ele alacak ve sonuçlarını destekleyecek şekilde oluşturulmuştur. İçerik geçerliliğini değerlendirmek için fiziksel aktivite ve halk sağlığı alanında uzman üç kişi ile nitel araştırmaya ağırlık veren bir uzmanın görüşleri alınmış ve içerikle ilgili geri bildirimlerine göre sorulara son şekli verilmiştir. Daha sonra üç üniversite öğrencisi ile bilişsel görüşmeler yapılmıştır (Drennan, 2003). Bilişsel görüşmeler sonucunda

elde edilen dönütlere göre sorular yeniden düzenlenerek son halini almıştır (EK B). Nihayetinde üniversite öğrencilerinin COVID-19 sürecinde fiziksel aktivite katılımları, hareketsiz davranışları ve beslenme alışkanlıkları hakkında daha derinlemesine ve detaylı bilgi elde etmek ve çevrimiçi anketten elde edilen verileri tamamlamak amacıyla 10 katılımcı ile görüşmeler yapılmıştır.

Veri Toplama Süreci

Hem çevrimiçi anket hem de yarı yapılandırılmış görüşme için Orta Doğu Teknik Üniversitesi İnsan Denekler Etik Kurulu'ndan onay (EK C), Ankara'daki üniversitelerin ve öğretim elemanlarının desteği ve katılımcıların onamları (EK D and E) alınmıştır. Anketin başında katılımcılara ayrıca anketin ne hakkında olduğu ve kişisel bilgilerini kullanma prosedürü hakkında bilgi verilmiştir. Bu bilgilerden yola çıkarak anketi sonlandırma ve devam ettirme tercihleri sunulmuştur. Çevrimiçi anket için anket veri toplama süreci 9 Nisan 2021'de başlamış ve 15 Kasım 2021'de sona ermiştir. Katılımcıların tümü anketi ve içerdiği tüm soruları çevrimiçi olarak tamamlanmıştır. 92 kısa cevaplı sorular içeren anket, her bir katılımcı için toplamda yaklaşık 20-25 dakika arası sürmüştür. Her soru ve cevap Google Forms tarafından hazırlanmış ve saklanmıştır. Buna ek olarak, çevrimiçi ankete katıldığı bilinen on katılımcıyla iletişime geçilmiş ve görüşme için davet edilmiştir. Katılımcılara Skype, Zoom, WhatsApp gibi uzaktan görüşme olanağı sağlayan seçenekler sunulmuştur. Yarı yapılandırılmış görüşmeler minimum 10 dakika, maksimum 20 dakika sürmüştür. Ardından, COVID-19 pandemisi sırasında katılımcıların fiziksel aktivite katılımları, hareketsiz davranışları ve yeme alışkanlıklarındaki değişiklikler dikkate alınarak sonuçlar birleştirilmiş ve değerlendirilmiştir.

Veri Analizi

Bu çalışmada, nicel analiz kriterleri dikkate alınarak sadece anketin tüm bölümlerini dolduran katılımcılar analize dahil edilmiştir. Toplam 332 anket yanıtından 33 katılımcı, tüm anket sorularını uygun şekilde yanıtlamadıkları için hariç tutulmuştur. Ankara'daki üniversitelerden birine kayıtlı olunmaması nedeniyle 5 katılımcı da çalışma dışı bırakılmıştır. Araştırma sorularına göre tanımlayıcı istatistiklerin bileşenleri (frekans dağılımı, merkezi eğilim ölçüleri ve değişkenlik ölçüleri) nicel bir veri seti dikkate alınarak Microsoft Office/Excel (2021) ve Google

Sheets'te analiz edilmiştir. Bu çalışmanın istatistiksel sonuçlarını göstermek için fiziksel aktivite davranışlarındaki değişiklikler, sedanter davranışlardaki değişiklikler ve yeme alışkanlıklarındaki değişiklikler ile ilgili tablolar ve histogramların görselleri sunulmuştur.

Bu çalışmanın nitel bölümünde gerekli bazı adımlar izlenerek veri analizi gerçekleştirilmiştir (Pitney ve Parker, 2009). Öncelikle MAXQDA 2022 kullanılarak elde edilen notlar ve transkriptler analiz edilip okunmuştur. Araştırma sorularını yansıtan bilgiler ön plana çıkarılmıştır. Daha sonra vurgulanan bilgiler, o bilgilerin anlamını yansıtan bir kodla etiketlenmiştir. Veriler, kodlarla etiketlenmiş bilgiler kullanılarak temalar halinde düzenlenmiştir. Bu, birbirine benzeyen seçili etiketlerin birlikte gruplandırıldığı anlamına gelir. Birincil bulgular olarak temalar incelenmiş ve anlamlarını yansıtan başlıklar verilmiştir. Daha sonra araştırmanın amacını yansıtan ve araştırma sorularına ilişkin bulguların doğruluğunu sağlamak amacıyla temaların teyit edilmesi için dört katılımcı ile iletişime geçilmiş ve üç uzmandan temaların kontrol edilmesi istenmiştir. Son olarak elde edilen veriler çalışmanın amacına ve temalarına uygun olarak açıklanarak yazılmıştır.

Bulgular

Bu çalışma, üniversite öğrencilerinin COVID-19 pandemisi süresince fiziksel aktivite katılımlarındaki, sedanter davranışlarındaki ve beslenme alışkanlıklarındaki değişimleri incelemeyi amaçlamıştır. Bu bölüm, sırasıyla çevrimiçi anketten ve görüşmelerlerden elde edilen sonuçların çalışmanın amacına uygun olarak değerlendirilmesini içeriyor.

Demografik Bilgiler Çevrimiçi anket

Pandemi sırasında üniversitelerin spor kulüplerine üye olan katılımcı sayısında önemli bir düşüş (87'den 40'a) yaşanmıştır. Ayrıca, pandemi sırasında büyükşehirde yaşayan öğrenci sayısında azalma (%89,12'den %79,93'e) yaşanırken daha küçük şehirlerde yaşayan öğrenci sayısında ise artış (%10,88'den %20,07'ye; kasaba, banliyö, köy) olmuştur. Ek olarak, pandemi öncesine göre yurtlarda kalan öğrenci sayısında da pandemi sırasında keskin bir düşüş (%30,95'ten %1,70'e) olurken, aileleriyle birlikte yaşayan öğrenci sayısında aciddi bir artış (%55,11'den %85,72'ye)

görülmüştür. Son olarak katılımcıların vücut kütle indekslerinde dikkate değer bir değişim (erkek 23.19'dan 23.66'ya; kadın 21.51'den 21.53'e) gözlemlenmemiştir.

Fiziksel Aktivite Katılımı Çevrimiçi Anket Sonuçları

Pandemi öncesi döneme göre pandemi döneminde altı aydan daha az bir süredir düzenli olarak spor yaptıklarını, ara sıra spor yaptıklarını ve spor yapmadıklarını ancak spor yapmak istediklerini belirten katılımcılarda göz ardı edilemeyecek bir artış görülmektedir. Ancak altı aydan uzun süredir düzenli olarak spor yaptığını belirten katılımcılarda yarıdan fazla azalma olmuştur. Ayrıca spor yapmadığını ve yapmayı planlamadığını belirten katılımcıların yüzdesinde ise neredeyse hiçbir değişiklik olmamıştır.

Pandemi sırasında yürüyüş, tempolu yürüyüş koşu, bisiklet, dans, bireysel sporlar, takım sporları, macera sporları ve fitness yapan üniversigte öğrencilerinin sayısı azalmıştır. Öte yandan pandemi sürecinde evde egzersiz ve yoga/pilates yapan katılımcı sayısı artmıştır. Bahçe işleriyle ilgilenen katılımcı sayısı ise bir değişiklik göstermemiştir.

Pandemi sıraısnda orta düzeyde ve şiddetli düzeyde fiziksel aktivite yaptığını belirten katılımcı sayısı azalma gözlemlenirken, hafif düzeyde fiziksel aktivite yaptığını belirten katılımcı sayısında ise artış gözlenmiştir.

Pandemi sürecinde haftada üç, dört, beş, altı ve yedi gün fiziksel aktiviteye katıldığını belirten katılımcı sayısı düşüş gösterirken, haftada bir ve iki gün fiziksel aktiviteye katılan katılımcı sayısı artış göstermiştir.

Pazartesi, Salı, Çarşamba, Perşembe ve Cumartesi günleri fiziksel aktiviteye katılan katılımcı sayısında pandemi öncesine göre hafif de olsa düşüş gözlemlenmiştir. Cuma günleri ise fiziksel aktiviteye katılan katılımcı sayısında hafif bir artış görülürken, Pazar günü fiziksel aktiviteye katılan öğrenci sayısında önemli bir artış (neredeyse iki katı kadar) görülmektedir.

Pandemi süresince bir ila iki saat arasında ve iki saatten fazla fiziksel aktiviteye katılan katılımcı sayısında dramatik bir düşüş olduğu görülüyor. Öte yandan 0-15 dakika, 15-30 dakika ve 30-45 dakika arası fiziksel aktiviteye katılan katılımcı sayısında artış var. 45-60 dakika arasında fiziksel aktiviteye katılan katılımcı sayısında hemen hemen hiçbir değişiklik görülmemektedir.

16:00-18:00, 18:00-20:00, 20:00-22.00 saatleri arasında fiziksel aktiviteye katılan katılımcı sayısında ciddi bir azalma olurken, günün diğer saatlerinde çok büyük bir değişiklik görülmemiştir.

Pandemi sırasında ev içi kişisel alanlar dışında katılımcıların pandemi öncesi fiziksel aktivite yapmak için tercih ettikleri üniversitelerin spor salonları ve üniversitelerin diğer spor tesisleri başta olmak üzere tüm mekanları kullanımlarında keskin bir düşüş yaşandığı gözlemlenmiştir. Öte yandan evde fiziksel aktiviteye katılan katılımcı sayısında da ciddi bir artış gözlemlenmiştir.

Pandemi sürecinde partneri, takım arkadaşı ve arkadaşları ile birlikte fiziksel aktiviteye katılan katılımcı sayısında önemli düşüşler gözlemlenmiştir. Öte yandan tek başına ve aile bireyleri ile birlikte fiziksel aktiviteye katılan katılımcı sayısında ise artış görülmektedir.

Pandemi sürecinde ailevi sorunlar, motivasyon eksikliği, sağlık sorunları ve endişeleri, bölgeye yakın fiziksel aktivite imkanlarının olmaması, maddi sıkıntılar gibi nedenler katılımcıların fiziksel aktiviteye katılımını daha olumsuz etkilemiş gibi görünüyor. Pandemi öncesinde ise ebeveyn olmanın getirdiği sorumluluklar, ulaşım sorunları, fiziksel aktiviteye ilgisizlik ve maddi sıkıntıların katılımcıların fiziksel aktiviteye katılımını daha olumsuz etkilediği söylenebilir.

Pandemi sürecinde toplam 294 katılımcının önemli bir bölümü olan 147 katılımcı fiziksel aktiviteye katılım sıklıklarının azaldığını ifade etti. Öte yandan 294 katılımcının yaklaşık altıda birini oluşturan 46 katılımcı ise fiziksel aktiviteye katılım sıklıklarının arttığını belirtti. Sırasıyla 17, 31, 26 ve 27 katılımcı fiziksel aktiviteye katılımlarının her zamanki gibi kaldığını, önce arttığını sonra azaldığını, önce azaldığını sonra arttığını ve fiziksel aktiviteye katılmadıklarını belirtmişlerdir.

Pandemi sürecinde, zorunlu karantina yaptırımları, sokağa çıkma kısıtlamaları, sosyal mesafe, kendi kendine izolasyon, birlikte yaşadıkları dezavantajlı kişiler, spor sahalarının/tesislerinin kapatılması gibi konulardan katılımcıların birçoğunun fiziksel aktiviteye katılım anlamında olumsuz etkilendiği görülmektedir.

Türkçe Fiziksel Aktivite Egzersiz Davranışı Değişim Basamakları

Katılımcıların yoğun olarak eğilim ve devamlılık aşamalarında yer aldıkları görülmektedir. En az dahil olunan aşama, 22 katılımcıyla eğilim öncesi aşamaydı. Hazırlık ve hareket aşamalarında sırasıyla 52 katılımcı ve 40 katılımcı yer almıştır.

Fiziksel Aktivite Katılımı Görüşme Sonuçları

Pandemi sürecinde katılımcılar evde kalma, pandemi kuralları, pandemi psikolojisi ve online eğitimin kendilerini fiziksel olarak hareketsiz kalmaya iten sebepler olduğunu belirtmişlerdir. Katılımcılardan sekizi evden çıkmadıkları veya çıkamadıkları için fiziksel aktivite katılımlarının azaldığını ifade etmiştir.

Pandemi döneminde katılımcıların bazı aerobik ve anaerobik fiziksel aktivitelere katılımının azaldığı ifade edildi. Ortak bir fiziksel aktivite olarak yürüme aktivitelerinin bu dönemde oldukça sınırlandığı görüşülen sekiz kişi tarafından belirtilmiştir.

Pandemi sürecinde katılımcılar fiziksel aktivite katılımlarını artırmak için kas güçlendirici aktiviteler yapmak, egzersiz videoları izlemek, evde daha fazla hareket etmek, antrenman uygulamaları indirmek gibi stratejiler uyguladıklarını ifade etmişlerdir.

Bunlara ek olarak, bazı katılımcılar hareketsizlik nedeniyle kaslarda zayıflama, sırt ağrıları ve kuyruk sokumu rahatsızlığı gibi bazı sağlık sorunları yaşadıklarını belirtmişlerdir.

Pandemi döneminde katılımcılardan ikisi fiziksel aktivite katılımlarının arttığını belirtti. Katılımcılar evde kalmanın, günlük işlerin azalmasının, daha fazla boş zamanlarının olmasının ve kilo alma korkusunun kendilerini fiziksel olarak aktif olmaya iten sebepler olduğunu belirtmişlerdir.

Pandemi sürecinde fitness egzersizleri, pilates ve HIIT egzersizleri gibi kas güçlendirici fiziksel aktivitelerin bu iki katılımcı tarafından arttığı bildirildi.

Sedanter Davranışlar (Hareketsiz) Çevrimiçi Anket Sonuçları

Pandemi sürecinde 6 saatten az ve 6-8 saat arasında uyuyan katılımcı sayısı azalırken, 8-10 saat arası ve 10 saatten fazla uyuyan katılımcı sayısında artış olduğu görülüyor. Sekiz saat uyuduğunu beyan eden katılımcı sayısında ise önemli bir değişiklik olmamıştır.

Pandemi sürecinde 2 saatin altında, 2-4 saat arasında ve 4-6 saat arasında oturan ve/veya uzanan katılımcı sayısında azalma görülürken, 6-8 arasında, 8-10 saat arasında, 10-12 saat arasında ve 12 saatten fazla oturan ve/veya uzanan katılımcı sayısının arttığı görülmektedir.

2 saatten az, 2-4 saat arası ve 4-6 saat arası sürelerde ekran başında vakit geçiren katılımcı sayısında düşüş olurken, 6-8 saat arası, 8-10 saat arası, 10-12 saat arası ve 12 saatten fazla sürelerde ekran başında vakit geçiren katılımcı sayısının arttığı görülüyor.

Pandemi sürecinde önemli sayıda katılımcı pandemi kuralları, online kurslar, uzaktan çalışma, internet üzerinden yapılan toplantı ve görüşmeler, online alışverişin gelişmesi ve yaygınlaşması, motivasyon eksikliği, COVID- 19, umutsuzluk gibi sebeplerle sedanter davranışlarının olumsuz etkilendiğini belirtmiştir.

Sedanter Davranışlar (Hareketsiz) Görüşme Sonuçları

Pandemi sürecinde katılımcılar evde kalma, online eğitim ve sosyal hayatın olmamasının kendilerini hareketsiz bir yaşam tarzına iten sebepler olduğunu belirtmişlerdir.

Ayrıca katılımcıların çoğu hareketsiz davranışlarının genel olarak arttığını veya en iyi ihtimalle değişmediğini ifade etmiştir.

Pandemi sürecinde katılımcılar evde daha fazla hareket etmek, kas güçlendirici aktiviteler yapmak, yürümek, 20-20-20 kuralını uygulamak gibi hareketsiz davranışlarını azaltacak stratejiler uyguladıklarını ifade etmişlerdir.

Yeme Alışkanlıkları Çevrimiçi Anket Sonuçları

Pandemi sürecinde normal bir günde üç öğün yemek yiyen katılımcı sayısı azalırken, iki öğün, dört ve dört öğünden fazla yemek yiyen katılımcı sayısı artmıştır. Yemeklerde zeytinyağı kullanan katılımcı sayısı artarken, ayçiçek yağı kullanan katılımcı sayısı azalmıştır. Katılımcıların 3'te 1'i daha fazla yemek pişirdiklerini belirtmişlerdir. Genel olarak katılımcılar pandemi sırasında daha az fast food tükettiklerini belirtmişlerdir; ancak aynı zamanda daha çok atıştırmalık, rafine şeker ve kahve tükettiklerini de belirtmişlerdir. Ayrıca sebze, baklagiller, meyveler, süt ürünleri, kuruyemişler ve su gibi sağlığa faydalı sayılabilecek gıdaları pandemi sürecinde daha fazla tükettiklerini söyleyenlerin oranı da dikkat çekiyor. Daha fazla takviye kullandığını söyleyenlerin oranı da ilgi çekmiştir. Son olarak pandemi sürecinde daha çok yediğini ve kilo aldığını söyleyenlerin oranı da göz ardı edilemez.

Yeme Alışkanlıkları Görüşme Sonuçları

Pandemi sürecinde katılımcılardan beşi yeme alışkanlıklarının olumlu yönde değiştiğini ve daha sağlıklı besinler tüketmeye başladıklarını ifade ettiler. Sağlıklı besinleri seçmeye önem veren katılımcılar, davranışlarını aile evinde olmaları, anne yemeğine erişmenin kolaylığı, daha fazla boş zamanlarının olması, hareketsizliği diyet yaparak kontrol etmeye çalışmaları, COVID-19 hastalığına yakalanmayı önleme ve bağışıklığı güçlendirme isteği gibi nedenlerle açıklamaktadırlar.

Katılımcılar ev yemekleri yemek, C vitamini ve D vitamini gibi besin takviyeleri almak, ağırlıklı olarak meyve ve sebze yemek, kuruyemiş tüketmek gibi protein ve doymamış yağ asitleri yönünden zengin, vitamin ve mineralleri bol olan bir beslenme şeklini tercih ettiklerini belirtmişlerdir.

Pandemi sürecinde katılımcılar sağlıklı beslenme alışkanlığı geliştirmek adına daha çok ev yapımı yemek yemek, hazır gıdalardan uzak durmak, rafine şeker tüketmemek, hamur işleri tüketmemek, daha çok meyve ve sebze yemek, dışarıda yemek yememek, daha fazla yemek pişirmek ve kalori saymak gibi stratejiler ürettiklerini belirtmişlerdir.

Bunlara ek olarak bir katılımcı pandemi sürecinde beslenme alışkanlıklarının hiç değişmediğini, zaten hayatı boyunca hep sağlıklı besinler tükettiğini belirtmiştir.

Tartışma

Fiziksel Aktivite Katılımı

Araştırmaların bir kısmı, üniversite öğrencileri arasında fiziksel inaktivite veya azalmış fiziksel aktivite katılımı tespit ederken; bir kısmı ise katılımcıların fiziksel aktivite düzeylerinin COVID-19 pandemisi sırasında arttığını belirtmişlerdir. Örneğin, Sidebottom ve arkadaşları (2021) karantina döneminde öğrencilerin fiziksel aktivite katılımlarının azaldığını ve fiziksel aktivitenin düşük, orta ve şiddetli yoğunluk düzeylerinin de düştüğünü belirtmiştir. Öte yandan Antekolović ve Kovačić (2020) tarafından Hırvatistan'ın Zagreb kentinde yapılan başka bir çalışmada, birçok öğrenci pandemi sırasında fiziksel olarak aktif olmayı istediğini ve çevrimiçi beden eğitimi kurslarının onlar için faydalı olduğunu ifade etmiştir.

Bu çalışmada çevrimiçi anket ve görüşmelerden elde edilen bulgular, her iki araştırmayı da bazı açılardan desteklemektedir. Pandemi sürecinde düzenli fiziksel

aktivite yapanlarda azalma olsa da fiziksel aktiviteye olan ilgi ve eğilimin arttığını söylemek mümkün. Bu çalışmanın bulguları, COVID-19 sırasında 407 Türk üniversite öğrencisinin fiziksel aktivite düzeylerini inceleyen çalışmanın (Ercan ve Keklicek, 2020) bulgularını da desteklemektedir. Ercan ve Keklicek (2020), genel fiziksel hareketsizlik düzeyinin arttığını ancak fiziksel aktivite yapmaya devam eden öğrencilerin evde yapılabilecek egzersizlere yöneldiğini belirtmişlerdir. Ayrıca, COVID-19 pandemisi sırasında hareketsizlik sergileyen öğrencilerin gelecekte düzenli fiziksel aktivite katılımını geliştirmek için yüksek bir istekleri olduğunu gözlemlemiştir (%76.08). Ek olarak katılımcıların pandemi öncesi ilgi gösterdiği spor ve egzersizlerden sadece kapalı alan (evde) egzersizleri, pilates ve yoga kategorisinde pandemi döneminde artış olduğu görülmüştür.

Özel ve üniversite spor kulüplerindeki düzenli antrenman programlarının iptali, pandemi yasakları (özel ve kamu spor tesislerinin kapatılması, sokağa çıkma yasakları vb.) ve pandemi nedeniyle gelişen online eğitim yöntemleri, düzenli ve orta ila şiddetli seviyede yapılan fiziksel aktivite katılımlarındaki düşüşün nedenleri olabilir. Öte yandan bünyeyi ve bağışıklığı COVID-19 pandemisine karşı güçlendirme hedefi ve bu doğrultuda fiziksel sağlığa yapılan vurgunun artması ise fiziksel aktiviteye dair artan ilgi ve eğilimi açıklayabilir (Rodriguez-Larrad ve diğerleri, 2021). Ayrıca insanlar hareketsizliğin zirveye ulaştığı bu dönemde uzun süreli hareketsiz kalmanın insan fizyolojisine zararlı olduğunu daha iyi fark etmiş olabilir. Dolayısıyla karantina döneminde fiziksel hareketsizliğin zirve yapması insanları bunaltmış, spor yapma isteklerini ve fiziksel aktiviteye olan ilgilerini arttırmış olabilir.

Sedanter (Hareketsiz) Davranışlar

Taranan ve incelenen çalışmaların çoğunda, COVID-19 pandemisi sırasında hareketsiz davranışların arttığı sonucuyla karşılaşılmıştır. Örneğin, Rodríguez-Larrad ve diğerleri (2021) tarafından İspanya'da çok sayıda üniversite öğrencisinin (13.754) katılımıyla gerçekleştirilen çalışmada, sonuçlar, COVID-19 salgını sırasında öğrencilerin hareketsiz davranışlarının ve ekran başında kalma aktivitelerinin önemli ölçüde arttığını gösterdi. Çok sayıda öğrenciden elde edilen bu sonuçlar da bu çalışmadan elde edilen bulguları destekler niteliktedir. Bertrand ve diğerlerinin (2021) Kanada'da 125 üniversite öğrencisi ile yaptığı bir diğer araştırma, katılımcıların %16'sının pandemi öncesinde 8 saat veya daha az hareketsiz kaldığını, pandemi

sırasında bu oranın %30'a çıktığını ortaya koydu. Bu çalışmada da elde edilen bariz sonuç, sedanter davranışların arttığı yönündedir. Anket ve görüşmelerden elde edilen bulguların da desteklediği gibi, sokağa çıkma yasakları, karantina kuralları, evde kalarak enfeksiyon kapmamak için sosyal teması en aza indirme kaygısı katılımcıların uzun süre evde ve hareketsiz kalmasına neden olmuş olabilir. Ayrıca pandemi döneminde online eğitim verilmesi ve online sosyalleşme, teknolojik araçlara olan ihtiyacın artmasına ve buna bağlı olarak bu araçların aşırı kullanımına yol açmış olabilir.

Yeme Alışkanlıkları

COVID-19 sırasında beslenme alışkanlıkları üzerine yapılan çalışmaların bir kısmı bu çalışmanın sonuçlarını desteklemektedir. Örneğin, Sidebottom ve diğerleri (2021) tarafından Amerika Birleşik Devletleri'nde 403 üniversite çağındaki öğrenciyle yapılan araştırma, COVID-19 salgını sırasında üniversite öğrencilerinin beslenme alışkanlıklarının değiştiğini ve öğrencilerin evde daha fazla yemek yediğini ortaya koydu. Öte yandan bazı araştırmalar, COVID-19 döneminde yeme alışkanlıklarının tamamen olumsuz yönde değiştiğini vurguluyor. Bertrand ve diğerleri (2021) tarafından 125 Kanadalı öğrenciyle yapılan çalışmada, COVID-19 sırasında öğrencilerin meyve, sebze, tahıl, kuruyemiş, süt ürünleri ve et gibi sağlıklı kabul edilebilecek gıdalarla; atıştırmalıklar gibi sağlıksız olarak kabul edilebilecek gıdaları daha az tükettikleri için besin ve kalori alımlarının azaldığı ortaya konulmuştur. Psikolojik sıkıntılar ve hareketsizliği daha az yiyerek dengeleme isteği de bu durumun ana sebepleri olarak değerlendirilmiştir.

Pandemi sırasında katılımcılar, COVID-19 enfeksiyonuna yakalanma riskini ve hastalığın komplikasyonlarını azaltmak için vitamin ve besin açısından zengin sağlıklı gıdaları tercih etme eğiliminde olmuş olabilir. Ayrıca evde kalmanın zaman, yer ve aile ile yaşayabiliyor olma avantajları, katılımcıların evde daha fazla yemek yapmalarına veya daha fazla anne yemeği yemelerine ve dolayısıyla daha sağlıklı beslenmelerine yol açmış olabilir. Öte yandan katılımcılar, COVID-19 salgını sırasında daha fazla atıştırmalık, rafine şeker ve kahve tükettiklerini de belirtmişlerdir. Bu durum evde yapacak başka bir şey bulamamak, can sıkıntısı, ani hayat değişikliklerine alışamamak ve belli bir hayat düzeni kuramamakla da ilişkilendirilebilir.

Öneriler

Gelecekteki fiziksel aktivite çalışmaları bazı önerileri dikkate almalıdır. Örneğin, gelecekteki araştırmalar, üniversite öğrencilerinin COVID-19 salgını sırasında fiziksel aktivite katılımları, sedanter davranışları ve beslenme alışkanlıklarındaki değişimi, cinsiyet farklılıklarını ve üniversitede kaçıncı sınıf öğrencisi olduklarını dikkate alarak araştırmalıdır. Üniversite öğrencilerinin sosyoekonomik durumunun COVID-19 salgını sırasında fiziksel aktivite katılımlarını ve yeme alışkanlıklarını nasıl etkilediğini incelemelidir. Üniversite öğrencilerinin COVID-19 pandemisi sırasında fiziksel aktiviteye katılımlarındaki, hareketsiz davranışlarındaki ve beslenme alışkanlıklarındaki değişimin kalıcı olup olmadığını belirlemek için daha fazla boylamsal araştırmalar yapılmalıdır.

Ek olarak, COVID-19 pandemisi sürecinde üniversite öğrencilerinin fiziksel aktiviteye katılımlarındaki, hareketsiz davranışlarındaki ve beslenme alışkanlıklarındaki değişikliklerin kısa ve uzun vadeli etkilerini net bir şekilde ortaya koyabilmek için daha çok kesitsel ve boylamsal çalışmalar yapılmalıdır. Ayrıca COVID-19 pandemisi gibi olağanüstü durumlarda üniversite öğrencilerinin fiziksel aktivite düzeylerini ve beslenme kalitelerini artırmaya yönelik müdahale çalışmaları yapılmalıdır. COVID-19 pandemisi gibi olağanüstü durumlarda, fiziksel aktivite düzeyi ve beslenme kalitesinin net ve güvenilir bir şekilde belirlenmesi için daha objektif ölçüm araçları kullanılarak çalışmalar yapılmalıdır. Fiziksel aktivite düzeyinin ve beslenme kalitesinin kolayca ölçülebilmesi ve belirlenebilmesi için COVID-19 pandemisi gibi olağanüstü durumlara uygun daha objektif ölçüm araçlarının geliştirilmesine yönelik çalışmalar yapılmalıdır.

Son olarak, Fiziksel aktiviteye katılımın sürekliliğini sağlamak için COVID-19 pandemisi gibi olağanüstü durumlarda açık ve kapalı spor tesislerinin kalitesi ve çok yönlü kullanılabilirliği konusunda daha fazla çalışma yapılmalıdır.

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