

THE EFFECT OF PSYCHOLOGICAL STRAINS ON SUICIDAL THOUGHTS:
THE MEDIATOR ROLE OF INTERPERSONAL NEEDS

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**THE EFFECT OF PSYCHOLOGICAL STRAINS ON SUICIDAL
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ABSTRACT

THE EFFECT OF PSYCHOLOGICAL STRAINS ON SUICIDAL THOUGHTS: THE MEDIATOR ROLE OF INTERPERSONAL NEEDS

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The primary purpose of the current study was to investigate the mediating effect of interpersonal needs (perceived burdensomeness, thwarted belongingness) in the relationship between psychological strains (i.e., value, aspiration, deprivation, coping) and suicidal thoughts. Moreover, it was examined whether this mediating effect was moderated by perceived social support and depression. The sample comprised five hundred and fourteen emerging adults who voluntarily completed the survey package, including the following measures: The Psychological Strains Scale (PSS), The Interpersonal Needs Questionnaire (INQ), the Suicide Probability Scale/Suicidal Thoughts Subscale (SPS/STS), Multidimensional Scale of Perceived Social Support (MSPSS) and Demographic Information Form. Results of the SEM analysis revealed that interpersonal needs and psychological strains explained 66% of the variance in suicidal thoughts. Perceived burdensomeness and aspiration strain were two of the strongest predictors of vulnerability to suicidal thoughts. In addition, while perceived burdensomeness fully mediated the direct effect of value and deprivation strains on suicidal thoughts, thwarted belongingness fully mediated the direct impact of value

and coping strains and partially mediated it for aspiration strain. Lastly, while depression moderated five out of eight indirect effects of psychological strains to suicidal thoughts through perceived burdensomeness and thwarted belongingness, social support moderated two out of eight. The findings were discussed by taking into consideration the relevant literature.

Keywords: psychological strain, suicide, perceived burdensomeness, thwarted belongingness, depression, perceived social support.

ÖZ

PSİKOLOJİK GERİLİMLERİN İNTİHAR DÜŞÜNCELERİNE ETKİSİ: KİŞİLERARASI İHTİYAÇLARIN ARACI ROLÜ

DEMİR, Berkan

Doktora, Eğitim Bilimleri, Rehberlik ve Psikolojik Danışmanlık Bölümü

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Bu çalışmanın temel amacı psikolojik gerilimler (değer, istek, yoksunluk, baş etme) ile intihar düşünceleri arasındaki ilişkide kişilerarası ihtiyaçların (algılanan başkalarına yük olma, engellenmiş ait olma) aracı etkisini araştırmaktır. Ayrıca, bu aracı etkinin algılanan sosyal destek ve depresyon tarafından düzenlenip düzenlenmediği de test edilmiştir. Çalışmanın örneklemini şu ölçme araçlarını içeren anket paketini gönüllü olarak tamamlayan beş yüz on dört beliren yetişkin oluşturmaktadır: Psikolojik Gerilim Ölçeği (PGÖ), Kişilerarası İhtiyaçlar Anketi (KİA), İntihar Olasılığı Ölçeği/İntihar Düşünceleri Alt Ölçeği (İOÖ/İD), Çok Boyutlu Algılanan Sosyal Destek Ölçeği (MSPSS) ve Demografik Bilgi Formu. Yapısal Eşitlik Modeli (YEM) analizi sonuçları kişilerarası ihtiyaçların ve psikolojik gerilimlerin intihar düşüncelerine yakınlıktaki varyansın %66'sını açıkladığını ortaya çıkarmıştır. Algılanan başkalarına yük olma ve istek gerilimi intihar düşüncelerine karşı yakınlığın en güçlü belirleyicileri olarak bulunmuştur. Ek olarak, algılanan başkalarına yük olma, değer ve yoksunluk gerilimlerinin intihar düşüncesi üzerindeki direkt etkisine tam olarak aracılık ederken; engellenmiş ait olma ise, değer ve baş etme gerilimlerinin doğrudan etkisine tamamen aracılık etmiş ve istek geriliminin

doğrudan etkisine kısmi aracılık rolü üstlenmiştir. Son olarak, depresyon, psikolojik gerilimlerin algılanan başkalarına yük olma ve engellenmiş aidiyet aracılığıyla intihar düşüncelerine olan toplam sekiz dolaylı etkisinden beşini, algılanan sosyal destek ise sekiz dolaylı etkiden ikisini düzenlemiştir. Bulgular, ilgili literatür dikkate alınarak tartışılmıştır.

Anahtar Kelimeler: psikolojik gerilim, intihar, algılanan başkalarına yük olma, engellenmiş ait olma, depresyon, algılanan sosyal destek.

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CHAPTER 1

INTRODUCTION

1.1. Background to the Study

Suicide is one of the leading (17th) causes of death, responsible for around an estimated one million deaths per year across the world, leading to more annual deaths than wars, car accidents, and AIDS (World Health Organization [WHO], 2021). It remains a serious public health problem, resulting in roughly one million deaths across the globe, and between the years 2000-2021, suicide rates have been subject to a dramatic increase of 36% (WHO, 2021). On a worldwide scale, having suicidal thoughts and engaging in suicidal actions have posed a significant threat to the well-being of young individuals, resulting in wide-ranging outcomes that indirectly affect their families, schools, and communities (Ertl et al., 2020). Franklin et al. (2017) indicated that although there is a substantial body of research aiming to widen the current understanding of suicide, global suicide rates have shown a dramatic rise over the past several decades (Martinez-Alas et al., 2020).

What is more, the act of suicide is thought to have a ripple effect as it is estimated that one person in every 40 seconds takes their own life (WHO, 2021), and approximately 135 individuals (e.g., families, friends, or coworkers) are believed to be impacted by every completed suicide (Cerel et al., 2019). However, because of the stigma associated with the nature of the death (Katz et al., 2016) and the registration process often involves complicated judicial procedures (Bilsen, 2018), under-reporting or misclassification is usually an issue (Leo, 2015; WHO, 2021). Still, a rough estimation of eight hundred thousand completed suicides, along with the ones who were

indirectly affected by suicide (WHO, 2021), points out the severity of this global health concern.

Several psychological, economic, cultural, and political factors are assumed to prepare the onset of suicide ideation and behavior, although the rates and frequencies change across regions. In Türkiye, a person dies from suicide nearly every two hours, and crude suicide rates point out an increasing trend of 3.61 in 2011 vs 4.88 in 2022 (TÜİK, 2023). Since 1974, the number of completed suicides has been increasing in Türkiye (from 1.61 per hundred thousand to 4.88 per hundred thousand) (TÜİK, 2023). However, this upward trend does not seem as dramatic as most countries in the European Union or the United States (Akyüz, 2020). Furthermore, in terms of completed suicides, the highest rates belonged to the African region and Eastern Europe, while Latin America and Eastern Mediterranean countries were responsible for the lowest rates (WHO, 2019). For instance, while the average suicide rate per 100,000 inhabitants was found to be 16.1 in the USA and 7.9 in the UK, this number dramatically decreased to 2.4 for Türkiye (American Foundation for Suicide Prevention [AFSP], 2021). In one study conducted with 4330 Turkish college students, it was found that the rate of suicidal thoughts was 15.1%. In another study conducted with 1262 Turkish university students, the rate of suicidal thoughts during the past 12 months was reported to be 41.7%. Lastly, Toprak et al. (2011) concluded that the prevalence of suicide ideation and suicide attempts among college students was 11.4% and 7.1%, respectively. Taken together, although the rate of suicidal behaviors varies, it seems to remain a serious concern in the context of Türkiye.

While investigating the term ‘suicide,’ it is essential to lean on the terminology related to it. Suicide is defined as ‘death caused by injuring oneself with an intent to die’ (CDC, 2021) or ‘self-inflicted death from injury, poisoning or suffocation, where the deceased committed the act to kill himself or herself’ (O’Carroll et al., 1991, p.244). To provide a clearer understanding of the concept, the ‘ideation-to-action framework’ was proposed by Klonsky and May (2015), and several contemporary theories (e.g., Joiner’s Interpersonal Theory of Suicide, O’Connor’s Integrated Motivational-Volitional Model) have already been using this framework without placing peculiar

attention to it. According to this framework, the act of suicide consists of such processes as ideation, plan, attempt, and completed suicides, as most people who develop suicide ideation never make an actual attempt (Klonsky et al., 2021). Therefore, it is methodologically convenient to distinguish between fatal and non-fatal suicidality since they require different explanations. Regardless still, having suicidal thoughts is widely seen as one robust factor that is associated with completed suicides (Favril et al., 2023), and studying suicidal thoughts is seen as one way of tackling methodological problems (e.g., the low base rate of completed suicides, concerns regarding sample size, ethical concerns) (Fernandes et al., 2018; Goldsmith et al., 2022) in suicide research. Thus, with regard to the literature and theoretical explanations (i.e., ideation-to-action framework and the Interpersonal-psychological theory of suicide), the outcome variable was determined to be suicidal thoughts and fatal suicidal behaviors such as suicide attempts and completed suicides were not conceptualized as the variables of interest.

Traditional endeavors in explaining suicidal behavior have tended to center on single/unique risk factors. However, due to complex nature of suicidality and the need for holding more holistic perspective, focusing solely on single risk factors appears to be insufficient. One of the earliest conceptualizations regarding suicide belongs to Shneidman (1993), asserting that suicide is a response to uncontrollable emotional pain (i.e., psychache). However, considering the proposition that the pathways to suicidal behavior are multifaceted, consisting of an interplay of biological, clinical, psychological, social, and cultural risk and protective factors (O'Connor, 2018), which brings severe challenges for patients, clinicians, and as well as for the scientists (De Beurs, 2019), it becomes essential to treat the concept of suicide as a many-sided phenomenon. Moreover, since multiple factors play a part in the occurrence of suicidal behavior, multimodal approaches at multiple levels should be an indispensable part of prevention (Schwartz-Lifshitz et al., 2012). Within the context of the present study, the simultaneous presence of particular psychological and social factors (e.g., psychological strains, perceived burdensomeness, thwarted belongingness, depression) was hypothesized to increase individuals' vulnerability to experiencing suicidal thoughts.

The present study utilizes the theoretical frameworks of the Strain Theory of Suicide (STS) and the Interpersonal-Psychological Theory of Suicide (IPTS) to explain suicidal behavior. Psychological strain is defined as a situation in which two forces pull or push an individual in different directions, leading to a state of tension that creates hopelessness, frustration, and anger, which, in return, precede suicidal behavior (Zhang, 2016b). The STS argues that psychological tension stemming from four societal sources (e.g., value, aspiration, deprivation, and coping) arranges the onset of suicidal thoughts (Zhang, 2019). The IPTS highlights that low social belongingness (i.e., thwarted belongingness) and dysfunctional cognition of one's existence as a burden on others (i.e., perceived burdensomeness) are two required conditions for suicidal thoughts to occur (Joiner, 2005). One main distinction between the two theories is that while the former aims to focus mainly on social factors, the latter underlines the psychological factors that make individuals more vulnerable to experiencing suicidal thoughts. In addition, the STS expands upon the IPTS by investigating the core societal factors that lead to such psychological factors as hopelessness, low social integration, and impaired cognition that one's existence burdens others (Zhang, 2016). The current study incorporated all components into the proposed model to explain suicidality among emerging adults. Along with that, perceived social support and depression, the two concepts that have recurrently been found to be related to suicidal thoughts across numerous studies, were also included to determine whether they influence the relationships hypothesized within the model.

The concepts of IPTS received substantial attention from scholars, and its entire concepts were found to be relevant in explaining suicidal behavior across divergent samples, including suicidal thoughts and attempts (Chu et al., 2017). Being a relatively contemporary theory compared to IPTS, the concepts of STS are also becoming popular in the relevant literature and attracting scholars' interest. For instance, psychological strains were associated with suicidal thoughts across samples of Chinese and American college students (Zhang et al., 2017a) and with suicide attempts (Zhang et al., 2017b). Along with significant relationships among psychological strains, depression, and anxiety (Zhang et al., 2013; Zhang & Thao, 2013; Zhang & Lyu, 2014), recent studies conducted in Norway (e.g., Haghish et al.,

2024) and Russia (e.g., Chistopolskaya et al., 2023) concluded that psychological strains are relevant concepts that were found to be related to suicidal thoughts across clinical and non-clinical samples.

The STS framework indicated that four types of psychological strains (exogenous variables of the current study) shaped by social forces or life events influence suicidal thoughts or behaviors. Value strain is the conflict that arises when values, beliefs, or principles are compromised; aspiration strain occurs when setbacks are faced in the way of pursuing goals; deprivation strain refers to tension experienced when individuals perceive a significant gap between their current living conditions and their expected level of well-being; coping strain occurs when individuals have trouble in effectively managing life's challenges such as stressors, adversities or emotional distress (Zhang, 2019). The IPTS, on the other hand, focuses on such psychological factors as perceived burdensomeness and thwarted belongingness (mediator variables of the present study) to explain suicidality. According to Zhang (2016b), the components belonging to the IPTS are indicators of a latent variable called 'low social integration.'

A growing body of research proved that IPTS and its hypothetical components are relevant in the context of suicidal behavior. Also, IPTS is seen as an extension to Durkheim's social integration theory, allowing for operationalizing the terms that Durkheim once came up with, yet fall short in explaining how those components (i.e., perceived burdensomeness, thwarted belongingness, low social integration) arise in the first place (Zhang, 2016b). Based on STS, on the other hand, the aim is to find an answer to the question of "What happened before the individual became extremely frustrated and hopeless about life with thoughts that living is not worth the psychological pain?" (Zhang, 2016b, p. 170). Put differently, from the STS perspective, such feelings as hopelessness, frustration, anger, and impairments in interpersonal needs, which were associated with suicidal behaviors, were specified as the results rather than sole predictor factors by themselves. Therefore, rather than being a prominent cause, social disconnectedness can only facilitate suicidal behavior. Hence, following the established scope of this research, it was hypothesized that social

forces (e.g., psychological strains) provide a base for the occurrence of suicidal thoughts; however, this relationship goes through psychological factors such as perceived burdensomeness and thwarted belongingness.

As mentioned, psychological strains refer to the social forces that pull and push individuals in different directions (Zhang & Lester, 2008) and that hypothetically precede a state of inner tension, making individuals prone to experience such feelings as hopelessness, frustration, and anger, which in return, make individuals more vulnerable to engage in suicidal behaviors (Zhang, 2016a). As Hjelmland and Knizek (2019) argue, the structures belonging to the IPTS are, in fact, intrapersonal. In a similar vein, from the STS perspective, those ‘interpersonal’ constructs were seen as results of psychological strains rather than the ultimate predictors of suicidal behavior. The ultimate aim of the STS is to reveal the factors associated with suicidal behaviors. Nevertheless, different from the IPTS, the focus of the STS is mainly on the socio-psychological factors leading to burdensomeness and impairments in the basic need of belongingness. In addition, experiencing psychological strains does not necessarily increase suicidal thoughts if the individual is well-integrated into societal systems such as family, religion, employment, and education (Zhang & Lester, 2008), implying that there might be potential factors that consolidate the relationship between psychological strains and suicidal thoughts. Within the scope of this research, two mediator variables were included in the model to clarify this implication.

Perceived burdensomeness (PB), the first mediator variable of the current study, refers to the faulty perception that one’s existence is a burden on others, and it involves a sense of self-loathing (Joiner, 2005). Some of the indicators of PB were social factors, in essence. For instance, Van Orden et al. (2010) revealed that unemployment, homelessness, feeling unwanted, and incarceration were some of the social factors leading to PB. Similarly, Hovey et al. (2022) showed that impediments in coping skills, another social aspect, were associated with perceived burdensomeness. Therefore, it seems feasible to assume that particular social constituents might play a role in the occurrence of psychological risk factors, namely PB, and ultimately lead to suicidal thoughts. Thwarted belongingness (TB), the second mediator variable of

the current study, is related to the sense of low belongingness (Joiner, 2005). Empirical studies repeatedly revealed that strong social ties had a protective role against suicidal thoughts (Arenson, 2021), and impairments in this basic need to belong make individuals more vulnerable to experiencing suicidal thoughts (Fisher et al., 2015). What is more, a recent meta-analysis study conducted by Espinosa-Salido et al. (2021) showed that two constructs of IPTS (e.g., PB and TB) acted as mediators between psychological, social, and environmental distress and suicidal thoughts. Given these well-established links, PB and TB were added to the current study as mediators emerging from psychological strains.

Suicidality is a global concern for every developmental period, yet it is mainly an issue for specific age groups. Within the context of youth, suicide deaths showed an increase of more than 300% since the 1950s (King et al., 2011) and it is the second leading cause of death for the age interval of 25-34 and the third leading cause of death for the age interval of 15-24 (CDC, 2021). Between the years 2011 and 2020, suicide rates have shown an increasing trend for the ages 15 to 24 and 25 to 34 (CDC, 2021). In Türkiye, completed suicides were most common across the ages of 25 and 29 as well (TÜİK, 2023). In the general population, there are an estimated 25 attempts for every completed suicide, though this number dramatically increases to 100-200 attempts for youth (CDC, 2021). These statistics show a dismaying portrait related to youth suicidality, pointing out the need to reveal factors that perpetuate this public health crisis and the factors that protect youth against particular risk factors as well. In the present study, the target group was selected based on the statistical information derived both from global (i.e., WHO) and local sources (i.e., TÜİK) with an attempt to enrich the current understanding of youth suicidality.

Gender was a peculiar variable that has been highly noted in suicide research. Explained as the “Gender paradox in suicide” (Canetto & Sakinofsky, 1998), it is very well known that while men are overrepresented and bear a higher risk of fatal suicidal behavior (i.e., completed suicides), women are more likely to engage in nonfatal suicidal behavior (i.e., suicide ideation, plans, and attempts) (Freeman et al., 2017; Miranda-Mendizabal et al., 2019). One rationale behind the phenomenon of gender

paradox is that while men are more likely to suffer from externalizing disorders (e.g., substance abuse) (Kessler & Wang, 2008), women are more prone to suffer from internalizing disorders (e.g., mood disorders) (Ferrari et al., 2013). Another explanation is that “male inexpressiveness of emotions and vulnerabilities such as weakness, helplessness, and misery” (Möller-Leimkühler, 2003), which results in emotional isolation, makes it difficult to seek help in case of need. Thirdly, alcohol consumption, which may intensify the depression (Kuria et al., 2012) and result in a startling increase in impulsivity (Dvorak, 2013)-which were two salient risk factors for suicidality, has long been seen as a typical practice for manifesting masculinity (Peralta, 2007; Iwamoto, 2011). Lastly, psychosocial risk factors are partly responsible for the ‘gender paradox’ as unemployment, being retired, and being single were found to be major risk factors for males, whereas having a mental illness was found to be the only salient risk factor for females (Toth et al., 2014). During adolescence and young adulthood, completed suicides are 2-4 times higher in males when compared to females, though suicide attempts are 3-9 times more often among women than men (Eaton et al., 2012). The global male-female ratio for completed suicides is 1.7:1, indicating that men are 1.7 times more likely to engage in fatal suicidal behavior (WHO, 2021). Aligned with the objectives of this study, a multigroup analysis was utilized to investigate whether the proposed model reflects identical patterns across genders.

The risk of suicide was expected to be alarmingly high following the COVID-19 pandemic due to widespread economic, social, and psychological factors that potentially make individuals more vulnerable to experiencing suicidal thoughts (Gunnell et al., 2020). Compared to the pre-pandemic period, some studies concluded that there was an increase in suicide ideation during and after the pandemic (Acharya et al., 2022; Raifman et al., 2022), while studies were pointing out decreasing (Kim et al., 2021) or stable (Koenig et al., 2023) trends. Hopelessness, mental health concerns such as depression, economic problems, and stressful life events were some of the predictors of suicidal behavior (Franklin et al., 2017). In the context of the pandemic, as those predictors point out an increase (Farooq et al., 2021), the suicide rates might have followed a subsequent increase as well. As the current study was conducted

during the post-pandemic period, it will be a fruitful endeavor to investigate both psychological and sociological risk factors that lead to suicidal thoughts among emerging adults.

There are numerous factors associated with suicidal behavior. Existing reviews and meta-analyses mainly focus on mental health issues such as mood disorders, anxiety disorders, and general psychological distress, as those constructs have been treated as the strongest predictors of completed suicides worldwide (Cai et al., 2021; Nordentoft, 2011). Since the association between mental disorders and suicidality is strong, the treatment of mental disorders through psychiatric treatment might seem like an effective way to prevent suicide. However, considering the multifaceted nature of suicidality, such an over-simplified view as it is possible to prevent suicide by treating a mental disorder generally remains unrealistic (Large, 2018). In a similar vein, the viability of medical treatments and psychotherapies in the way of preventing suicide is doubtful, contrary to what is often believed. Meta-analyses in mortality trials pointed out that antidepressants have failed to have a protective effect against suicidality (Lu et al., 2014; Sharma et al., 2016), there is weak evidence that antipsychotics (Kishi et al., 2016) and electroconvulsive therapy (Liang et al., 2018) influence alleviating suicidality. This is not to imply that medication and psychiatric treatment are not options for treatment but to point out the possibility that the advantages of medical and psychiatric treatment may not always be convenient when it comes to suicide prevention (Large, 2018). Therefore, it is crucial to hold an integrative perspective, indicating that mental health conditions, along with other distal factors, might contribute to suicidality. With this in mind, the current study included several distal factors as well as a proximal factor (e.g., depression) to explain vulnerability to suicidal thoughts.

Other than major psychological risk factors such as anxiety, depression, alcohol, and substance use, it has been well-documented that social, contextual, and interpersonal factors were also notable components of suicidality (King & Merchant, 2008). For instance, one study conducted on the Asian American population revealed that one-third of the individuals who attempted suicide did not suffer from anxiety or

depression (Cheng et al., 2010). Moreover, according to a recent study conducted in Türkiye by Emiral et al. (2022), socio-demographic characteristics such as marital status, educational level, and income were found to be significantly relevant constructs predicting the occurrence of completed suicides. Despite the assumption that clinical and psychiatric approaches, which mainly treat mental health status as a significant precursor of suicidality, play a predominant role in the field of suicide (Button, 2016), a large body of research demonstrated that suicide might occur in the absence of a mental disorder as well (Cheng et al., 2020; Stone et al. 2018). Therefore, above and beyond psychiatric conditions, it becomes essential to unravel the distal factors that drive individuals toward suicidal thoughts. Within the confines of this research, except for depression (moderator variable), entire variables of interest (i.e., psychological strains, perceived burdensomeness, thwarted belongingness) hypothesized to explain suicidal thoughts were non-psychiatric conditions and distal factors in nature.

Another distal factor, religiosity, has been proven to be associated with suicidality in the majority of settings (Colucci & Martin, 2008; Dervic et al., 2004; Wu et al., 2015). A meta-analysis of 1000 studies on the relationship between religiosity and suicidality has concluded that a higher level of religiousness is associated with a lower level of depression, hopelessness, anxiety, alcohol, and substance use, which are thought to be prominent psychological risk factors for suicidality (Koeing, 2012), indicating that the association between religiosity and suicide might be an indirect one. In studies conducted within the context of Türkiye, it was concluded that there is an inverse association between suicide risk and regular praying and feeling the existence of god (Yapici, 2007) and positive perception of god (Çelebi & Kaya, 2023). Several studies from different contexts have demonstrated that increased levels of religiosity protect individuals against suicide ideation and attempts (Eskin, 2003; Almasi et al., 2009; Carli et al., 2014; Kralovec et al., 2012), although studies concluding that religious involvement does not pose a protective factor against suicide (Hamdan et al., 2011; Lawrence et al., 2016; Stroppa & Moreira-Almeida, 2013), and interestingly, even can pose a risk factor (Stratta et al., 2012; Zhang, 2004; Zhang, 2010; Zhao et al., 2012). The mechanism behind how religiosity/spirituality protects individuals against

suicidality is assumed to be through psychological stability, empowerment, social networking, religious rituals, positive changes in lifestyle patterns (Koenig, 2012), the culture of hope that religiosity fosters, and moral restrictions of religious beliefs in line with the religious affiliation (Dervic et al., 2004). Taken together, the inconsistent results shaped one purpose of the current study, which was to find out whether religious affiliation is associated with suicidal thoughts.

Late adolescence and young adulthood are crucial developmental periods wherein individuals aim to build intimate and secure relationships with others. Social support, which is one indicator of those relationships, is thought to be a vital factor in protecting individuals from suicide ideation and attempts (Kleiman et al., 2013; Otten et al., 2022). In a longitudinal study conducted by Czyz et al. (2012), it was revealed that decreased levels of social support were associated with higher levels of suicide ideation. So far, it has been argued that suicide literature has mainly focused on risk factors rather than resilience factors, which constitutes a serious impediment to extending the knowledge regarding suicidal behavior (Brent, 2011; Prinstein, 2008). Within the scope of the current study, a protective factor, perceived social support, was added to the model to overcome this limitation. To be more specific, it was aimed to investigate whether proposed indirect relationships within the model change across high, middle, or low levels of perceived social support.

Contextual factors (i.e., demographic variables) were thought to be informative in suicide research. Irrespective of gender, suicidality is proven to increase with lower levels of education (Christoffersen et al., 2003; Li et al., 2011), socioeconomic status, and unemployment (Blakely et al., 2003; Milner et al., 2012; Naher et al., 2020). In fact, around 80% of completed suicides occur in low and middle-income countries (WHO, 2023). However, in terms of the level of education, the findings were contradictory. Several studies have pointed out that the relationship between suicidality and level of education is inverse, meaning that suicide victims are likely to have higher educational attainment (Pompili et al., 2013b) and, interestingly, the risk is even higher for older people who are graduates (Hem et al., 2005). In the Turkish context, factors such as socioeconomic status, educational level, unemployment,

religiosity, income, and divorce rate are thought to impact suicidality (Emiral et al., 2022). In another study from Türkiye, unemployment, low income, and divorce were found to be three main contextual factors leading to higher rates of completed suicides (Akyüz et al., 2020). However, suicide literature indicates that findings concerning contextual factors should be interpreted with sensitivity as findings follow a relatively inconsistent pattern (Huang et al., 2017). Bearing that in consideration, the current study examined the effect of numerous contextual factors on suicidal thoughts because presenting empirical evidence for the impact of these factors might hold particular importance for improving public health and for preparing appropriate intervention plans.

In sum, a thorough examination of existing literature on suicidal behavior indicated that mutually interacting elements precipitate suicidal behavior. Among those, social and psychological factors play a crucial role in shaping the context within which suicidal thoughts and behaviors emerge. For this reason, the researcher assumed that vulnerability to suicidal thoughts could best be explained by holding a holistic perspective, in which both psychological (e.g., structures within the IPTS) and social factors (e.g., structures within the STS) operate together. In addition, it seems that studying risk factors is crucial, yet it can inadvertently reinforce a deficit-based approach that might overlook strengths and resources within individuals. Strength-based approaches emphasize resilience, coping skills, and positive factors that can protect individuals against suicide. By doing that, the aim is to make individuals feel more empowered to manage their challenges. Therefore, studying protective factors (e.g., perceived social support and religiosity) holds significant importance in contributing to the advancement of knowledge in suicide prevention. Ultimately, understanding these common risk and protective factors can shape comprehensive suicide prevention efforts. Consequently, the current study sought to examine the association among certain psychological (e.g., perceived burdensomeness and thwarted belongingness) and social factors (value, aspiration, deprivation, and coping strains) to explain vulnerability to suicidal thoughts. In this research, the strain theory of suicide and the interpersonal-psychological theory of suicide were used as background theoretical perspectives.

1.2. Purpose of the Study

As previously discussed, various social and psychological factors play a vital role in vulnerability to suicidal thoughts. The current study intended to examine the possible mediator role of perceived burdensomeness and thwarted belongingness (i.e., IPTS variables) in the relationship between psychological strains (value, aspiration, deprivation, coping) and suicidal thoughts. Moreover, the possible moderator role of perceived social support and depression to conditional indirect effects (indirect effects from strains to suicidal thoughts through perceived burdensomeness and thwarted belongingness) was also investigated within the moderated mediation model. To meet this aim, STS and IPTS were used as theoretical backgrounds. Figure 1 depicts the conceptual structure of the hypothesized model. The other purpose of the present study was to adapt the ‘Psychological Strain Scale (PSS)’ into Turkish and investigate its psychometric properties in Turkish culture.

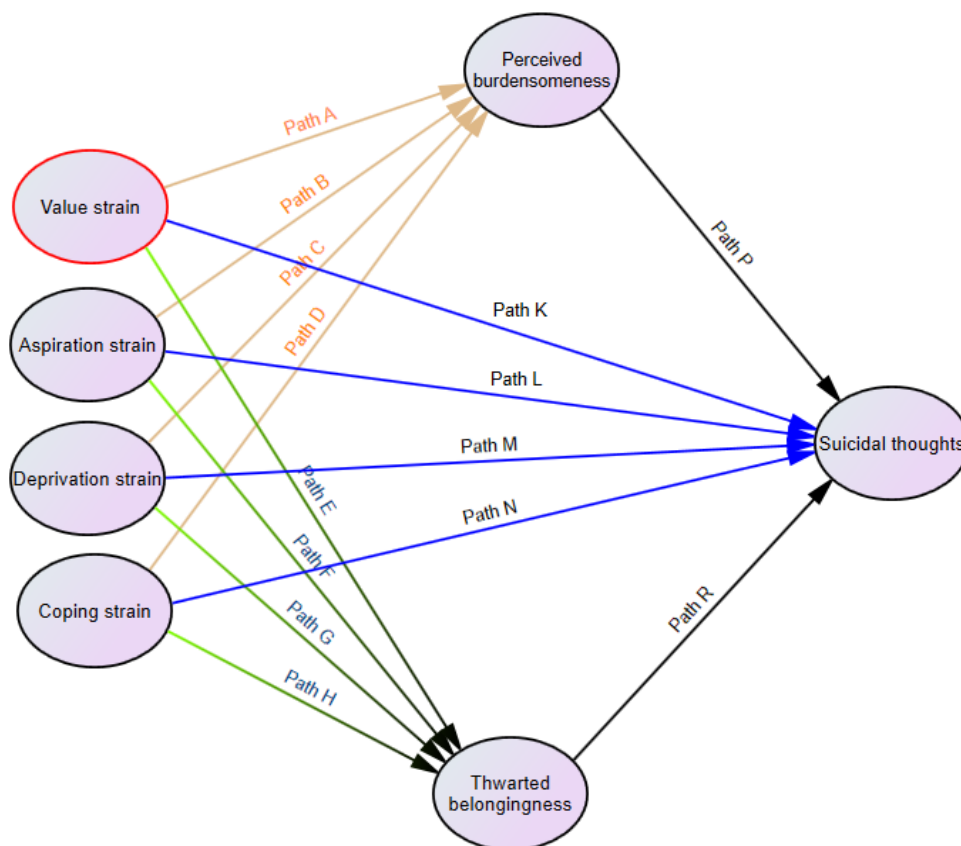


Figure 1.1 The conceptual diagram of the proposed model

1.3. Research Questions

In this section, the research questions regarding current study were provided.

RQ1. How do psychological strains (value, aspiration, deprivation, coping) and interpersonal needs (perceived burdensomeness and thwarted belongingness) relate to suicidal thoughts?

The following research questions were generated using the proposed model (see Figure 1).

RQ1.1. How do psychological strains (value, aspiration, deprivation, coping) directly relate to suicidal thoughts?

RQ1.2. How do interpersonal needs (perceived burdensomeness and thwarted belongingness) directly relate to suicidal thoughts?

RQ1.3. How do psychological strains (value, aspiration, deprivation, coping) indirectly relate to suicidal thoughts through interpersonal needs (perceived burdensomeness and thwarted belongingness)?

RQ2. Do perceived social support and depression moderate the strength of the indirect relationship between psychological strains (value, aspiration, deprivation, coping) and suicidal thoughts through interpersonal needs (perceived burdensomeness and thwarted belongingness)

RQ2.1. Does perceived social support moderate the strength of the indirect relationships between psychological strains and suicidal thoughts through interpersonal needs?

RQ2.2. Does perceived social support moderate the strength of the indirect relationships between psychological strains and suicidal thoughts through interpersonal needs?

RQ3. Does the hypothesized measurement model differ across gender?

1.4. Significance of the Study

The current study aimed to investigate the factors making emerging adults more vulnerable to experiencing suicidal thoughts in a proposed hypothetical model. Two theoretical models, namely the Psychological Strain Theory and the Interpersonal-Psychological Theory of Suicide, provide a base framework for this research. Throughout the literature, it was demonstrated that those two theories have meaningful explanatory power on suicidality. However, along with their direct predictive force, the association among variables derived from both theories and their concomitant contribution to the variance in suicidal thoughts may indirectly offer more in-depth insight into understanding vulnerability to suicidal thoughts among emerging adults within Turkish culture. Additionally, Turkish mental health practitioners from the field of psychological counseling could benefit from the current study's findings. Particularly, it is almost imperative that practitioners working in university settings (e.g., university counseling centers) have precise methods regarding screening procedures for suicide risk as 20% of university students died by suicide had sought help from university counseling centers (Drum et al., 2009) and have a safety planning, which includes the examination of some of the constructs within the scope of the current study (e.g., personal warning signs, the level of perceived social support) while working with suicidal individuals. Therefore, the current study is essential since it investigated the relationships among several personal warning signs (i.e., psychological strains, perceived burdensomeness, thwarted belongingness) and protective factors such as social support and religiosity.

Specific demographic factors have frequently been pointed out as contributors to the vulnerability or resilience against suicidal thoughts and actions. Evaluating the magnitude of their impact and their practical value as indicators holds great significance in assessing suicide risk, formulating theories, and making interventions. This study, along with investigating a structural model containing variables peculiar to the abovementioned two theories, aims to examine the effect of demographic

factors such as gender, religiosity, educational background, status of receiving psychological help, financial conditions, and employment/unemployment on suicidality. In this respect, the current study's findings have a considerable potential to enrich the knowledge regarding the effect of demographic variables related to suicidality.

Past investigations into suicidal thoughts among young adults have mainly concentrated on identifying factors that increase the risk and indicators that serve as warning signs. However, according to research, focusing on warning signs and risk factors is unreliable, has little power in predicting completed suicides (Joiner, 2005; Rudd et al., 2011), and has not led to a decrease in suicide rates so far (Kessler et al., 2020), which partially hampers the capacity of mental health practitioners to intervene and prevent suicide effectively. To overcome this limitation, it is suggested that shifting the attention to examination of resilience factors and developing strengths-based approaches to be considered as remedies in the way of effectuating a more comprehensive understanding (Ivbijaro et al., 2019; Sher, 2019). This study is important in terms of having the potential to fill this gap through the concomitant inclusion of several risk and resilience factors.

Although suicide is a significant problem worldwide and categorized as a major public health concern by WHO (WHO, 2021), the stigma regarding both suicidal behavior and the suicidal person is apparent in the context of Türkiye (Emul et al., 2011) and as well in other countries such as the U.S.A, and Germany (Ludwig et al., 2022; Sheehan et al., 2017; Sudak et al., 2008). As taboo and the stigma associated with the concept of suicide in society holds, suicidal individuals feel self-isolation and social rejection, which in return, makes it difficult to share their emotions and experiences with others (Hamilton, 2013). As Wagner et al. (2000) pointed out, when suicide-related disclosure is made, the common reactions include ambivalence, anger, hostility, and anxiety. The taboo and stigma in many societies to explicitly discuss the concept of suicide and mental illnesses is one impairment in the way of addressing the issue more comprehensively. Therefore, although defined as a major public health problem by WHO (2021), efforts for suicide prevention seem to be running into a

stone wall because the awareness of and understanding of the concept of suicide is sentenced to be kept in the background due to the abovementioned stigma. This study, through collecting information and presenting results about a relatively sensitive topic, is one of the attempts in the way of breaking the stigma associated with suicidality.

Many young adults may experience high levels of psychological strains, perceived burdensomeness, or thwarted belongingness (the exogenous variables of the present study), yet those do not always necessarily precede suicidal thoughts. In other words, the relationship between those concepts and suicidality may not be linear and other potential determinants interfere with this relationship. Therefore, the question of which factor(s) moderates or mediates the relationship between the abovementioned variables and suicidal thoughts immediately arises. Within the scope of this study, through the concept of moderation and/or moderated mediation, it will be possible to find an answer to such a question. Moreover, most individuals experiencing suicidal ideation, actions, or attempts, fortunately, do not commit suicide (Palandino & Barrio-Minton, 2008). This can be reframed as an opportunity for mental health professionals to assist those individuals during the assessment and intervention.

As mentioned, the age interval between 15 and 29 represents one of the critical periods in terms of the tendency to have suicidal thoughts and a rising portion of these young people comprises college students. Therefore, the results of the present study will provide valuable information for program developers of campus suicide prevention programs (e.g., identifying students at risk), because suicide prevention programs are a crucial part of the college counseling and health centers, and an effective suicide screening is expected to take place (Stephenson et al., 2006). To be more specific, the results of the current study can enlarge the understanding of the factors (i.e., both risk and resilience) related to suicidal behavior, which in turn, help program developers and mental health professionals in the diversification of strategies regarding suicide prevention (e.g., risk assessment) and in making more effective interventions in crises. To be more precise, the results of this study will provide evidence-based insights that have the potential to influence policy and legislation, ultimately aiming to enrich the

existing literature in terms of suicide prevention programs, and policies addressing social determinants of mental health, such as poverty, education, and social support.

As Westfield et al. (2005) indicated, college students are mainly unaware of the services regarding suicide prevention across the campus but demand information about the concept of suicide. Moreover, providing college students with information about suicide potentially enables them to recognize when they or their peers might be struggling and to intervene appropriately. Open discussions about suicide can help reduce the stigma associated with mental health issues. Therefore, when students are educated about mental health and suicide, they are more likely to view seeking help as a sign of strength rather than weakness. Informing students promotes awareness, prevention and support, which in return, contribute to their well-being. Hence, the results derived from the present study can also be utilized for providing information to the college student population about suicidal behavior.

Emerging adulthood, which typically corresponds to the period between late adolescence and early adulthood, can be a challenging and vulnerable time for mental health concerns, including suicide risk. It has been proved that emerging adulthood is marked by the exacerbation or occurrence of mental health issues such as anxiety, depression, and personality disorders (Arnett, 2014). In addition, the most significant rise in the frequency of suicide fatalities across a lifetime is observed during the transition from early adolescence to young adulthood (Nock et al., 2008). While not everyone in this age group experiences suicidal behavior in general, it is a critical period for understanding and addressing suicide prevention. Early-focused treatments and interventions, particularly during the formative phase of emerging adulthood, can potentially yield extensive advantages throughout an individual's entire lifespan. It is also notable that a substantial portion of individuals who have either contemplated or attempted suicide in their lifetime typically had their first experiences regarding suicidal thoughts and behaviors during their youth, particularly before their mid-20s (Kessler et al., 1999). Therefore, the findings of this study will help improve the targeted interventions and support systems for a vulnerable population (i.e., emerging

adulthood) by revealing information about appropriate resources and assistance they need.

Suicide is a multifaceted phenomenon influenced by various biological, psychological, and social factors. By studying suicide, researchers can gain a deeper understanding of the complexities involved, allowing for a more comprehensive approach to prevention, intervention, and postvention efforts. From the biopsychosocial (MacDonald, 2017) and Strain Theory of Suicide (Zhang, 2016) perspectives, along with the individual/psychological factors (e.g., impulsivity, mental health status, depression, anxiety, and so on) several environmental/social factors (e.g., psychological strains, lack of social support, unemployment, limited coping skills) are also associated with suicidal behavior. Therefore, along with psychological predictors, there is a need to investigate social aspects associated with increased risk for suicidal behavior. Hence, the present study aims to fill this gap by utilizing variables from the abovementioned domains as the hypothesized structural model includes variables belonging to both individual/psychological and social/environmental agents.

It is a widely accepted notion that methodological problems (e.g., lack of consensus on a clear definition as to what suicidal behavior encompasses) regarding measuring suicidal behavior exist (Goldsmith et al., 2002) and to gain a comprehensive understanding of suicide, it is important to explore the entire spectrum of self-harm and suicidal thoughts and behaviors. Studying suicidal behavior directly can be challenging due to ethical concerns, the low base rate of completed suicides, and the need for larger samples. For this reason, investigating non-fatal suicidal behaviors (e.g., suicidal ideation, suicide tendency, and attitudes toward suicide) is thought to be a prominent endeavor while investigating the pathways and mechanisms toward completed suicides (Corson et al., 2013). Therefore, it appears that addressing non-fatal suicidal behaviors (e.g., suicide thoughts, suicide ideation) might be one solution for dealing with methodological challenges as their prevalence is higher than committed suicides (Fernandes et al., 2018). As the scope and the dependent variable of the current study (i.e., vulnerability to suicidal thoughts) points out a non-fatal

suicidal behavior, the results will potentially extend the current knowledge and ultimately serve the purpose of clarifying the routes and processes leading to completed suicides, despite the methodological limitations (i.e., low base-rates, ethical considerations and complex legal procedures) arising from the multifaceted nature of suicidality.

According to a meta-analysis study investigating the risk factors for suicidal thoughts and behaviors, our ability to predict a suicide attempt is hardly better than chance (Franklin et al., 2017). Thus, the identification of risk and protective factors are the salient aspects of preparing prevention plans and can supply information regarding the interventions needed (World Health Organization, 2012). Therefore, the potential outcomes of the current study could have significant implications for both practitioners and policymakers involved in addressing issues related to suicidality. For instance, for each city in Türkiye, the Turkish Ministries of (1) Health, (2) Family and Social Services, and (3) National Education are responsible for creating Committees for Suicide Prevention and/or holding seminars for mental health practitioners about the concept of suicide. Therefore, suggestions derived from the distinctive results of this research would offer insights for enhancing the efficiency of these programs. As previously pointed out, numerous demographic variables (e.g., gender disparities, unemployment, religiosity, educational status, income) were influential elements that played a major role in offering a more comprehensive perspective of suicidality, a point that researchers have often emphasized. In this study, gender disparities in the hypothesized model were investigated through an advanced statistical method (e.g., multigroup analysis), which is a point that contributed to the significance of the study. Furthermore, the remaining demographic variables were either analyzed via descriptive statistics or controlled through statistical methods, which also extended the significance of the present study. Lastly, one aim of the present study was to adapt the Psychological Strain Scale (PSS) into Turkish by investigating its psychometric properties in a sample of Turkish emerging adults. Adapting PSS into the Turkish language is of significant value as it allows practitioners to measure psychological strains and/or tensions with which an individual is dealing, which could serve as initial indicators of suicide risk. This, in

return, will potentially lead to accurate recognition and assessment of suicide risk and play an important role in the realm of suicide prevention, because assessment helps to identify individuals at risk and makes it possible to apply appropriate interventions.

1.5. Definition of Terms

Value Strain refers to the conflict stemming from holding two different societal values that are not compatible with each other (Lew et al., 2020).

Aspiration Strain refers to the conflict arising from the discrepancy between individuals' aspirations/purposes/goals and their perceived ability to achieve them (Zhang, 2019).

Deprivation Strain refers to the conflict that occurs as a result of a perceived situation where an individual experiences deprivation of resources that are important for their well-being and reaches the conclusion that other people with a similar background and concluding that the other person is leading a better life (Zhang, 2019).

Coping Strain refers to a state of conflict when a certain life crisis takes place and an individual has a limited set of skills to effectively deal with it (Zhang, 2016a).

Perceived Burdensomeness refers to the perception/distorted belief that one's existence is a burden to others and that people will be better off if the person is gone (van Orden et al., 2012).

Thwarted Belongingness refers to the impairments in the basic need for belongingness or connectedness (van Orden et al., 2012) or feeling of social disconnectedness from other people (Joiner, 2005).

Suicidal Thoughts, commonly referred to as suicide ideation, refer to a broad term utilized to define a wide spectrum of contemplation, desires, and preoccupations related to the concept of death and self-harm (Harmer et al., 2022).

Suicidality, refers to “all suicide-related behaviors and thoughts including completing or attempting suicide, suicidal ideation, and communications.” (O’Carroll et al., 1996).

CHAPTER 2

LITERATURE REVIEW

In this chapter, the literature on suicidal behavior, including the definitions and prevalence within the spectrum, the current situation of suicide research in Türkiye, challenges, risk factors, and protective factors in suicidality, and suicide during the emerging adulthood period, were presented. In addition, two theories that shaped the background of this study (i.e., Psychological Strain Theory and Interpersonal-Psychological Theory of Suicide) were introduced, and international research findings regarding those theories were presented. Afterward, literature regarding the relationship between the independent variables of the study and suicidal ideation was provided. In the final section, a summary of the literature review was presented.

2.1. Suicide, Definitions, and Prevalence

Suicide is defined as “a fatal self-injurious act with some evidence of intent to die” (Turecki & Brent, 2016, p.1228). As suicidality indicates a wide range of spectrum ranging from suicide ideation to completed suicides, each of the elements within the spectrum should be clearly defined to provide a more thorough picture. Within the spectrum of suicidality, Nock et al. (2008) defined three concepts: suicide ideation, suicide plan, and suicide attempt. Suicide ideation can be defined as “thoughts of engaging in behavior intended to end one’s life,” suicide plan refers to “the formulation of a specific method through which one intends to die,” and suicide attempt corresponds to “engagement in potentially self-injurious behavior in which there is at least some intent to die” (Nock et al., 2008, p.134). Although it becomes

relatively convenient for one to comprehend subtle differences among the concepts within the spectrum, still less is known about what the unique pathways are leading to suicidal thoughts before acting on those thoughts and ending up with completed suicides. According to Nock et al. (2009), however, our current knowledge to answer this question is insufficient, and we have so much to learn.

Within the scope of the current study, as suicide ideation, often called suicidal thoughts or ideas, is of interest, it is crucial to note that a universally consistent definition of suicide ideation does not exist, which results in persistent difficulties among scholars for decades (Obegi, 2019). Along with the presence of a lack of precise nomenclature, suicide ideation holds out itself in a “waxing and waning manner” (Oquendo, 2014), indicating that the severity and characteristics of those thoughts fluctuate by nature (Kleiman, 2007). Of this spectrum of severity, active (e.g., thinking about killing oneself and planning a particular method as to how to do it) and passive suicide (e.g., desire to be dead) ideation compiles the two edges. It was suggested that individuals having passive suicide ideation are at lower risk for engaging in suicidal behavior when compared to individuals having active ideation (Simon, 2014). In a similar vein, suicidal thoughts that are particularly recurring, acute, and persistent lead to suicide attempts (Wolff et al., 2018).

From a global perspective, it is assumed that over 800.000 individuals take their own lives each year, and this number follows an excessive increase when self-injurious behaviors, suicide attempts, and suicide ideation are taken into account (WHO, 2021; Van Harmalen et al., 2019). In terms of prevalence, it is assumed that numbers are still underestimated due to misclassification of deaths (Oquendo & Volkow, 2018), stigma, or legal barriers (Shoib et al., 2022). On a worldwide scale, suicide ranks as the second leading cause of death among people aged 15 to 29, and it holds the third place among people aged 15 to 44 (CDC, 2022). Furthermore, for every completed suicide, there are ten individuals hospitalized because of non-fatal self-injurious behaviors, and 100 individuals reporting suicide ideation (McAuliffe, 2002). Among youth, while the prevalence of suicide ideation lies within the range of 19.8% to 24%, the prevalence of attempts spans from 3.1% to 8.8% (Nock et al., 2008). In brief, it

becomes essential to grasp the root motivators and factors driving young people to engage in suicidality to create effective preventive interventions and raise public awareness.

Suicide and non-fatal self-injuries place a tremendous burden on healthcare systems and can result in substantial economic costs. It is estimated that an annual 48.3 billion dollars economic loss takes place as a consequence of the combination of completed suicides and non-fatal self-injuries (CDC, 2017). Along with that, a growing body of evidence purported that suicide causes many debilitating effects on close family members as people who have lost a family member to suicide face increased risk of suicidality, posttraumatic stress disorder, and depression (Jordan, 2011; Young, 2012), and even further, that deleterious effect of completed suicides expands upon colleagues (Lynn, 2008), schoolmates (Bartik, 2013) and significant others (Pompili et al., 2013a). Therefore, it is essential to grasp that the impact of suicide goes beyond the individual and ripples through societal and economic systems.

2.2. Suicide Research in Türkiye

In Türkiye, the statistics regarding suicidality have been recorded and annually published by the Turkish Statistical Institute [TÜİK]. Based on the information provided by TÜİK (2023), in the most general sense, Türkiye is one of the countries where the occurrence of completed suicides is relatively scarce, although the number of completed suicides has been subject to an increase over the years. For instance, in the years 2010, 2015, 2020, and 2021, the number of completed suicides was 2.933, 3.246, 3.703, and 4.158, respectively (TÜİK, 2023).

In a study conducted by Kartal et al. (2022), the 25-year trends (1995-2019) concerning suicide were inspected, and it was found that males comprised 68.7% of completed suicides, and most cases belonged to the age range of 15-24. The same statistics showed a dramatic increase for the year 2021, with males consisting of 77.8% of completed suicides (TÜİK, 2023). In terms of the world statistics regarding gender, although the ratio shows slight fluctuations each year, completed suicides are

far more common among males as well (WHO, 2019). On the other hand, suicide attempts were more common among females in the Turkish context (Devrimci-Özgüven, 2003). This finding is also similar to the world trend as proved by a population-based study of 82 countries which concludes that suicide ideation was more common among women (Biswas et al., 2020).

In Türkiye, Kartal et al. (2005) found that illness was the most critical risk factor (36.8%), and the most used means was hanging (47.5%) among males. Following illness, especially for the ages of 20-49, economic problems were found to be the second leading factor preceding suicidality, although financial difficulties became more of a hot topic for suicide research in Türkiye, especially after 2006 (TÜİK, 2015). Interestingly, as reported by WHO (2021), 77% of completed suicides took place in low and middle-income countries, which points out an inevitable association between economic issues and suicidality.

In terms of the prevalence of suicidal thoughts in Türkiye, according to a cross-sectional study conducted by Eskin et al. (2005), it was revealed that 41.3% of college students have thought about suicide at least once in their lives, 14.3% of them thought about planning to kill themselves, and 7% reported that they attempted to kill themselves during their lifetime. In other samples, the prevalence of suicide ideation was found to be 11.4% (Toprak et al., 2011) and 15.1% (Oyekcin et al., 2017).

2.3. Challenges in Suicide Research

In general, conducting suicide research has several challenges and limitations. In a qualitative study carried out by O'Connor and Portzky (2018), the suicide experts were asked what the top three challenges and innovations in suicide research would be. According to the results, the top challenges include the scarcity of research and evidence in terms of universal and prevention strategies rather than focusing on specific/unique factors, the effect of negative beliefs and attitudes towards mental health and preventability of suicide, the urgent need for focusing on adolescent

suicidality, the gap between theory and practice (i.e., clinical knowledge derived from empirical studies should be utilized in practice).

In Islamic majority societies, researching suicidality bears several peculiar challenges (e.g., legal barriers, stigma) as taking one's own life is deemed a forbidden act by religious faith (Shoib et al., 2022) and is condemned as an unforgivable sin (Shah et al., 2010). Therefore, there has been a scarcity of suicide research among Middle Eastern countries as mortality rates regarding suicidality have not been systematically reported to international institutions (Gearing & Lizardi, 2009), and many Islamic countries do not gather data regarding suicidality or share this information with WHO (Shah, et al., 2007; Pritchard, 2007), yet Türkiye partly can be seen as an exception to this limitation.

Another challenge is related to the etiology and mechanism behind suicidal behavior. To begin with, as Paladino and Barrio-Minton (2008) put it, thoughts about committing suicide are often fleeting and reach their peak as an individual experiences distress, yet as the level of distress gets higher and more intense, those thoughts (i.e., suicide ideation) can uprise in frequency and lead to ramifications of the same thought, including not only thoughts of killing oneself but also what it would be like to kill oneself and how an individual would commit suicide. In a similar vein, as the three-step theory of suicide (Klonsky & May, 2015) argues, the development of suicidal ideation and progress from suicide ideation to suicide attempt are two different phenomena and require different explanations or elaborations. That is, the pathways leading to suicidal behavior are multifaceted and convoluted (e.g., personal, social, psychological, cultural, biological, and environmental factors), though as people come to a deliberate decision to take their lives, the psychological factors are perhaps one of the most influencing ones (O'Connor & Nock, 2014).

A common misconception in the field of psychology and among society is that asking about suicidality in research can increase suicide tendency rates (Hjemland & Knizek, 2004; Cwik et al., 2015). Furthermore, another hindrance regarding suicide research involves the challenge of obtaining ethical approval from ethics review boards as the members may show excessive caution and have concerns about the potential

detrimental effects of asking suicide-related questions to participants (Blades et al., 2018). However, a recent review of 13 studies indicated that there was no significant increase in suicide ideation among participants (adults, adolescents, general and at-risk populations) when they were asked about suicidal thoughts (Dazzi et al., 2014).

Screening and identifying individuals who are at risk for suicide bears several challenges for practitioners as well. The first challenge is although the prevalence of risk factors including mental health issues is common among the general population, committed suicides are scarce (Scwartz-Lifshitz et al., 2012). Secondly, thoughts regarding killing oneself are subject to fluctuate within hours or minutes (Hallensleben et al., 2019). Thirdly, most people who have suicide ideation do not go on to make an actual attempt (Nock et al., 2008). Despite the impediments and shortcomings in identifying suicidal individuals, suicide is mainly thought to be preventable (Schwartz-Lifshitz et al., 2012). Recent studies purported that about 50-70% of the individuals who die by suicide made an appointment with a mental health professional one month before they died (Luoma et al., 2002; Chang et al.2011). In addition, most of the individuals who attempted suicide concealed their ideation when they were asked (Louzon et al., 2016; Blanchard & Farber, 2016; Levi-Belz et al., 2019). Therefore, despite the challenges that suicide research bears, there is an urgent need to increase the effectiveness of traditional risk assessments, take into consideration the swinging nature of suicidality, and foster public awareness in terms of dealing more effectively with those challenges, as suicide prevention efforts cannot be restrained to the individual-based risk and protective factors.

2.4. Risk Factors in Suicide

Across the literature, it has been underlined that suicidality is a multifaceted issue, often a result of the interplay among biological, psychological and social forces, and might be influenced by a combination of risk factors. For this reason, the CDC (2022) divided factors that increase the likelihood of suicidality into four categories as individual (e.g., history of mental illness), relationship (e.g., being exposed to bullying), community (e.g., experiencing discrimination), and societal risk factors

(e.g., stigma towards seeking help). Also, as suicidality implies a continuum ranging from having suicidal thoughts to lethal suicide attempts, understanding the nuanced distinctions among particular risk factors for different phases holds utmost importance. Touching upon risk factors, according to WHO (2012), is beneficial because,

The identification of risk and protective factors is a key component of a national suicide prevention strategy and can help determine the nature of the type of interventions required. Risk factors, in this context, are indicative of whether an individual, a community, or a population is particularly vulnerable to suicide (p.13).

The biopsychosocial model of suicide, which is one of the most comprehensive models existing, emphasizes that biological, psychological, and social factors, as well as interaction within this system, lead to vulnerability to suicidal thoughts (MacDonald, 2017). That is, relying on a single component would not yield much information about the complex nature of suicidality. In a similar vein, up to now, different theories of suicide argued their point of view and purported that sociological factors (e.g., Durkheim, 1987/2005), psychological factors such as psychache (e.g., Baumeister, 1990; Shneidman, 1993), difficulties in emotion regulation (Linehan, 1993), perceived burdensomeness and thwarted belongingness (Joiner, 2005), defeat, entrapment and decreased levels of perceived social support (Williams, 2001) play an important role in suicidality.

In psychiatric models explaining suicidality, it has long been assumed that mental health disorders, particularly mood and anxiety disorders, were meaningful predictors of all spectrums including suicide ideation, attempts, and completed suicides. In fact, earlier research has suggested that nearly 90% of completed suicides were linked to a mental health disorder (Cavanagh et al., 2003). Depression, in particular, is very well known to be a major risk factor for completed suicides, as proved by a recent meta-analysis conducted by Cai et al. (2021) on 85,768 patients. After a close inspection of the related literature, it appeared that the effect of anxiety disorders on suicide is less strong when compared to mood disorders (Chioqueta & Stiles, 2003; Li et al., 2022). In a meta-analysis including 180 longitudinal cases, Bentley et al. (2016) investigated

the role of anxiety on suicidality and found that anxiety is a relatively modest predictor of suicide ideation and attempts, but not a significant predictor of completed suicides. In another meta-analysis, clinical factors (e.g., having a mental disorder, self-harm history) were found to be the strongest predictors of suicidality, whereas other factors such as sociodemographic status (unemployment, religiosity, having children) and exposure to negative life events were found to be less influential (Favril et al., 2022).

It is important to note that several personality variables are associated with suicidality. For instance, impulsivity was recurrently found to be the strongest personality characteristic associated with suicidality, especially for completed suicides as it refers to a deliberate decision-making process (Gvion et al., 2015; Klonsky & May, 2010). On the contrary to suicides in the elderly, in which the completion rate is high and the act is deliberate (Jeong & Kim, 2015), young suicides tend to be characterized by impulsivity (McHugh et al., 2019). Other than impulsivity, perfectionism (Pia et al., 2020), hopelessness (Wolfe et al., 2019), pessimism (La Rosa, 2022), and aggressiveness (McCloskey et al., 2018) were concluded to be associated with suicidality.

To challenge psychiatric models and enrich the current understanding, several psychological and socio-psychological structures have been proposed to explain suicidality. Among a pile of variables, the most prominent ones were concluded to be poverty (Wang, 2021), unemployment, financial hardships (Haw et al., 2015; Mathieu et al., 2022), loneliness, living alone, and lack of emotional support (Shaw et al., 2021; Stravynski & Boyer, 2001), hopelessness (Tonkuş et al., 2022). What is more, it was found out that approximately 40% of individuals who committed suicide encounter a major stressor either on the day of their attempt or the day prior to it (Linzer et al., 2017).

In sum, it is apparent that our current understanding of risk factors regarding suicide has been enlarging as studies pile up and a majority of them aim at explaining factors that put individuals at greater risk rather than focusing on resilience factors (Sher, 2012). Key factors contributing to the increase in youth suicidality include mental

health issues, prior suicide attempts, the effect of personality traits, and other psychosocial stressors.

2.5. Protective Factors in Suicide

For decades, suicide research has primarily emphasized identifying factors that elevate suicide risk while slightly neglecting protective elements that could play a crucial role in tackling this critical global health problem (Sher, 2012). The ultimate aim in determining protective factors, according to Bilsen (2008), should be to eliminate risk factors and strengthen protective factors through the implementation of integrated prevention initiatives including primary, secondary, and tertiary levels. In addition, major prevention strategies would be as comprehensive as possible, which include making interventions at population-based (e.g., to decreasing prejudice against seeking mental health), high-risk-based (effectuating crisis hotlines and online tools), and individual-based levels (conducting effective follow-up protocols with individuals who attempted suicide) (Calear et al., 2016).

Across the literature, several factors have been found to pose a protective role against the spectrum of suicidality. Stone (2017) argued that protective factors would serve in two ways by either mitigating the effect of a particular risk factor linked to suicidality or making individuals more resilient against multiple risk factors. As the most recurrent finding revealed by various meta-analyses, any form of perceived social support is associated with lower levels of suicidality (Arenson, 2021; Deng, 2021; Panesar, 2021). In addition, Easy access to mental health services is thought to be a prominent protective factor against suicide deaths as the presence of a higher amount of psychiatrists in a region is linked with lower rates of suicide (Tondo et al., 2006).

In a causal-comparative study, Pereira et al. (2018) investigated the risk and protective factors in emerging adulthood by comparing three different samples of emerging adults (i.e., emerging adults with no suicide ideation, suicide ideation, attempted suicide) and found that the group without a suicide history reported higher scores in

self-efficacy, self-esteem, and positive family relationships. Apart from that, it is predicted that 50% of suicide deaths among youth have to do with familial factors (Brent et al., 2006). In a network analysis conducted by Holman and Williams (2020), it was found that the most powerful protective factors against suicidality are self-esteem, social support, resilience, easy access, and positive attitudes to mental health services, respectively.

Across the literature, having a sense of meaning in life (Lew, 2020), religiosity (Cole-Lewis et al., 2016), dispositional hope (Luo et al., 2016), resilience (Sher, 2019), self-esteem (Primananda et al., 2019), using adaptive coping strategies such as active coping and positive reframing in case of need (Liang et al., 2020), cognitive flexibility (Han et al., 2022) were other relevant factors proved to be negatively associated with suicidality.

2.6. Emerging Adulthood and Suicide

Suicide remains a prominent contributor to the mortality rates among young adults. Emerging adulthood, which spans from ages 18 to 29 (Arnett, 2000) represents a phase characterized by increased vulnerability to several mental health challenges such as depression (Kessler et al., 2003) and suicidality (Kessler et al., 2005). In 2019, the incidence of suicide attempts among individuals aged 18 to 25 was 1.8%, which was the highest across all age groups. Likewise, when compared to other developmental periods, the prevalence of serious suicidal thoughts was the most frequent among emerging adults, reaching 11.8% (National Institute of Mental Health [NIMH], 2020). In a similar vein, recent research on mental health trends in college campuses points out a concerning increase in the prevalence of mental health issues (Knapstad, 2021). The developmental characteristics of this period, such as transitioning from the family home and living independently, striving for financial self-sufficiency, commencing marriage life, attaining the legal drinking age, and pursuing full-time employment (Arnett, 2020), might bring about major challenges for individuals, ultimately leading to increases in vulnerability to suicidality (Hooven et al., 2012).

The incidence of emerging adult suicide presents a perplexing challenge for the researchers because on one hand, several risky behaviors such as delinquency and fighting show a falling inclination (Peeters et al., 2019), but on the other hand, suicidality tends to increase during this phase (Miron et al., 2019). Therefore, the transition period from adolescence to emerging adulthood is a particular period during which youngsters become more vulnerable experiencing suicidal thoughts as widespread changes take place, leading to experiencing helplessness, insecurity, stress, and a sense of losing control (Patton et al., 2016). To tackle those challenges and regulate those emotions of helplessness and insecurity, individuals need access to prominent support resources (i.e., stable housing arrangements, close and meaningful friendships, a well-defined structural framework and financial means) (Bilsen, 2018).

Among young adults, the impact of the incidents of suicide is devastating, affecting not only individuals and their families but also ensuing severe consequences in terms of social and communal aspects. While the most recurring risk factors for emerging adulthood suicides were mental health disorders, particularly affective/mood disorders such as depression and bipolar disorder (Bilsen, 2018; Polanco-Roman, 2013), and substance use disorders (CDC, 2022), a recent study revealed that over 50% of individuals attempted suicide did not have a documented mental health issues, but rather experience such conditions as financial challenges, employment-related stress, instabilities in housing and legal issues increased the risk of suicide (Stone et al., 2018). It seems that most of the conditions mentioned, in fact, overlap with developmental tasks that emerging adults face. This being the case, it become almost imperative to integrate the role that environmental factors potentially play into theories/models aiming to explain suicidal behavior during the period of emerging adulthood.

2.7. Psychological Strain Theory of Suicide (STS)

Developed by Zhang in 2005 (2016a), the Strain Theory of Suicide (STS) is a relatively new and well-established theory leaning on the sociological and

psychological (i.e., socio-psychological) structures preceding suicidal behavior. The word strain is defined as “a force or influence that stretches, pulls or puts pressure on something, sometimes causing damage” (Collin’s Dictionary, 2021). STS claims to offer a comprehensive framework for explaining socio-psychological mechanisms behind suicidality.

The first postulation within the scope of the STS is that suicide is a form of inward violence partly resulting from the experiences of negative emotions (i.e., anger, hatred, resentment, and dissatisfaction) emerging as a consequence of psychological strains that exceed an individual’s tolerance capacity (Zhang et al., 2011). In the context of the STS, those negative emotions stem from psychological strains such as differential values, unrealized aspirations, relative deprivation, and deficient coping skills (Zhang et al., 2011; Zhang, 2019). According to Zhang (2019), psychological theories of suicide provide information at the individual level while sociological theories provide it at the aggregate level. However, to fill this gap, individual data collected at the ecological level should be used to explain suicidality among individuals. Furthermore, societal expectations, economic disadvantage, and personal experiences of failure/loss may also contribute to the emergence of the strains (Zhang, 2019).

Two existing theories shape the background of the STS. The first one is Merton’s (1957) General Strain Theory of Deviance, built upon Durkheim’s work on ‘anomie’ or simply normlessness, which occurs if a member of a society tends to challenge and refuse societal norms or mutual values. In return, this state of normlessness leads to deviance and crimes. The second one is Agnew’s (1992) Strain Theory of Deviance and Anomie, asserting that social inequalities (e.g., discrimination, unequal distribution of wealth, violence) arouse negative feelings and result in a state of tension (or strain). As a result, the individual withdraws from society and turns back into the shell of oneself (Merton, 1957). As argued by Zhang and Lester (2008), alcoholics, drug addicts, vagabonds, and psychotics might be examples of such individuals, and suicide, which is a form of self-destruction, can also be included in Merton’s list.

From the perspective of General Strain Theory, deviant behaviors (e.g., suicide) are the lineal outcomes of adverse emotions such as anger, frustration, and disappointment, and are seen as adjustment strategies to eliminate the tension coming from strain resources. According to Broidy and Agnew (1992), if the strains or stressful situations are responded to by feelings of despair, disappointment, and depression, it might result in inner-directed guilt which fosters to chances of engaging in deviant behavior to escape from the negative stimuli evoked. This is, in fact, resembles to Baumeister's (1990) and Shneidman's (1993) conceptualizations, where it was concluded that suicide is the ultimate means to escape from negative stimuli.

In the context of STS, the strain does not refer to sole pressure or stress; it rather connotes the meaning that strain consists of two forces that push or pull an individual to different directions-creating a state of tension-, which makes an individual vulnerable to experience hopelessness, frustration, anger and even precedes suicidal behavior (Zhang, 2016b). Strain also refers to psychological suffering resulting from clinging onto the two conflicting forces and not being able to resolve or decide between them (Zhang, 2019). Therefore, strain is slightly different from regular stress that individuals experience in their daily lives because stress does not necessarily create feelings of frustration, helplessness, or hopelessness and is mostly seen as a unidirectional force (Zhang, 2016). To put it another way, strain rather seems to be similar to Festinger's (1957) cognitive dissonance, yet the ramifications of the strains are thought to be more devastating (Zhang, 2016). According to STS, the level of strain experienced by the individual is incredibly intense to the point where they feel compelled to seek a resolution to alleviate, release, or eliminate it (Zhang & Lester, 2008).

Along with psychiatric models of suicide, social and psychological theories of suicide have been gaining a reputation in the academy. A pile of studies concluded that mental disorders are the strongest predictors of suicidality (Baldessarini et al., 2019; Isometsa et al., 2014; Yoshimasu et al., 2008). While STS agrees with that, it may lead to an oversimplification and reflects the characteristics of only secondary-level prevention

strategies (i.e., crisis intervention) for the indicative populations; however, the primary level of prevention strategies (i.e., preventive interventions) should include general populations in society as well (Zhang, 2016). Strategies or implementations aiming to decrease psychological strains, as hypothesized in STS, would lead to a downfall in both mental health disorders and suicidality.

Zhang (2016) indicated that STS aims to challenge the popular psychiatric models explaining suicide in the West. Similarly, Mann et al. (1999) also argued that it is essential to investigate the factors above and beyond psychiatric disorders while explaining suicidal acts (i.e., stress-diathesis model). So far, several theories (e.g., Joiner's Interpersonal-Psychological Theory of Suicide; Klonsky & May's Three-Step Theory; and O'Connor's Integrated Motivational-Volitional Model) have argued that factors such as hopelessness, psychological pain, social disconnectedness, and perceived lower levels of social integration are the leading factors to increase risk for suicidal behavior. Yet, according to Zhang (2016), those theories fall short in explaining the mechanism behind how those factors became prominent in one's life. To say it differently, in a scenario where strains lead to suicidal behavior for an individual, several psychological and social factors will mediate the abovementioned direct relationship, either diminishing or increasing the effect of a strain (Zhang, Liu & Sun, 2016). To cite Zhang's (2016, p.173) analogy, "psychological strains can be a virus in the population that has affected many individuals, but only those with high social integration and/or connectedness and low capability of suicide (i.e., a strong immune system) may effectively dodge the occurrence of suicidal behavior (i.e., a fatal disease)."

In the STS framework, four strains may put individuals at risk for engaging in suicidal behavior. The first one, *value strain*, refers to the existence of two conflicting yet equally important social values in one's life (Lew et al., 2020). Value strain could refer to the strain or conflict arising from discrepancies between an individual's personal values, beliefs, or ideals, and the actual experiences or circumstances they encounter. When there is a significant mismatch between one's values and their lived reality, it may lead to psychological strain, cognitive dissonance, and emotional

distress, which can contribute to an increased risk of suicide. If one value is adopted and thought to be more important than the other one, then no strains occur (Zhang & Zhao, 2013). In most developing countries, for instance, individuals experience value conflict when modern and traditional tenets collide and individual has a hard time adopting between (Zhang, 2016).

If there is a discrepancy between an individual's goal/aspiration and the reality in which she or he lives in, then the *aspiration strain* is experienced (Zhang, 2019). This could refer to the strain or distress experienced when individuals have high aspirations or ambitious goals but perceive significant obstacles or difficulties in achieving them. It may involve feelings of frustration, disappointment, and a sense of failure, which could potentially contribute to psychological distress and increased suicide risk. One thing that is peculiar to aspiration strain is that an individual needs to have a perception that the current situation is difficult to change (Yan et al., 2019). Similar to the difference between Roger's ideal self and real self, the severe discrepancy between individuals' goals or expectations from the environment and the reality in which they must live points out a possible aspiration strain. Theoretically, as the difference between aspiration and reality becomes larger, the magnitude of the strain would be stronger (Zhang, 2019).

Deprivation strain occurs when an individual makes comparisons with other people having a similar background to her/him and perceives that the other person is leading a more satisfactory life (Zhang, 2019). It is a perceived status, and the main theme regarding this strain is unfairness and inequity. Therefore, if there is a higher level of polarization in terms of monetary/fiscal domain in a society (e.g., where the purchasing power tends to be greater among rich and poor, and those two groups live geographically close to each other), the experience of deprivation strain will be more likely (Zhang, 2016a). Deprivation strain might refer to the strain experienced when individuals perceive a lack or deprivation of important resources, opportunities, or conditions necessary for well-being and fulfillment. This strain could lead to feelings of dissatisfaction, unhappiness, and distress, potentially increasing the vulnerability to suicidal ideation or behavior. Moreover, apart from the economic domain, this

relative poverty can also be shaped by opportunities or status (Yan, 2019). According to Zhang and Tao (2013), there is a congruence between aspiration and deprivation strains. That is, several items belonging to those two subscales went together as both strains indicate a state of comparison. However, suggested by Zhang and Tao (2013), it is still theoretically important to set a distinction between those two. While aspiration strain refers to a state of inner comparison (e.g., comparison between the individual and personal goals), deprivation strain indicates a situation where the comparison is made between the individual and others.

The last strain is *coping strain*, which tends to occur when a certain life crisis (e.g., loss of money, loss of status, loss of beloved one, divorce) takes place, and the individual has limited skills to deal with it effectively (Zhang, 2016a). Coping strain may pertain to the strain or burden experienced when individuals face challenging or overwhelming situations and struggle to effectively cope with them. It could involve difficulties in managing stress, regulating emotions, or finding adaptive strategies to navigate difficult circumstances (Zhang, 2016b). If individuals perceive a lack of effective coping mechanisms, it can contribute to psychological strain and an increased vulnerability to suicidal thoughts and behaviors. Coping strain is hypothesized to be different from the other three sources of strain. As Zhang (2019) put it, apart from other sources of strain, decent coping skills (i.e., lower levels of coping strain) might act as a moderator between variables related to psychache (e.g., frustration, anger, or soreness) and suicidality as well. In addition, increased coping skills may act as a buffer against suicidality. It is important to note that not all people experiencing a life crisis develop strain (Zhang, 2013). Below, Zhang et al.'s (2011, pp.2004-2005) examples regarding the strains are presented in Table 1.

Table 2. 1
Example of Strain Sources

| Strain Type/Source | Example |
|---------------------------|--|
| Value | “In developing countries, differential values of traditional collectivism and modern individualism may conflict with each other” |

| | |
|-------------|---|
| Aspiration | “A young woman aspiring to equal opportunity and equal treatment may have to live within the traditional and Confucian reality exemplified by her family and village, which interferes with that goal.” |
| Deprivation | “If a poor person understands that other people like him/her live a better life, he or she may feel deprived because of these circumstances.” |
| Coping | “A high school boy who is constantly bullied and ridiculed by peers may experience great strain if he does not know how to deal with the situation.” |

2.8. Interpersonal-Psychological Theory of Suicide

Developed by Joiner (2005), the Interpersonal-Psychological Theory of Suicide (IPTs) is one of the most contemporary and globally well-known theories, which was supported by a vast number of empirical studies in diverse samples, including non-clinical populations (Calear et al., 2021; Pelton et al., 2017). The basic premise of the theory is that “people die by suicide because they can and because they want to” (Van Orden et al., 2010, p.7). That is, required two components for a completed suicide to occur are the acquired capability and the desire for suicide (Joiner et al., 2009). The concept of desire for suicide comprises two components; perceived burdensomeness and thwarted belongingness, and the acquired capability includes two components; lower levels of fearlessness about death and increased levels of tolerance to physical pain (Joiner, 2015).

Over the past two decades, Joiner’s IPTs (2005) has promoted enormous advances in suicidal research in terms of both clinical and theoretical means. It includes four components to be associated with suicide ideation and completed suicides; thwarted belongingness, perceived burdensomeness, hopelessness, and capability for suicide (Chu et al., 2017). Thwarted belongingness, which corresponds to the absence of social connectedness or reciprocal caring in social relationships, refers to the impediments to the basic need of feeling to be accepted by others. Perceived burdensomeness can be defined as the belief that one’s existence is a burden on other people or society.

According to IPTS, higher levels of perceived burdensomeness and thwarted belongingness combined with a sense of hopelessness that these feelings will not change in a short time creates an immediate vulnerability, which results in suicide ideation (Van Orden et al., 2010). As those feelings are thought to be the proximal indicators of suicide risk (McClay, 2020), it is almost imperative that interventions be tailored to reduce the intensity of those feelings. In the IPTS framework, apart from suicide ideation, lethal suicide attempts eventuate only if an individual posits an acquired capability for suicide, which is either biologically determined or obtained through painful provocative experiences encountered throughout life (Smith et al., 2012). As can be seen, IPTS makes a clear distinction between ideation and action, which is a tenet offered within the scope of the ‘ideation-to-action framework’ proposed by Klonsky et al. (2018).

In a similar vein to the propositions offered from the perspective of ‘ideation-to-action framework’ (Klonsky & May, 2014), IPTS argues that suicide is not a unitary construct, but rather, suicide ideation and action are two different concepts and the relationship between those may not necessarily be interconnected. A distinguishing feature of the theory is that the vast majority of people who think about suicide do not make a suicide attempt, implying that there should be a distinction between fatal and non-fatal suicidality (Joiner, 2005). This starting point is one the root of current suicide prevention efforts.

The IPTS has its roots in Murray’s (1938) psychogenic need theory. According to Murray’s (1938) theory, twenty needs were hypothesized to foster mental health and well-being. Joiner (2005) assumed that two psychological needs among twenty are pivotal for suicide. The first one is the need for affiliation and the other one is the need for autonomy in Murray’s (1938) theory, which corresponds to the concepts of belongingness and burdensomeness in Joiner’s theory (2005). From IPTS’s perspective, two key factors resulting in suicide ideation are perceived burdensomeness and thwarted belongingness (Joiner, 2005), and those factors should concomitantly be apparent in one’s perception for ideation to stick out. However, completed suicides require a distinctive elaboration.

Perceived burdensomeness refers to a mental state consisting of the belief that others will be better off if the person is gone (van Orden et al., 2012). Adverse life events like unemployment, familial disputes, or dealing with a physical ailment are stress-inducing factors that can readily trigger the feeling of perceived burdensomeness and increased levels of this feeling have significant associations with suicidality (Dutton et al., 2013; Puzia et al., 2014). Perceived burdensomeness was hypothesized to be a dynamic cognitive state and the intensity of this feeling can fluctuate over time (Espinosa-Salido et al., 2020).

Thwarted belongingness, which mainly goes hand-in-hand with perceived burdensomeness, occurs when the basic need for belongingness or connectedness is impaired (van Orden et al., 2012) or can be defined as the sense of social disconnectedness from other people (Joiner, 2005). It is characterized as a fluid cognitive-emotional state within a person, exhibiting dimensionality and variability over time, and shaped by both interpersonal and intrapersonal elements (including the current social context, an individual's present cognitions or perceptions regarding their social surroundings) (Van Orden et al., 2010). Thwarted belongingness comprises two primary elements: feelings of loneliness and lack of reciprocated care (Joiner, 2005). Within the scope of IPTS, several indicators of thwarted belongingness, including self-reported loneliness, marriage status, number of children and friends, the state of living alone or not, lower levels of perceived social support, being in touch with family members or not (Van Orden et al., 2010). All in all, however, the existence of those two aspects together cannot foresee why people attempt or complete suicide. In addition, those two factors are seen as malleable risk factors whose intensity may change over one's lifespan.

According to the IPTS, the other must-existent factor related to completed suicides is the increased capability (or acquired capability) for suicide, which theoretically consists of two notions: fearlessness about death and increased pain tolerance (Joiner, 2005). Although fear of death is an instinct, it can be weakened through various means such as exposure to physical pain or incidents that foster pain insensitivity such as childhood traumas, suffering from severe illnesses, and engaging in self-harm

behaviors (Joiner, 2005). To say it differently, incidents and/or behaviors that lead to the habituation of painful stimuli tend to increase one's ability to engage in suicidal behavior. Accordingly, individuals with higher levels of acquired capability for suicide are more prone to transition from contemplating suicide to engaging in lethal self-injury and/or potentially deadly suicide attempts (Van Orden et al., 2010).

IPTS argues that for lethal suicidal attempts to occur, three factors should exist. As those three factors concomitantly come together for only a small group of individuals, it is assumed that while 15% of the general population report suicide ideation, lifetime suicide rates are far less common (Nock et al., 2008a; Nock et al., 2008b). Moreover, a recent meta-analysis conducted by Ma et al. (2006) asserted that the association between perceived burdensomeness and suicide ideation was the most tested and supported one when compared to other structures within the scope of the IPTS.

2.9. Religiosity and Suicidality

Religiosity is defined as “a personal or group search for the sacred that develops within a traditional sacred context” (Zinnbauer & Pargament, 2005, p.37). The relationship between religiosity and suicide has been a subject of interest for researchers, clinicians, and policymakers. Numerous studies have investigated how an individual's religious beliefs, practices, and involvement can influence their vulnerability to suicidal ideation and behavior. While religious beliefs and practices can offer a source of resilience and support, they can also contribute to psychological strain and conflict in some cases.

Research showed that religiosity is associated with decreased risk of suicidality (Lizardi et al., 2007) and completed suicides are far less common in religious countries compared to secular ones (Dervic et al., 2004). However, how religiosity protects individuals from sinking into suicidal thoughts is still a matter of debate. The first argument is that most religions carry strict prohibitions on suicide and as a result, individuals who express a deeper dedication to religion would probably have a reduced inclination to turn to suicide (Gearing & Lizardi, 2008). Another justification

is that as engagement in organized religious communities offers an opportunity to establish a broader system of social support among fellow members and religious leaders, it is thought to be inversely related to suicidality (Cheng et al., 2000, Szanto et al., 2003). Lastly, as religiosity is negatively associated with several risk factors for suicide, such as aggression, hostility (Ghossoub et al., 2022; Mann et al., 2005; Koenig et al., 2001), depression (Ronneberg, 2016; Mosqueiro, 2021) and impulsivity (Caribe et al., 2015), it seems fair to speculate that higher levels of religiosity might have an indirect protective effect against suicidality.

In a meta-analysis, Lawrence et al. (2016) revealed that neither religious affiliation nor religious service attendance has a protective role against suicide ideation; however, they can be treated as protective factors against suicide attempts. More importantly, they concluded prior to assuming that religious association offers protection, it is essential to take into account the cultural context and implications tied to affiliating with a specific religion. Depending on the location, such an affiliation could either connect an individual with valuable community resources or, conversely, lead to their isolation. Some studies in China, for instance, concluded that there is an inverse relationship between religiosity and suicidality (Jie & Zhang, 2012; Zhang et al., 2011).

One of the largest surveys (N=36,984) leaning on the question of whether religiosity protects against suicidality was conducted by the Canadian Community Health Service and it was found that religiosity has a protective role against both suicide ideation and suicide attempts after controlling for several demographic variables (Saiz et al., 2021). Moreover, after inserting social support into their model, the role of religiosity turned out to be a non-significant one, implying that religiosity may only act as a ramification of the concept of social support. To speculate, religion and religious communities can provide a significant source of social support for believers. Many religious doctrines emphasize the importance of helping others, fostering a sense of community, and providing assistance during times of need. Within religious settings, individuals often find emotional support, a sense of belonging, and opportunities for social interaction. For instance, a meta-analysis including 850

studies conducted by Koeing and Larson (2009) demonstrated that there is a close link between religiosity and suicidality, indicating that it protects individuals against suicidal behavior.

2.10. Perceived Burdensomeness, Thwarted Belongingness, and Suicidality

From the perspective of IPTS, two distinctive features (i.e., desire and acquired capability for suicide) prepare the onset of completed suicides (Van Orden et al., 2010). To be more specific, perceived burdensomeness and thwarted belongingness are two factors that compile the desire for suicide, but the existence of two factors together cannot foresee completed suicides. The collective presence of those two factors leads to the desire for suicide, which is roughly the same as the concept of suicide ideation (Van Orden et al., 2008). Within the scope of the theory, perceived burdensomeness and thwarted belongingness are seen as interpersonal constructs and while the former refers to the perception that one's existence poses a burden to others, the latter indicates that one's basic need to belong is not met (Joiner, 2005). According to theory, the concomitant presence of the desire for suicide and acquired capability leads to serious suicide attempts and/or completed suicides.

Several studies demonstrated that perceived burdensomeness and thwarted belongingness are relevant constructs associated with suicidality. For instance, Van Orden et al. (2010) concluded that perceived burdensomeness was found to be a common theme in suicide notes and has the power to differentiate between suicide attempters and non-suicidal individuals. In a recent meta-analysis that specifically focused on the relationship between perceived burdensomeness and suicidality, Hill and Pettit (2014) concluded that perceived burdensomeness is a significant predictor of suicidality, as supported by 27 studies. As for thwarted belongingness, it was significantly associated with suicidality in several samples and in a variety of settings (Bhargav & Swords, 2022; Chu et al., 2017; Dienst et al., 2023).

In the context of IPTS, there is a clear distinction between active and passive suicide ideation. For instance, while the experience of either state (e.g., perceived

burdensomeness or thwarted belongingness) is considered a proximal risk factor leading to instant vulnerability and passive suicide ideation; perceived hopelessness regarding those two constructs, that is, believing that these situations will not improve soon, results in active suicide ideation (Keefner & Stenvig, 2020). The desire for death is often assumed to be equal to passive suicide ideation, although it is not necessarily considered to be a factor that prepares the onset of completed suicides (Baca-Garcia et al., 2011). However, some studies revealed that the desire for death (i.e., passive suicide ideation) is a crucial predictor of future completed suicides (Palacio et al., 2017; Suokas et al., 2001).

In a review consisting of 66 different studies, Ma et al. (2016) revealed that perceived burdensomeness is found to be a stronger predictor of suicide ideation than thwarted belongingness. In a similar vein, Guidry and Cukrowicz (2016) found that depressive symptoms moderated the relationship between perceived burdensomeness and suicide ideation whereas such a moderated relationship was not supported for thwarted belongingness in a sample of older adults. In addition, in a study aiming to test IPTS constructs among college students ($N=1696$), Becker et al. (2020), it was concluded that there is a strong positive association between perceived burdensomeness, thwarted belongingness, and suicide ideation. A pile of studies have concluded that both separately and applying two-way interactions of those constructs were positively associated with suicidality among non-clinical populations (Anestis et al., 2015; Barzilay et al., 2015; Czyz et al., 2015; Glaesmer et al., 2017; McClay, 2020).

2.11. Psychological Strains and Suicidality

Although Zhang's Strain Theory of Suicide (Zhang, 2008) can be considered relatively contemporary, research has supported the relationship between psychological strains and suicidal behaviors in a variety of populations. For instance, a connection between psychological strains and suicide has been identified in prior cases of suicide attempts (Sun & Zhang, 2016), suicides occurring in rural Chinese areas (Zhang et al., 2009), and among college students (Zhang & Zhao, 2017). The impact of strains on suicide behavior is further supported by the analysis of suicide

notes (Zhang et al., 2008) and the life stories of famous individuals who died by suicide (Zhang et al., 2013) in Western countries. It was also concluded that strains bear a risk factor for suicidal behavior, completed suicides, suicide attempts (Lyu et al., 2018; Lyu et al., 2019; Liu et al., 2019; Sun & Zhang, 2016), and depression (Zhang, 2014) as well. Moreover, in terms of gender differences, while aspiration and coping strain were associated with male suicide attempts, value, and coping strain were associated with female suicide attempts (Sun & Zhang, 2016), indicating that limited coping skills appear to be the only mutual predictor of suicide attempts for females and females.

In terms of the effect of different strain domains on suicidality, the findings have offered notable contributions as different forms of strains have been linked to psychological disorders and as well as suicidality in a range of divergent cases and contexts. For instance, aspiration and coping strains have positively been linked to depression among college students (Zhang et al., 2016). In another study whose sample consisted of a rural population, it was found that there is a positive relationship between depression and value and deprivation strains (Zhang & Lv, 2004; Zhang & Zhao, 2013). Among young adults, it was concluded that value strain (Zhang, 2010; Zhang et al., 2016) and deprivation strain (Zhang & Zhao, 2017) were meaningfully associated with suicide ideation. More interestingly, after controlling for mental disorders, aspiration, deprivation, and coping strains were found to be associated with suicidality (Zhang et al., 2011). Concerning gender differences, studies have pointed out that there are statistically significant gender differences in terms of the degree of strain experienced. For instance, it was revealed that while females are more likely to experience greater levels of value and coping strain (Sun & Zhang, 2016), males are more prone to report greater levels of aspiration and deprivation strain (Sun & Zhang, 2016; Zhang et al., 2009).

To identify psychological strains in suicide notes in Australia, Zhang et al. (2018) concluded that there was a positive relationship between strains and IPTS variables, such that while perceived burdensomeness was associated with deprivation strain, thwarted belongingness was related to aspiration and coping strains. Value strain had

a non-significant association with these two concepts, but this result might be related to the sample of the suicide note studies. In addition, thwarted belongingness mediated the relationship between aspiration and coping strain, while perceived burdensomeness mediated the association for deprivation strain.

2.12. Perceived Social Support and Suicidality

Across suicide literature, a pile of resiliency factors, defined as factors mitigating the effects of a particular stressor or risk against suicidality, has been offered by scholars. However, according to Kraemer et al. (2011), in a well-established and grounded model aiming to explain a phenomenon, the buffering factors can exist concomitantly. This well-established model might involve consideration of various factors such as social support, coping strategies, personality traits, and environmental conditions (Kraemer et al., 2011), pointing out the need for holding a holistic perspective when assessing and addressing the impact of a particular risk or protective factor when it comes to suicidality.

Social support, which is one prominent protective factor, can have a profound effect on suicidal thoughts and behaviors, often serving as a protective factor that caters to individuals to cope with stress (Baqutayan, 2011), emotional distress (Woods-Jaeger et al., 2016), feelings of hopelessness (Öztunç et al. 2013) and loneliness (Wang, 2018), which are closely associated with suicidal thoughts. On the flip side, the lack of social support can elevate the likelihood of becoming more vulnerable to having suicidal thoughts by leading to such a situation in which an individual feels like there is nobody to turn to in times of need or experiences feelings of rejection within the social circles.

Taking into account the developmental period of emerging adulthood, individuals are more prone to experience stress due to several life circumstances such as living independently, striving for financial self-sufficiency, commencing marriage life, attaining the legal drinking age, and pursuing full-time employment (Arnett, 2000). To cope with these challenges, young individuals need access to essential social support resources as those instances can influence their health and well-being

(McMahon, 2020; Schwarzer, 2003). The evidence suggests that perceived social support bears a protective role for suicidal behavior occurring as a result of stressful life events (Chioqueta & Stiles, 2007; You et al., 2010).

2.13. Summary of Literature Review

Suicide is a complex and multifaceted public health issue that has garnered substantial attention from researchers and practitioners. Modern theoretical frameworks highlight the composite interaction between biological, environmental, psychological, and social forces that lead to suicidal behavior (Klonsky et al., 2016; O'Connor & Nock, 2014). In the last few decades, the research emphasis has been intensely directed toward understanding the risk factors peculiar to suicidality. However, it was suggested that concentrating on indicators of potential risk elements proves to be undependable and lacks substantial efficacy in forecasting instances of completed suicides and provides little gain in terms of developing prevention strategies. What has been recommended, instead, is the inclusion of potential resilience factors and expanding strengths-based approaches to provide a more comprehensive understanding.

Another point that has repeatedly been emphasized by scholars is that the complex nature of suicidality makes it imperative to make a clear distinction between completed suicides, suicide attempts, suicide ideation, and/or suicidal thoughts. Due to the lower base rates of completed suicides among the general population and methodological impediments coming along with it, investigating the other components of suicidality (i.e., suicide attempts and suicidal thoughts) was offered as a remedy, which ultimately thought to be the most feasible way leading to elaborating on the concept of suicide in a more detailed manner.

The psychological strain theory of suicide (PST) is a well-grounded theoretical framework that attempts to explain the factors that contribute to suicidal behavior from psychological and sociological perspectives. According to PST's promises, above and beyond psychiatric models, genetics, and epidemics, individuals are more

likely to engage in suicidal behavior when they experience high levels of psychological tension in different domains. That is, individuals become more vulnerable to having suicidal thoughts through various life events, which have the potential to generate inner conflicts, feelings of frustration, psychological distress, a sense of hopelessness, and in some cases, even desperation. A pile of research in the literature demonstrated that psychological strains are relevant structures explaining suicidality (Sun et al., 2015; Zhang, 2017) and have a distinctive power in differentiating between suicide attempters and controls (Wei et al., 2020).

Another theory that has generated a substantial amount of research and discussion is the Interpersonal Theory of Suicide (IPT), developed by Joiner (2005). According to this theory, to clarify the terminology and to increase the effectiveness of the studies regarding suicidality, there ought to be theoretical differences between fatal suicides (e.g., completed suicides) and suicidal thoughts. That is, the underlying mechanisms behind those two constructs are different from each other. In a similar vein, the backbone of this theory is that the overwhelming majority of individuals who contemplate suicide do not attempt. Accordingly, vulnerability to suicidal thoughts is affected by two structures: perceived burdensomeness and thwarted belongingness. A large body of research has demonstrated that those two structures are associated with suicide ideation (Joiner et al., 2006; Van Orden et al., 2008; Van Orden et al., 2011). On the other hand, for completed suicides to occur, the abovementioned two constructs should be accompanied by acquired capability, which consists of fearlessness and pain insensitivity.

Along with theoretical underpinnings, several demographic variables such as gender, unemployment, educational status, income, and religiosity were found to be associated with suicide ideation. However, in a recent meta-analysis aiming to be conducted by Huang et al. (2017), it was revealed that while demographic variables treated as risk factors yielded statistically significant but weak results, the demographic variables hypothesized as protective factors were found to be non-significant. In addition, among a pile of demographic variables, gender was the only variable that conferred risk for following all three areas; suicide ideation, attempts,

and deaths. Therefore, to speculate, other than gender, to delve deeper into the impact of demographics on suicidality, upcoming research should prioritize the exploration of less-frequently studied demographic variables.

CHAPTER 3

METHOD

In this chapter, the procedures undertaken while conducting both the pilot and main study were presented. After a brief description of the overall design of the study, participant characteristics, sampling, data collection procedure, and more in-depth information about the instruments utilized during the pilot and main study, including the results obtained from the pilot study to ensure the psychometric properties of the scales utilized, were introduced. In the final section, the methods used during data analysis, the description of the variables, and the limitations of the study were presented.

3.1. Research Design

The present study aimed to investigate the relationships among psychological strains (value, aspiration, deprivation, coping), interpersonal needs (perceived burdensomeness, thwarted belongingness), perceived social support, depression, and suicidal thoughts. Therefore, the correlational design was utilized since the main purpose was to investigate relationships among several variables (Fraenkel et al., 2012). To be more specific, a more sophisticated correlational method, which is structural equation modeling (SEM), was utilized to investigate the abovementioned relationships among study variables. Through SEM and the moderated mediation model, it was possible to examine the mediator roles of perceived burdensomeness and thwarted belongingness in the relationship between psychological strains and suicidal thoughts as well as conditional indirect effects depending on different levels

of perceived social support and depression. It was expected that psychological strains would be the direct predictors of vulnerability to suicidal thoughts, however, this direct relationship is affected by interpersonal needs (perceived burdensomeness, thwarted belongingness), perceived social support, and depression.

3.2. Participants

The sampling process for the present study consisted of two phases: the pilot study (i.e., scale adaptation) and the main study. For both phases, the convenience sampling method, which is a non-random sampling method, was used. The target population was Turkish emerging adults aged between 18 and 29. Atak and Çok (2010) indicated that the emerging adulthood period for the Turkish population refers to the ages between 19 and 26. In the current study, the age range was not limited to 19 and 26, and small changes (i.e., from 18 to 29) did not result in the exclusion of the participants from the study since different criteria exist across the literature.

For both phases of the study, an online data collection procedure was followed utilizing the platform named 'Google Forms'. The pilot data were collected during a two-month period starting from December 2022 to February 2023. The data for the main analysis were collected for a one-month period starting from October 2023 to November 2023. During data collection, the only criterion notified was the age interval. Therefore, the ones who were outside the age boundaries were removed from the dataset. For the main study, a total of 567 individuals filled out the survey package. However, as described in detail in the next chapter, 53 cases were excluded due to unengaged responses or violating the age criterion. Furthermore, the items were designed by enabling the option of 'required to reply' to prevent missing entries.

For the main study, the mean age of the respondents was 22.79, with a standard deviation of 2.56 ranging from 18 to 29 years of age. For women and men, the mean ages were 22.60 ($SD = 2.52$) and 23.14 ($SD = 2.62$), respectively. Half of the participants reported that they graduated from high school ($n = 262$, 50.97%), followed by bachelor's degrees ($n = 239$, 46.51%), master's/Ph.D. degrees ($n = 12$,

2.34), and secondary-school graduates (n = 1, 0.2%). Below in Table 3.1, the demographic characteristics of the participants for the main study were provided. Most of the participants reported (n = 418, 81.32%) that they did not experience the Kahramanmaraş earthquake and did not have to relocate (n = 487, 94.75%) due to the earthquake, which was hypothesized by the researchers to be one potential factor that might confound with the results derived from the structural model.

Most of the respondents (n = 423, 82.30%) conveyed that they currently do not have a job where they generate an income. Almost half of the participants reported that they graduated from a Bachelor's, Master's, or Ph.D. degree (n = 251, 48.84%). In this group, only 75 (29.88%) of individuals reported that they were employed, and 176 (70.12%) of them were unemployed. In terms of perceived socioeconomic status, on a five-point scale, most of the participants indicated that they belong to the middle-income category (n = 312, 60.71%), followed by low-middle (n = 124, 24.13%), high-middle (n = 53, 10.31%), low (n = 22, 4.28%) and high (n = 3, 0.6%) categories. Based on TÜİK's two-level classification of cities (TÜİK, 2021), which includes either metropolitans or provinces, more than half of the participants reported that they live in provinces (n = 312, 60.51%), followed by metropolitans (n = 201, 39.18%) and one response was indefinable.

In terms of religious affiliation, an overwhelming majority of participants (n = 476, 92.61%) reported that they believe in a religion. The mean score for the perceived strength of their belief was 6.61 on a 10-point scale. As for participation in religious activities such as praying, most of the respondents indicated that they participate in religious activities once a week (n = 151, 29.38%), followed by once a month (n = 131, 25.49%), once a year (n = 90, 17.51%), always (n = 86, 16.73%) and never (n = 25, 4.86%). In terms of religiosity, although most of the participants reported that they believe in a religion, the results regarding the participation in religious activities and strength of religious belief imply that the current sample mainly consisted of 'believers' or mostly belonged to the 'ideological' component of religiosity (Glock, 1972), of which some remaining categories were external practice and personal practice.

Table 3. 1
Demographic Characteristics of the Participants for the Main Study (N = 514)

| Variables | <i>f</i> | % |
|--|-----------------|----------|
| Gender | | |
| Male | 184 | 35.79% |
| Female | 330 | 64.21% |
| Education level | | |
| Secondary school | 1 | 0.2 |
| High school | 262 | 50.97 |
| Bachelor's | 239 | 46.50 |
| Graduate | 12 | 2.34 |
| Experiencing the earthquake | | |
| Yes | 96 | 18.68 |
| No | 418 | 81.32 |
| Relocation after the earthquake | | |
| Yes | 27 | 5.25 |
| No | 487 | 94.75 |
| Employment status | | |
| Employed | 91 | 17.70 |
| Unemployed | 423 | 82.30 |
| Socioeconomic status | | |
| Low | 22 | 4.28 |
| Low-middle | 124 | 24.13 |
| Middle | 312 | 60.70 |
| High-middle | 53 | 10.31 |
| High | 3 | 0.6 |
| Receiving psychological support | | |
| Receiving | 28 | |
| Not receiving | 486 | |
| Religious belief | | |
| Yes | 476 | 92.61 |
| No | 38 | 7.39 |

| Participation in religious activities | | |
|--|-----|-------|
| Never | 25 | 4.86 |
| Once a year | 90 | 17.51 |
| Once a month | 131 | 25.49 |
| Once a week | 151 | 29.38 |
| Always | 86 | 16.73 |
| City | | |
| Province | 212 | 41.25 |
| Metropolitan | 201 | 39.11 |

3.3.Data Collection Instruments

The data collection instruments that were used for the present study are Demographic Information Form (Appendix B), Psychological Strain Scale (Appendix C), Interpersonal Needs Questionnaire (Appendix D), Suicide Probability Scale-Suicidal Thoughts Subscale (Appendix E), and Multidimensional Scale of Perceived Social Support (Appendix F). Additionally, to adapt the Psychological Strains Scale (PSS) to the Turkish language, a pilot study with a sample of emerging adults was carried out to test its psychometric properties. The following section elaborated information concerning the procedures followed while adapting PSS, the characteristics of the sample, evidence for validity and reliability, and the confirmatory factor analysis procedure for the pilot study.

3.3.1. Psychological Strain Scale

Originally developed by Zhang et al. (2014), the initial Psychological Strain Scale (PSS) was developed to measure psychological strains hypothetically preceding suicidal behavior according to the strain theory of suicide. It is a 5-point Likert-type scale with 1 corresponding to ‘Never’ and 5 referring to ‘Yes’ and consists of four sub-dimensions, each dimension having 15 items, making PSS a 60-item scale to measure psychological tensions individuals deal with. Higher scores indicate greater levels of psychological strain and/or tension for each domain as well as for the total psychological strain.

The first version of the scale was in Chinese. In this version, the sample consisted of 506 college students aged between 18 and 22. The first validity evidence for initial PSS was the results of exploratory factor analysis. Then, to ensure convergent validity, The Spielberg State-Trait Anxiety Scale (STAI) to measure anxiety levels, the Center for Epidemiologic Studies-Depression Scale (CES-D) to assess depression levels, and Kessler's National Comorbidity Survey (NCS) to measure suicide ideation were utilized. For criterion validity evidence for different subdimensions, the culture value scale was used as a criterion for value strain, and a yes/no question prepared by the researcher was used as a criterion for aspiration strain (i.e., Have you had your wish realized?), socioeconomic status was used as a criterion for deprivation strain, and Moo's Coping Response Inventory (MCRI) (Moos et al. 1990) was used as a criterion for coping strain. Moreover, it was found that total PSS and all four subscales of PSS had significant roles in predicting suicide ideation, which adds additional validity evidence for the scale. Thus, correlations between PSS and the scales utilized to ensure validity evidence were as hypothesized, offering promising evidence for the validity of the instrument. The reliability of the instrument was ensured by calculating Cronbach's alpha scores, which were found to be .80, .89, .90, and .94 for the subscales of value, aspiration, deprivation, and coping strains.

After the first study, the second study was conducted to adapt the Chinese version of PSS to English (Zhang & Lyu, 2014). In a sample of 249 college students, of whom 173 were female, it was found that PSS was a valid and reliable tool to be utilized. The validity evidence was ensured by calculating the correlation between PSS and/or its subscales, and depression, anxiety, and suicide ideation. The results showed that psychological strains were positively and significantly associated with depression, anxiety, and suicide ideation. Further validity evidence was granted by applying exploratory factor analysis. Discriminant validity evidence was calculated by dividing the participants into two groups: anxiety symptom vs. non-anxiety symptom, and depression symptom vs. non-depression symptom groups, and comparing the results. Moreover, in a similar vein to the original scale, PSS and all four subscales significantly predicted suicide ideation. The reliability evidence was ensured through both calculating the Cronbach alpha coefficient, which was found to be .94 for the

total scale and ranged between .80 and .87 for the subscales, and obtaining the Guttman Split-half correlation coefficient, which was found to be .84 for the total scale and ranged between .72 and .81 for the subscales. A sample item for value strain is “Between traditional and modern values, I don’t know what I should follow”, for aspiration strain is “I wish I could change my current living condition, but I cannot”, for deprivation strain is “Compared to others, it is more difficult for me to make money”, and for coping strain is “I always to do things as I like, without thinking of the consequence”.

3.3.1.1. Adaptation Process of Turkish PSS

The adaptation of PSS pursued a number of steps. After obtaining official permission from the author, Dr. Jie Zhang, the forward translation-back translation method was used. First up, a 40-item scale was translated into Turkish by three academicians from the field of Psychological Counseling and Guidance who had proficiency in both English and Turkish. Then, three translations were compared, and the items that reflected the original meaning were chosen by the researcher and thesis supervisor. In the next step, one academician from the field of Psychological Counseling and Guidance was asked to back-translate the previously translated Turkish items into English. The researcher and his supervisor evaluated the back-translated items with the original ones and no differences were found regarding content, wording and meaning.

Following the back-translation process, two lecturers (one with a Ph.D. in American Culture and Literature, the other with a Ph.D. in English Language and Literature) provided feedback for translated items in terms of grammar, consistency, clarity, and intelligibility. Several minor changes have been made upon the feedback from language experts. Then, a lecturer with an ongoing Ph.D. in Turkish Literature checked out the items, and slight modifications were made. During the entire translation process, expert opinions on the Turkish translation of the name of the scale (i.e., Psychological Strain Scale) and as well as the subscales (e.g., value, aspiration, deprivation and coping) were granted.

As the final procedure, cognitive interviews, which is a suggested method for adaptation studies (Collins, 2003), were conducted with 9 individuals who met the participating criteria to explore the cognitive processes that participants were engaging in while responding to survey items. They were requested to read the items loudly and complete the instrument. These participants reported a few minor problems in wording and meaning. The Turkish version of PSS was finalized after taking into consideration the feedback from interviewees.

3.3.1.2. Sample Characteristics of the Pilot Study for PSS

The pilot data were collected from individuals whose ages ranged between 18-29. In total, 398 participants, of whom 240 (60.3%) were females and 158 were males (39.7%), participated in the pilot study. More than half of the participants held bachelor's degrees ($n= 222, 55.8\%$), followed by high school ($n= 152, 38.2\%$), postgraduate ($n= 23, 5.8\%$), and middle school ($n=1, 0.3\%$) degrees. The mean age for the pilot study was 22.69 ($SD = 3.24$). Most of the participants reported that they did not work in a job where they generated income ($n=311, 78.1\%$). In terms of participants' perceived socio-economic status, more than half of them reported ($n=229, 57.5\%$) that they belonged to the 'middle' category among five categories, and there were 120 (30.2%) individuals reported that they were below, and 49 (12.3%) individuals reported that they were above the middle category. The demographic characteristics of the participants of the current study for the pilot study are presented in Table 3.2.

As for participants' religious affiliation, 354 (88.9%) participants indicated that they believe in a religion, and 44 (11.1%) participants reported that they do not follow any religious doctrines. In terms of religious activities, from less frequent to more frequent, 27 (8%) participants stated that they never participate in any activities that their belief requires (such as praying), 83 (20.9%) of them stated that they participate in once a year, 94 (23.6%) of them stated that they participate in once a month, 92 (23.1%) of them stated that they participate in once a week, and finally, 70 (17.6%) of them stated that they participate in religious activities every day. As for the

perceived strength of their religious belief on a 1-10 scale, the mean score was 6.64 ($SD=2.39$).

Table 3. 2
Demographic Characteristics of the Participants (Pilot Study)

| Variables | <i>f</i> | % |
|--|----------|------|
| Gender | | |
| Male | 158 | 39.7 |
| Female | 240 | 60.3 |
| Latest degree graduated | | |
| Middle school | 1 | 0.3 |
| High school | 152 | 38.2 |
| Bachelor's | 222 | 55.8 |
| Postgraduate | 23 | 5.8 |
| Current job status | | |
| Working | 87 | 21.9 |
| Not working | 311 | 78.1 |
| Socioeconomic status | | |
| Lower | 29 | 7.3 |
| Lower-middle | 91 | 22.9 |
| Middle | 229 | 57.5 |
| Upper-middle | 2 | 0.5 |
| Upper | 47 | 11.8 |
| Religious affiliation | | |
| Yes | 354 | 88.9 |
| No | 44 | 11.1 |
| Participation in religious activities | | |
| Never | 27 | 8 |
| Once a year | 83 | 20.9 |
| Once a month | 94 | 23.6 |
| Once a week | 92 | 23.1 |

| | | |
|----------|----|------|
| Everyday | 70 | 17.6 |
|----------|----|------|

3.3.1.3.Preliminary Analysis of the Pilot Data

The data for the pilot study were gathered from voluntary individuals aged between 18 and 29. The only participation criterion was being between 18 and 29 years of age. Using an online survey link (i.e., Google Forms), 411 individuals living in different cities in Türkiye participated in the study. Firstly, the survey link was shared with the close circle of the researcher through social media platforms (i.e., Facebook and WhatsApp) and the individuals who got in touch were asked to invite their contacts if they were interested. The survey link was also shared in other groups on Facebook and WhatsApp. Furthermore, a QR-Code for the survey link was created and provided to the participants who were in the close circle of the researcher.

As only entries with all questions answered were accepted, there was not any missing data. Thus, as a first step, unengaged responses were screened through the ‘STDEV.P’ function in Excel. Afterward, the assumptions of Confirmatory Factor Analysis (CFA), which were sample size, univariate and multivariate normality and outliers, linearity, and multicollinearity, were examined (Kline, 2011).

3.3.1.4.Confirmatory Factor Analysis (CFA) Procedure for PSS

CFA was carried out to test whether the hypothesized four-factor structure of the PSS would be maintained in Turkish emerging adults. The hypothesized model was evaluated through AMOS-21 (Arbuckle, 2012). The goodness of fit of the model was evaluated based on three subdivisions. The chi-squared coefficient (χ^2) and SRMR (the root mean square error of approximation) were utilized as measures of absolute; CFI (comparative fit index) and TLI (Tucker-Lewis index) or NNFI (non-normed fit index), AGFI (the adjusted goodness of fit index) were utilized as measures of incremental; RMSEA (root mean square error of approximation) was utilized as a measure of parsimony-adjusted fit index (Hu & Bentler, 1999; Byrne, 2016; Kline

2011). The fit indices with acceptable cutoff values and the values belonging to the hypothesized model are presented in Table 3.3.

Table 3. 3
Fit Indices, Acceptable Cutoff Values, and Fit Indices Values in the Hypothesized Model

| Model fit index | Proposed cutoff value | Fit index value in the hypothesized model |
|-------------------------------------|--|---|
| Absolute fit index | | |
| χ^2/df ratio | $\chi^2/df < 3$ (Kline, 1998) | 2.14 |
| SRMR | SRMR < .05 (Byrne, 2016) | .05 |
| Incremental fit index | | |
| CFI | CFI > .90 (Schumacker & Lomax, 2010) | .92 |
| TLI/NNFI | TLI > .90 (Byrne, 2016) | .91 |
| AGFI | AGFI > .80 (Baumgartner & Homburg, 1996) | .85 |
| Parsimony-adjusted fit index | | |
| RMSEA | .05 < RMSEA < .08 for close fit (Schumacker & Lomax, 2010) | .05 |

3.3.1.5. Confirmatory Factor Analysis of Turkish PSS

The first assumption to be checked was whether there were any unengaged responses. As indicated above, the STDEV.P function in Excel was used, and 3 cases were removed from the dataset. Moreover, 10 participants who were out of the previously determined age criterion were also removed from the dataset. Following that, the sample size adequacy to conduct CFA was checked. According to the criterion proposed by Klein (2011), which is 200 cases, the sample size for the current study ($n= 348$) was enough to conduct CFA.

Afterward, the univariate normality assumption was checked through the indices of skewness and kurtosis. According to Kline's (2011) criterion, values greater than three indicated a non-normality. On an item base, two kurtosis values for the items from the dimensions of *value* (*v10*) and *coping* (*c1*) ('Ailemin beni okula gitmek için destekleyecek parası yoktu' and 'İtibarım benim için o kadar önemli ki toplumdaki imajımı korumak için her şeyi yapar, intihar bile ederim') were 3.41 and 3.17, respectively, which were above the threshold indicated. Initially, these items were not deleted. On a subscale basis, the highest skewness and kurtosis values were .56 and -.86, respectively, indicating that there was not any violation in terms of univariate normality. As for multivariate normality, Mardia's (1985) coefficient with multivariate kurtosis was inspected and the result was significant (261.38, $p < .01$), indicating that the assumption was not met. To deal with the detrimental effects stemming from this violation, the bootstrapping method was used (with 1000 samples, 95% CI) while conducting CFA, as suggested by Byrne (2016).

As for the assumption of outliers, univariate outliers were checked through Z-scores. According to Tabachnick and Fidell (2013), values exceeding +3.29 and -3.29 ($p < .001$, two-tailed) were indicators of violation. Nineteen cases from item *v10* and fourteen cases from item *c1* were above the threshold indicated (similarity between the results of the assumption of univariate normality), but initially, they have not been removed from the dataset as well. The assumption of multivariate outliers was checked through Mahalanobis' distances. There were no multivariate outliers based on the threshold value of 16.27 ($df=3$, $p < .001$), and the closest value to the threshold was 12.59.

Linearity assumption was investigated through visual inspection of bivariate scatterplots, and no violations have been observed. In brief, after removing a total of 13 cases from the dataset (due to violation of age criterion and unengaged responses), the CFA was conducted to see whether the hypothesized model fit the data.

The results are presented above in Table 3.3.. A few changes were made by removing the items due to low factor loadings (*v5*, *v7*, *v9*, *a2*, *d3*, *c1*, *c2*, *c4*) and by freeing 3

error covariances as guided through modification indices. According to the results, the model yielded an acceptable fit. The X^2/df ratio was 2.14 and below the threshold value of 5 (Schumacker & Lomax, 2004), the SRMR value was .05 and below the threshold of .08 (Hu & Bentler, 1999), CFI was .92 and greater than or equal to threshold value of .90 (Schumacker & Lomax, 2004), TLI was .91 and greater or equal to threshold value of .90 (Byrne, 2016), AGFI was .85 and above the threshold value of .80 (Baumgartner & Homburg, 1996), RMSEA was .05, among the thresholds between .05 and .08 for close fit (Schumacker & Lomax, 2010).

3.3.1.6. Reliability Analysis for the PSS

To ensure reliable evidence for the pilot and main study, the internal consistency method was used and Cronbach's alpha coefficients for both the total scale and the subscales were calculated. To gather further evidence, McDonald's Omega coefficients were also calculated. Results regarding the reliability evidence are presented in Table 3.4., and yielded good reliability according to Yockey's (2016) criteria. For Cronbach's alpha values for both pilot and main studies, similar to the original version of the PSS, the highest reliability scores belonged to aspiration and deprivation strains, whereas value and coping strains yielded relatively lower reliability scores, with entire reliability scores were found above .80.

Table 3. 4
Results of Reliability Evidence for the PSS

| | Pilot Study | | Main Study | |
|--------------------|------------------|-------------------------------|------------------|-------------------------------|
| | Cronbach's alpha | McDonald's Omega (ω) | Cronbach's alpha | McDonald's Omega (ω) |
| Value strain | .81 | .80 | .81 | .81 |
| Aspiration strain | .88 | .88 | .89 | .88 |
| Deprivation strain | .89 | .87 | .91 | .91 |

| | | | | |
|---------------|-----|-----|-----|-----|
| Coping strain | .83 | .83 | .82 | .84 |
|---------------|-----|-----|-----|-----|

3.3.1.7. Convergent and Discriminant Validity Evidence for the PSS

To provide evidence for convergent and discriminant validity during the pilot study, bivariate correlations between psychological strains and target variables (i.e., anxiety, depression, stress and self-esteem) were inspected. The data for the target variables were collected through Depression, Anxiety, Stress Scale-21 (DASS-21), Rosenberg Self-Esteem Scale (RSES), and Marlowe-Crowne Social Desirability Scale (MCSD). In the next section, a brief description of each of these instruments and the association between the PSS and the instruments used for obtaining validity evidence were presented.

3.3.1.8. Depression, Anxiety, Stress Scale-Short Form (DASS-21-SF)

The DASS-21-SF was originally developed by Henry and Crawford (2005) to assess negative emotional states, namely, depression, anxiety, and stress levels of individuals. It comprises three subscales; depression, anxiety, and stress, and each subscale consists of 7 items, making DASS-21-SF a total 21-item instrument. It is a 4-point Likert-type scale where participants were asked the extent to which each state was experienced during the last week, and 0 indicated *not appropriate for me* and 3 indicated very appropriate for me. The construct validity evidence was ensured through confirmatory factor analysis. In addition, the correlation between DASS-21-SF and Positive and Negative Affect Schedule (PANAS), the Hospital Anxiety and Depression Scale (HADS), and the Personal Disturbance Scale (PDS) revealed significant results, providing additional evidence for the construct validity of the instrument. The reliability evidence was gathered by calculating Cronbach's alpha scores, which were found to be .88, .82, .90, and .93 for depression, anxiety, stress, and total scale, respectively. Higher scores reflect higher levels of depression, anxiety, and stress. The thresholds/cutoff points regarding the high, moderate and low levels were provided in the scale.

The DASS-21-SF was adapted to Turkish by Yılmaz et al. (2017). Similar to the original scale, the three-factor solution with a total of 21 items yielded satisfactory results. Validity evidence was obtained by confirmatory factor analysis and the reliability evidence was ensured by calculating Cronbach's alpha scores, which were .81, .82, and .76 for the subscales of depression, anxiety, and stress, respectively. For the current study, positive correlations between psychological strains and/or its subscales (i.e., *value, aspiration, deprivation, and coping*) and depression, anxiety, and stress were hypothesized.

3.3.1.9. Rosenberg Self-Esteem Scale (RSE)

Developed by Rosenberg (1979), the RSE aimed to measure self-esteem. It is a 4-point Likert-type scale where 1 indicates *strongly disagree*, and 4 refers to *strongly agree*. Half of the items were reverse-coded. The validity evidence was obtained through the correlation between RSE and other measures of self-esteem, depression, and anxiety. Reliability evidence was granted through the Guttman split-half correlation coefficient, which was found to be .92, and test-retest reliability, which was calculated to be .88. The higher scores indicate higher levels of self-esteem.

The RSE was adapted to Turkish by Çuhadaroğlu (1986). Turkish RSE, in a similar vein to the original scale, is a 4-point Likert-type scale where 1 refers to *absolutely false*, and 4 corresponds to *absolutely true*. The Cronbach alpha coefficient for the RSE was .77. Validity evidence for the scale was obtained by conducting an exploratory factor analysis. For the current study, a negative correlation between psychological strains and/or its subscales (i.e., *value, aspiration, deprivation, and coping*) and self-esteem was hypothesized.

3.3.1.10. Marlowe-Crowne Social Desirability Scale (MCSDS)

The MCSDS was originally developed by Crowne and Marlowe (1960) to measure social desirability. The original version of the scale consisted of 33 binary items with

yes/no questions. Validity evidence was obtained by the correlation between MCSDS and Edwards Social Desirability Scale and the other 17 MMPI scales. The reliability evidence was obtained by computing the Kuder-Richardson score, which was found to be .88.

The short version of MCSDS was adapted to Turkish by Ural and Özbireckli (2006). It is a 6-point Likert-type scale consisting of 7 items where 1 corresponds to *strongly agree* and 6 refers to *strongly disagree*. An exploratory factor analysis was utilized to ensure validity and Cronbach's alpha coefficients were computed to grant evidence for the reliability of the Turkish version of MCSDS. The alpha coefficient for the total scale was .78. For the current study, to ensure evidence for discriminant validity, a statistically non-significant correlation between psychological strains and/or its subscales (i.e., *value, aspiration, deprivation, and coping*) and social desirability was hypothesized.

3.3.1.11. Suicide Probability Scale-Suicidal Thoughts Subscale (SPS; STS)

Developed by Cull and Gill (1988), SPS aimed to measure suicide risk by gathering information about four different domains. It is a 4-point Likert-type scale where 1 corresponds to none or a little of the time and 4 indicates most or all of the time. SPS consisted of a total of 36 items and 4 subscales; hopelessness, suicide ideation, negative self-evaluation, and hostility. The reliability evidence was obtained through internal consistency method (e.g., by computing Cronbach's alpha scores) and 3-week interval test-retest correlation coefficient, which were found to be .93 and .92, respectively. Higher scores obtained from the subscale of STS indicated higher risks for suicide ideation.

By utilizing a non-clinical sample of university students consisting of 41 individuals, the SPS was adapted to Turkish by Eskin (1993). The reliability evidence was obtained by calculating Cronbach's alpha scores, which were found to be .87 for the total scale and .85 for the subscale of ST. For the current study, it was expected that there would be a positive and statistically significant relationship between suicidal

thoughts and psychological strains and/or its subscales (i.e., *value, aspiration, deprivation, and coping*).

3.3.1.12. Results of the Correlational Analysis for Convergent Validity Evidence

The results of the correlational analysis for convergent validity evidence are presented in Table 3.5 below. According to the results, anxiety was positively and significantly correlated with value ($r = .54, p < .01$), aspiration ($r = .51, p < .01$), deprivation ($r = .37, p < .01$), coping ($r = .57, p < .01$) and as well as total psychological strain scores ($r = .59, p < .01$), meaning that as anxiety level increases, the magnitude of the strains from the domains of value, aspiration, deprivation, coping and as well total strain goes up as well. Depression was positively and significantly correlated with value ($r = .60, p < .01$), aspiration ($r = .62, p < .01$), deprivation ($r = .46, p < .01$), coping ($r = .61, p < .01$) and as well as total psychological strain scores ($r = .69, p < .01$), indicating that as depression increases, the strength of the strains from the domains of value, aspiration, deprivation, coping and as well total strain goes up as well. Stress was positively and significantly correlated with value ($r = .54, p < .01$), aspiration ($r = .57, p < .01$), deprivation ($r = .41, p < .01$), coping ($r = .58, p < .01$) and as well as total psychological strain scores ($r = .62, p < .01$). It means that as the level of stress increases, the severity of the strains from the domains of value, aspiration, deprivation, coping and as well total psychological strain goes up as well. In addition, as hypothesized, there was an inverse association between self-esteem and value ($r = -.54, p < .01$), aspiration ($r = -.50, p < .01$), deprivation ($r = -.40, p < .01$), coping ($r = -.57, p < .01$) strains, and as well as total psychological strain scores ($r = -.62, p < .01$), showing that as self-esteem increases, the magnitude of the strains acquired from four different hypothetical domains and as well as total strain scores show a decreasing trend.

Social desirability, measured through the Marlowe-Crowne Social Desirability Scale, was found to be non-significantly associated with value ($r = .03, p > .05$), aspiration ($r = .03, p > .05$), deprivation ($r = -.07, p > .05$), coping ($r = .04, p > .05$) and as well as total psychological strain scores ($r = .01, p > .05$), as hypothesized for discriminant validity evidence. The results of the correlation analysis to provide information

regarding convergent and discriminant validity are presented below in Table 3.5. All of the correlations reflected statistically significant results as hypothesized within the scope of the current study.

Table 3. 5
The Results of Correlation Analysis for Convergent and Discriminant Validity Evidence for the PSS

| | Anxiety | Depression | Stress | Self-Esteem | Social desirability |
|--------------------|---------|------------|--------|-------------|---------------------|
| Value strain | .54* | .60* | .54* | -.54* | .03 |
| Aspiration strain | .51* | .62* | .57* | -.50* | .03 |
| Deprivation strain | .37* | .46* | .41* | -.40* | -.07 |
| Coping strain | .57* | .61* | .58* | -.57* | .04 |

* $p < .01$

3.3.2. Interpersonal Needs Questionnaire (INQ)

Based on the Interpersonal-Psychological Theory of Suicide, the INQ was originally developed by Bryan (2011) to investigate the etiology of suicidal behavior and, ultimately, to be used by clinicians to improve risk assessment services. There are different versions of INQ consisting of 10, 12, 15, 18, and 25 items. However, the 10-item and 15-item versions had the best psychometric properties. The 10-item INQ is a 7-point Likert-type scale where 1 corresponds to *not at all true for me*, and 7 refers to *very true for me*, including 5 items for the thwarted belongingness subscale and 5 items for the perceived burdensomeness subscale. The minimum and maximum scores that can be obtained from the INQ were 10 and 70, respectively. To ensure validity, an EFA was conducted, and the results indicated a satisfactory fit. The reliability evidence was ensured through calculating Cronbach's alpha and it was .86 and .81 for thwarted belongingness and perceived burdensomeness, respectively.

Adapted to Turkish by Eskin et al. (2020), INQ aims to measure the two constructs belonging to Joiner's (2005) Interpersonal-Psychological Theory of Suicide, which are perceived burdensomeness and thwarted belongingness. Similar to the original structure, the Turkish INQ consisted of two dimensions, each having 5 items, making INQ a total 10-item scale. The items are on a 7-point Likert-type scale. Higher scores indicate higher needs in terms of the interpersonal domain. In other words, higher scores refer to (1) individuals' more acquired perception of others will be better off if the person is gone and (2) their basic need for belongingness/connectedness is somewhat impaired. In the subscale of thwarted belongingness, three items were reversely coded.

The reliability evidence for INQ was ensured through the internal consistency method, and Cronbach's alphas were found .90 and .79 for thwarted belongingness and perceived burdensomeness, respectively, in a non-clinical sample of college students. Two factors explained the 63.91% variance in interpersonal needs. The first validity evidence was ensured through exploratory factor analysis. Following that, the following constructs were found to be positively and significantly correlated with two dimensions of INQ; Beck Depression Scale, Beck Hopelessness Scale, Suicide Probability Scale, and Perceived Stress Scale. In the current study, Cronbach's alpha coefficients for perceived burdensomeness and thwarted belongingness were .94 and .77, respectively.

3.3.3. Suicide Probability Scale (SPS)

Originally developed by Cull and Gill (1990), the aim of the Suicide Probability Scale (SPS) is to identify individuals who have an increased risk of suicidal behavior and/or measure suicide risk among individuals. In their study, the psychometric properties of the SPS were found to be satisfactory among clinical and non-clinical adolescent and adult samples. The respondents rate each item on a 4-point Likert-type scale, where 1 refers to *none or a little of the time* and 4 refers to *most or all of the time*. The SPS comprises 36 items representing the behavioral, cognitive, and emotional aspects of suicide. The SPS has four subscales: hopelessness, suicide ideation, negative self-

evaluation, and hostility. Higher scores obtained from the scale indicate a higher probability of suicide. The reliability evidence for SPS was provided via Cronbach's alpha coefficients ($\alpha = .93$), and the 3-week interval test-retest method ($r = .92$). The validity evidence was ensured by calculating the correlation between the scores obtained from SPS and Suicide Threat Scale derived from MMPI, and it was found to be $.70$. An additional validity evidence was ensured by comparing three groups of adolescents (having no psychiatric disorder, having a psychiatric disorder and suicide attempters) and the results indicated that having no psychiatric disorder group reported significantly lower scores than other two groups.

The SPS was first adapted to Turkish by Eskin (1993) by utilizing a non-clinical sample (i.e., university students), and it was revealed that SPS is a valid and reliable measurement tool to be used among university students. The Cronbach's alpha for the suicidal ideation subscale and the total scale were $.87$ and $.85$, respectively. The validity evidence for the SPS was not presented in the original article published in 1993, but later, the evidence for validity was provided by Atlı et al. (2009) and Tüzün (1997), indicating that the SPS is a valid measurement tool to be utilized in clinical and non-clinical samples as well.

The proofs regarding psychometric properties of the scale were as follows; Atlı et al. (2009) conducted a confirmatory factor analysis to utilize construct validity and inspected the correlations between the SPS and Beck Depression Scale, Beck Hopelessness Scale, and Rosenberg Self-Esteem Scale to obtain evidence belonging to convergent validity. Also, an exploratory factor analysis was conducted, and as in its original form, a 4-factor structure was maintained. Subscales were hopelessness, hostility, suicide ideation, and negative self-evaluation. As for reliability evidence, Cronbach's alphas for subscales were also adequate ($.78$, $.84$, $.79$, and $.80$ for hopelessness, suicide ideation, negative self-evaluation, and hostility, respectively). Tüzün (1997) conducted an exploratory factor analysis to investigate whether the original factor structure would be maintained in the Turkish sample as well. In a similar vein to the original study, the 4-factor structure was confirmed. Another proof for construct validity evidence was obtained through calculating the correlation

between the Beck Depression Inventory and the subscales of SPS ($r = .68$ for suicide ideation, $r = .63$ for negative self-evaluation, $r = .52$ for exhaustion, $r = .42$ for anger). In the current study, the Cronbach's alpha coefficient for suicidal thoughts subscale was .92.

3.3.4. Multidimensional Scale of Perceived Social Support (MSPSS)

Developed by Zimet et al. (1988), MSPSS aims to measure an individual's perception of received social support from three dimensions. The MSPSS is a 7-point Likert-type scale where 1 refers to 'strongly disagree' and 7 refers to 'strongly agree'. It has three subscales named family, friends, and significant other. Each subscale has 4 items, making MSPSS a total 12-item instrument. Higher scores indicate higher levels of perceived social support obtained from three different sources. The reliability evidence was obtained by computing Cronbach's alpha coefficients, which were found to be ranging between .85 and .88 for the subscales and .91 for the total scale. Results of confirmatory factor analysis revealed that perceived social support is a three-factor structure, as hypothesized.

The Turkish adaptation of MSPSS was conducted by Eker et al. (2001). It was concluded that the scale has excellent psychometric properties for the samples studied. In a similar manner to the original study, the three-factor structure was confirmed in the Turkish version of MSPSS as well. Validity evidence was ensured through (1) exploratory factor analysis, (2) the correlation between MSPSS and such constructs as hopelessness, loneliness, and negative social interaction, and (3) the correlation between the scores reported by the non-clinical and a psychiatric sample. As for reliability evidence, Cronbach's alphas, an internal consistency method, were calculated, and they ranged between .85 and .92 for the subscales and it was .89 for the total scale. The three-factor structure explained a 75% variance in perceived social support. In the current study, Cronbach's alpha coefficients for perceived social support from family, friends, and significant other and the total scale were .93, .91, .89, and .94, respectively. Therefore, reliability analysis indicated a satisfactory fit for the current study.

3.3.5. Demographic Information Form

Researcher developed a demographic information form to provide a more comprehensive profile regarding the background characteristics of participants. In the pilot study, participants were requested to indicate their age, gender, job, employment status, educational status, religious affiliation, and socioeconomic background. For the main study, additional questions such as the status of receiving mental health support (e.g., therapy, medication, etc.), the status of being exposed to or relocated after the Kahramanmaraş earthquake that took place on February 6th, 2023, which corresponds to the period between the pilot and the main study.

3.4. Data Collection Procedure

First up, the required permission to adapt the Psychological Strain Scales (PSS) was granted. Then, the permissions to use the other scales were also granted through e-mails. The ethical permission was obtained from the Middle East Technical University Human Subjects Ethics Committee.

Participation was based on voluntariness, and participants were given information about ethical issues of confidentiality, anonymity, and the right to withdraw from the study through the Informed Consent Form. This form included several other details such as the purpose of the study, information regarding the researcher, and an e-mail address to let participants who are interested to obtain information about the results of the study. In addition, it was underlined that the researcher conducting the current study would not provide any mental health service, irrespective of the replies obtained from the participants. There was a reminder in the form for participants who report having a suicide plan or intention stating that they can receive help from such institutions as ALO 183 (Ministry of Family and Social Policies), psychiatry departments in public/private hospitals, and university counseling centers. No incentives were used to reach potential participants. The pilot data were collected during two months (from December to February 2022) and the data for the main study were collected during one month (October to November 2023).

3.5. Description of the Variables

In this section, the operational definitions regarding the study variables were presented. The purpose of the study was to investigate the association among psychological strains (i.e., *value, aspiration, deprivation, and coping*), perceived burdensomeness, thwarted belongingness, perceived social support, depression, and suicidal thoughts.

3.5.1. Exogenous Variables

Value Strain: Value strain was measured by the total score obtained from the *value* subscale of the Psychological Strains Scale (PSS). Higher scores obtained from this subscale point out the situation of holding two conflicting social values at the same time, which in turn creates greater levels of tension in one's life. The minimum and maximum scores that can be obtained from this subscale are 7 and 35, respectively.

Aspiration Strain: Aspiration strain was measured by the total score obtained from the *aspiration* subscale of the PSS. Higher scores obtained from this subscale refer to a greater difference between the goals and reality of the individual. The minimum and maximum scores that can be obtained from this subscale are 9 and 45, respectively.

Deprivation Strain: Deprivation strain was measured by the total score obtained from the *deprivation* subscale of the PSS. Higher scores obtained from this subscale indicate higher levels of perceived inequity and unfairness after one compares themselves with other people in terms of several life domains such as economic situation. The minimum and maximum scores that can be obtained from this subscale are 9 and 45, respectively.

Coping Strain: Coping strain was measured by the total score obtained from the *coping* subscale of the PSS. Higher scores obtained from this subscale point out having relatively limited skills of coping when facing a life crisis. The minimum and maximum scores that can be obtained from this subscale are 7 and 35, respectively.

3.5.2. Mediator Variables

Perceived Burdensomeness: Perceived burdensomeness was measured by the *perceived burdensomeness* subscale of the Interpersonal Needs Questionnaire (INQ). Higher scores reflect having higher degrees of distorted perception that one's existence poses a burden to others. The minimum and maximum scores that can be obtained from this subscale are 5 and 35, respectively.

Thwarted Belongingness: Thwarted belongingness was measured by the *thwarted belongingness* subscale of the INQ. Higher scores point out more severe levels of impairments in the basic human need to belong. The minimum and maximum scores that can be obtained from this subscale are 5 and 35, respectively.

3.5.3. Moderator Variables

Perceived Social Support: Perceived social support was measured by the total score obtained from the Multidimensional Scale of Perceived Social Support (MSPSS). Higher scores point out the perception of receiving higher levels of social support from family, friends, and significant other. The minimum and maximum scores that can be obtained from this scale are 12 and 84.

Depression: Depression was measured by the total score obtained from the *depression* subscale of Depression, Anxiety and Stress Scale (DASS-21). Higher scores reflect greater severity of depressive symptoms. The possible minimum and maximum scores that can be obtained from the scale were 0 and 21.

3.5.4. Endogenous Variable

Suicidal Thoughts: Suicidal thoughts were measured by the *suicidal thoughts* subscale of the Suicide Probability Scale (SPS). Higher scores indicate higher levels of suicidal thoughts.

3.6. Data Analysis

The current study aimed to investigate a model that assesses how psychological strains, perceived burdensomeness, thwarted belongingness, perceived social support, and depression impact suicidal thoughts in a non-clinical sample of emerging adults. Structural Equation Modeling (SEM) was utilized to test the hypothesized model. To be more specific, through SEM, the mediator role of perceived burdensomeness and thwarted belongingness in the relationship between psychological strains and suicidal thoughts. Moreover, the possible moderator role of perceived social support and depression on the conditional indirect effects (indirect effects from strains to suicidal thoughts) was also investigated within the moderated mediation model. SPSS 25 (IBM Corp, 2017) and JASP Team (2019) were used to present descriptive statistics, bivariate correlations among study variables, and the results of the assumption check for moderated mediation analysis. The inspection of gender invariance was checked through JASP Team (2019). For the moderated mediation analysis, AMOS 21 (Arbuckle, 2012) and SPSS macro PROCESS (Hayes, 2013) were used.

3.7. Limitations of the Study

Several limitations are worth elaborating on for the present study. As stated in the literature, suicidal ideation represents a continuum and is subject to change/fluctuation rather than representing a fixed set of thoughts (Kleiman, 2017). The remaining study variables (i.e., psychological strains, perceived burdensomeness, thwarted belongingness, perceived social support) are not unitary constructs, but rather dynamic in nature and may be subject to change over time as well. Therefore, longitudinal studies are needed to make causal interpretations.

Another limitation of the present study is related to utilizing the self-report instruments to measure several hypothetical constructs. The limitation of such an approach is already well-known, yet it is one of the common methods to investigate risk behaviors and internal states. Given that the questions of this study were somehow sensitive and private, participants may be reluctant to reveal unfavorable aspects of

their emotions, thoughts, or actions although the ethical aspect of confidentiality was granted by the researchers.

After conducting the pilot study, a natural disaster, the Kahramanmaraş earthquake, which brought about devastating effects both for the survivors and the other people residing in Türkiye, took place. As the main study was conducted eight months after the earthquake, the researchers took into consideration the possibility that the status of being exposed to the earthquake in person or losing a family member/friend in earthquake might have confounding effects on study variables. For instance, with the effect of the earthquake, participants' suicidal thoughts, coping skills, expectations, and/or aspirations from life may have been changed when compared to regular times. Therefore, the 'history effect' (Fraenkel et al., 2013) might interfere with the results of the study.

On one hand, using an online data collection method made it possible to diversification of the sample characteristics in terms of several demographic aspects such as location, age, and socioeconomic status, but on the other hand, such utilization of this method creates impairments in the way of generalizing the findings as only individuals who have access to the internet were able to participate in the study. Similarly, as non-clinical samples were utilized as a source of data within the scope of the study, it seems fair to assume that the results, to a large extent, reflect the characteristics of a sample that is fairly high-functioning. Nevertheless, as a non-random sampling method was used (i.e., convenience sampling), which might invite bias in sampling, the current findings may not be generalizable to other samples (e.g., clinical samples)

As mentioned, suicide is often seen as a taboo in Muslim-majority countries as it is forbidden by fate. In fact, many religious doctrines somehow restrain the act of suicide on their terms (Lawrence et al., 2016). Taking into account the fact that the majority of the participants of both the pilot and the main study reported that they believe in a religion, the tendency of social desirability, which is prone to increase as participants have a perception that the topic is sensitive or controversial (Grimm, 2010), may

interfere with the results of the current study because participants might have concealed their true ideas, beliefs and/or experiences related to suicidal behavior.

CHAPTER 4

RESULTS

In this chapter, the results of the main study were presented. This chapter consists of two sections. The first section provided information about the results of preliminary analyses, including the results of initial data screening, assumption check for SEM (i.e., missing data, sample size requirements, univariate and multivariate outliers, univariate and multivariate normality, homoscedasticity, linearity), descriptive statistics and bivariate correlations among main study variables. Along with investigating gender differences in study variables, descriptive statistics were presented based on gender, and measurement invariance results were provided. In the following section, the results of measurement and structural models were presented. Finally, a succinct overview of the key findings derived from the statistical analyses was presented.

4.1. Preliminary Analyses

Before commencing the assumption check, several procedures were followed. First up, to see whether there were any unengaged responses, participant answers were coded into Excel, and the 'STDEV.P' function was used for each scale utilized. By doing that, the aim was to ensure that there were no misentries and unusual values that might severely affect the results of the study. In total, 567 individuals filled out the survey package. According to the results, there were 28 cases whose standard deviations in related rows belonging to total scales were equal to 0, indicating that participants were unengaged. Afterward, to check whether the participants met the

criterion of being an emerging adult, which refers to being between 18 and 29, descriptive statistics were utilized. Results indicated that 25 individuals were above the age criterion specified (minimum and maximum ages were 18 and 45, respectively). In addition, the lowest and highest values belonging to each item were inspected through frequency tables. Following that, the reverse items in the subscale *thwarted belongingness* in INQ were recorded through SPSS 25 (IBM Corp., 2017). As an online data collection method was used for both the pilot and the main study, all survey items were marked as ‘required to reply’, resulting in no missing data. In sum, a total of 53 cases were removed from the dataset due to unengaged responses and violation of the age criterion.

4.1.1. Assumptions of t-test

Independent samples t-tests were used to evaluate the means of two independent groups. The assumption of homogeneity of variance was checked by Levene’s test. A non-significant result was found for the effect of gender on suicidal thoughts, $F(1,501) = 1.27, p > .05$. However, a statistically significant result was found for the effect of having a religious belief on suicidal thoughts, $F(1, 504) = 5.08, p < .05$. The assumption of univariate normality was checked through skewness and kurtosis. Based on Hair et al.’s (2010) criteria (between -2 and +2 for skewness, -7 and +7 for kurtosis), this assumption was met as the skewness and kurtosis values for suicidal thoughts were 1.75 and 3.16, respectively.

4.1.2. Assumptions of SEM

Before conducting the main analysis, the assumptions of Structural Equation Modeling (SEM) were aimed to be checked. After the close inspection of the initial data, the assumptions of SEM, including minimum sample size to conduct the analyses, univariate and multivariate outliers, multicollinearity, univariate and multivariate normality, homoscedasticity, and linearity, were investigated. The threshold values and the results for each assumption were provided in the following sections.

4.1.2.1. Minimum Sample Size

To conduct SEM, there are several minimum sample size criteria proposed by the scholars. Kline (2011) suggested that the minimum sample size should be above 200 ($N > 200$). Another criterion proposed by Tabachnick and Fidell (2013) was $N > 50 + 8m$ (N : number of participants, m : number of independent variables). Taken together, for both suggestions, the sample size of the current study, which was 514, met the minimum criteria to proceed with the analyses.

4.1.2.2. Univariate and Multivariate Outliers

For identifying univariate outliers, standardized Z-scores were inspected. Tabachnick and Fidell (2013) suggested that Z scores should not exceed the values of -3.29 and 3.29 ($p < .001$, two-tailed). There were 6 cases exceeding those threshold values and Z-values for those cases ranged between 3.34 and 3.97. Considering that the potential outliers did not severely exceed the threshold values and the presence of univariate outliers in larger samples is likely (Tabachnick & Fidell, 2013), it was decided to proceed with the analyses with the presence of those potential outliers, which were all detected in the ‘suicidal thoughts’ subscale.

To detect multivariate outliers, Mahalanobis distances were investigated and 4 cases were found to exceed the threshold value of 22.46 at $p < .001$ level. However, researchers did not prefer to exclude the cases that were outside the suggested threshold but rather, it was decided to reiterate the analyses with and without those four cases. The results indicated that there were no differences in model fit indices irrespective of the presence of outliers within the dataset. Therefore, the researchers preferred to proceed by including multivariate outliers.

4.1.2.3. Univariate and Multivariate Normality

Univariate normality was investigated by computing skewness and kurtosis values. According to Kline (2011), the cutoff value for skewness and kurtosis should be +3

and -3. The highest and lowest skewness values were 1.68 and .11, and the highest and lowest kurtosis values were 2.35 and -.74, respectively. Therefore, no violation was observed. Multivariate normality was inspected through Mardia's test and results yielded significant findings, pointing out a possible violation ($771.79, p < .01$).

Based on the suggestion proposed by Schermelleh-Engel et al. (2003), it is appropriate to proceed with the maximum likelihood estimation (MLE) method under three conditions even if the assumption of multivariate normality is violated; (1) the assumption of univariate normality assumption was met, (2) sample size is larger than 400, (3) study variables are on interval scale. Therefore, it was decided to proceed with the analysis by utilizing the MLE method with bootstrapping, as it is one way to tackle with detrimental effects resulting from the violation of multivariate normality (Byrne, 2016).

4.1.2.4. Homoscedasticity and Linearity

Visual inspection of bivariate scatterplots and partial regression plots generated through regression analyses in SPSS 25 revealed that the assumption of homoscedasticity and linearity were met. As a result of the visual inspection, bivariate scatterplots seemed to be pointing out linear associations among study variables and the partial regression plots depicted a relatively homogenous distribution of dots with the fit line having mostly equal distances to each dot, indicating that the assumptions of homoscedasticity and linearity were not violated.

4.2. Descriptive Statistics

As presented in Table 4.1, descriptive statistics (means, standard deviations, possible and actual ranges) regarding study variables were investigated. At first glance, taking into consideration the possible ranges of each subscale, it appears that the sample reported relatively lower levels of suicidal thoughts ($M = 14.83, SD = 6.33$), depression ($M = 7.65, SD = 5.69$), value strain ($M = 17.45, SD = 5.66$), deprivation strain ($M = 19.47, SD = 8.27$), and perceived burdensomeness ($M = 10.51, SD = 7.43$)

while slightly higher mean scores were obtained for perceived social support ($M = 59.93, SD = 18.87$), aspiration strain ($M = 25.23, SD = 8.78$), coping strain ($M = 20.14, SD = 6.38$) and thwarted belongingness ($M = 17.43, SD = 7.34$).

Among all study variables, statistically significant gender differences were detected for coping, $t(512) = 5.48, p < .05$, and value strains, $t(512) = 2.61, p < .05$. That is, for the sample of the current study, females ($M = 20.87, SD = 6.22$) experience higher levels of distress resulting from having relatively limited coping skills to deal with certain life events when compared to males ($M = 18.84, SD = 6.49$) and females ($M = 17.94, SD = 5.49$) hold greater levels of conflicting values of beliefs that hypothetically precede suicidal thoughts than of males ($M = 16.59, SD = 5.77$).

In terms of gender difference on the dependent variable of the study, suicidal thoughts, an independent samples t-test was conducted and results indicated that there were no significant differences between males and females in terms of suicidal thoughts, $t(512) = .51, p > .05$. Lastly, participants reported having a religious belief ($M = 14.53, SD = 6.22$) scored significantly lower scores in suicidal thoughts than participants reported having no religious belief ($M = 18.34, SD = 6.77$), $t(512) = .376, p < .05$, and there was an inverse but weak relationship between the strength of religious belief and suicidal thoughts ($r = -.14, p < .05$). In a similar vein, there was a significant negative but weak link between frequency of participation in religious activities and suicidal thoughts ($r = -.14, p < .05$), based on Cohen's (1988) criteria.

Table 4. 1
Means, Standard Deviations, Possible and Actual Range for the Study Variables

| | Total (n = 514) | | Female (n = 330) | | Male (n = 184) | | Possible range | Actual range |
|--------------|--------------------|-----------|---------------------|-----------|-------------------|-----------|-------------------|-----------------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | |
| Variables | | | | | | | | |
| Value strain | 17.46 | 5.66 | 17.93 | 5.54 | 16.59 | 5.77 | 7-35 | 7-35 |

| | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Aspiration strain | 25.23 | 8.79 | 25.24 | 8.29 | 25.22 | 8.73 | 9-45 | 9-45 |
| Deprivation strain | 19.47 | 8.27 | 19.54 | 8.57 | 19.34 | 7.71 | 9-45 | 9-45 |
| Coping strain | 20.14 | 6.39 | 20.87 | 6.22 | 18.83 | 6.49 | 7-35 | 7-35 |
| Perceived burdensomeness | 10.51 | 7.43 | 10.48 | 7.47 | 10.58 | 7.38 | 5-35 | 5-35 |
| Thwarted belongingness | 17.43 | 7.34 | 17.51 | 7.14 | 17.29 | 7.71 | 5-35 | 5-35 |
| Perceived social support | 59.93 | 16.87 | 60.61 | 16.71 | 58.73 | 17.14 | 12-84 | 17-84 |
| Depression | 7.65 | 5.69 | 7.74 | 5.83 | 7.47 | 6.17 | 0-21 | 0-21 |
| Suicidal thoughts | 14.83 | 6.34 | 14.72 | 6.37 | 15.02 | 6.29 | 10-40 | 10-40 |

4.3. Bivariate Correlations among Study Variables

Using the Pearson product-moment correlation coefficient, bivariate correlations among study variables were investigated separately for men and women. The obtained correlation coefficients were interpreted based on Cohen's guideline (1988): Correlations between .10 to .29 (small/weak relationship), .30 to .49 (medium/moderate), and .50 to 1.00 (large/strong) are considered. The results of the correlation analysis revealed that all correlation coefficients were significant at the .001 level for both male and female samples. The results were presented in Table 4.2. The top half of the matrix represents the correlations among study variables for women and the bottom half of the matrix refers to the correlations among men.

Inspection of the correlation matrix pointed out medium to strong relationships between study variables. As hypothesized, the endogenous variable of the study, suicidal thoughts, were significantly and positively correlated with value ($r_{\text{male}} = .44, p < .001; r_{\text{female}} = .45, p < .001$), aspiration ($r_{\text{male}} = .49, p < .001; r_{\text{female}} = .59, p < .001$), deprivation ($r_{\text{male}} = .35, p < .001; r_{\text{female}} = .48, p < .001$) and coping ($r_{\text{male}} = .40, p < .001; r_{\text{female}} = .52, p < .001$) strains. It was also notable that the correlation coefficients

among four psychological strains ranged from .34 to .66, indicating that subconstructs of psychological strains were clear of multicollinearity.

For both samples (i.e., female and male), perceived social support was negatively ($r_{\text{male}} = -.47, p < .001; r_{\text{female}} = -.52, p < .001$), and depression was positively ($r_{\text{male}} = .70, p < .001; r_{\text{female}} = .72, p < .001$) linked with suicidal thoughts, indicating that irrespective of gender, lower levels of perceived social support and higher levels of depression associated with an increased level of vulnerability in suicidal thoughts. In addition, it is worth mentioning that perceived social support was negatively and depression was positively correlated with entire variables included in the present study. In terms of power, the associations among perceived social support and value, aspiration, deprivation, coping strains, thwarted belongingness, and perceived burdensomeness ranged from moderate to high for both samples. For depression, the power of the same binary associations was all strong (ranging from .51 to .72 except for the correlation between depression and deprivation strain).

As for the association between suicidal thoughts and IPTS variables (i.e., perceived burdensomeness and thwarted belongingness), significant and strong correlations were yielded for perceived burdensomeness ($r_{\text{male}} = .65, p < .001; r_{\text{female}} = .75, p < .001$) and thwarted belongingness ($r_{\text{male}} = .52, p < .001; r_{\text{female}} = .56, p < .001$). In a similar line with the literature, it appears that there is a stronger association between perceived burdensomeness and suicidality for both samples, and the difference is considerably noticeable for females.

Table 4. 2
Correlation Matrix of the Study Variables

| <i>Variables</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----------------------|------|------|------|------|------|------|-------|-----|------|
| 1.Value strain | - | .59* | .37* | .54* | .45* | .48* | -.35* | .54 | .45* |
| 2.Aspiration strain | .50* | - | .66* | .53* | .52* | .49* | -.44* | .64 | .59* |
| 3.Deprivation strain | .34* | .62* | - | .40* | .50* | .34* | -.41* | .49 | .48* |

| | | | | | | | | | |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 4.Coping strain | .66* | .56* | .39* | - | .46* | .45* | -.37* | .58 | .52* |
| 5.Perceived burdensomeness | .50* | .39* | .37* | .44* | - | .51* | -.44* | .61 | .75* |
| 6.Thwarted belongingness | .36* | .47* | .33* | .42* | .50* | - | -.51* | .63 | .56* |
| 7.Perceived social support | -.36* | -.41* | -.29* | -.41* | -.36* | -.61* | - | -.52 | -.52* |
| 8. Depression | .52* | .56* | .39* | .56* | .56* | .59* | -.51* | - | .72* |
| 9.Suicidal thoughts | .44* | .49* | .35* | .40* | .65* | .52* | -.47* | .70 | - |

Note. * $p < .001$ (two-tailed). Intercorrelations for female participants (N = 330) are presented above the diagonal, and intercorrelations for male participants (N = 184) are presented below the diagonal.

4.4. Model Testing

In this section, first up, the measurement invariance was examined to see whether the hypothesized model differs across genders (RQ4: Does the hypothesized model differ across genders?). To sustain measurement invariance, a multi-group structural model analysis was conducted by using JASP Team (2019) and maximum likelihood estimation (MLE). Subsequently, the results regarding the structural model with direct, indirect, and total effects, the moderated mediation, and hypothesis testing were presented.

4.4.1. Item Parceling Procedure

In the main study, the item parceling procedure was utilized to enhance the stability of the estimated parameters within the model (Bandalos & Finney, 2001). The primary rationale behind this process is to simplify the model by reducing the number of indicators for the latent variables through parceling (Nasser & Takashaki, 2003). In particular, if the data violates the assumption of multivariate normality, item parceling would potentially result in improved outcomes (Matsunaga, 2008).

As suggested by Little et al. (2002), the minimum number of parcels was determined to be three, and a random assignment technique was used. As generating multiple parcels may introduce estimation bias, the number of parcels was attempted to be minimized (Bandalos, 2002). Parcelled constructs and their related latent variables are presented in Table 4.3.

Table 4. 3
Parcelled Constructs and their Related Latent Variables

| Latent variables and parcels | Item numbers |
|------------------------------|--------------|
| Value strain | |
| vp1 | 1,10 |
| vp2 | 2, 4 |
| vp3 | 3,6,8 |
| Aspiration strain | |
| ap1 | 1,7,10 |
| ap2 | 3,6,9 |
| ap3 | 4,5,8 |
| Deprivation strain | |
| dp1 | 1,7,10 |
| dp2 | 2,6,9 |
| dp3 | 8,5,4 |
| Coping strain | |
| cp1 | 3,10 |
| cp2 | 5,9 |
| cp3 | 6,7,8 |
| Suicidal thoughts | |
| stp1 | 1,10 |
| stp2 | 2,9 |
| stp3 | 3,7 |
| stp4 | 4,5 |
| stp5 | 6,8 |

4.4.2. Measurement Invariance

To prove that the hypothesized model represents the same pattern of structure in several domains (i.e., structural model, factor loadings, intercepts, measurement error of items) for gender, a multi-group measurement test within CFA was conducted in the JASP Team (2019). As suggested, four-phase common models, including measuring the invariance on the levels of configural, metric, scalar, and error variance invariance, were implemented in hierarchical order (Milfont & Fischer, 2010). Configural invariance refers to the identical structural model over groups; metric invariance means that similar factor loadings exist across groups; scalar invariance indicates that item intercepts are identical between groups or more groups; and error variance invariance refers to the same error variance shared across groups (Milfont & Fischer, 2010).

To evaluate whether the model invariance was ensured for gender, changes in chi-square value ($\Delta X^2/df$ ratio), Comparative Fit Indexes (ΔCFI) and Tucker-Lewis Index (ΔTLI), Root Mean Square Error of Approximation ($\Delta RMSEA$), along with Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) were investigated. As a rule of thumb, the differences in CFI and TLI should be between -0.01 and 0.01 to conclude that the model invariance was granted (Cheung & Rensvold, 2002). For AIC and BIC, the lower values indicate a better fit (Wichters & Dolan, 2010).

The results are presented in Table 4.4. The differences in CFI (ΔCFI) and TLI (ΔTLI) across divergent levels of invariance yielded decreases of less than 0.01, indicating that the measurement invariance for gender was ensured based on Cheung and Rensvold's (2002) criteria. The lowest values for both the indices of AIC and BIC belonged to the metric model. In a similar vein, the metric invariance model had the minimum change for the X^2/df ratio, but the RMSEA value was constant across models. Based on these results, proceeding with the single structural model seemed appropriate in terms of statistical considerations, and the conclusions derived from the current study/hypothesized structural model can encompass both women and men.

Table 4. 4
Results of Measurement Invariance based on Four-phase Common Model (N=514)

| | χ^2/df | CFI | TLI | SRMR | Δ CFI | Δ TLI | AIC | BIC | RMSEA (90% CI) |
|---------------------------------|-------------|------|------|------|--------------|--------------|----------|----------|-------------------------|
| Configural invariance | 2.38 | .922 | .910 | .049 | | | 49694.89 | 50331.22 | .073 [.068- .078] |
| Metric invariance | 2.34 | .921 | .911 | .050 | .001 | .001 | 49685.25 | 50236.74 | .073 [.068- .077] |
| Scalar invariance | 2.37 | .917 | .910 | .052 | .004 | .001 | 49811.41 | 50507.14 | .073 [.068- .078] |
| Error variance invariance | 2.39 | .913 | .909 | .053 | .004 | .002 | 49831.01 | 50412.19 | .073 [.069- .078] |

4.4.3. Measurement Model

Following the examination of model invariance across gender, with the aim of ensuring that the measurement of the constructs is valid and reliable for the current sample and that the constructs accurately reflect the underlying latent constructs, the measurement model was tested to determine the relationship between the latent variables and their indicators (i.e., observed variables), as suggested by Schumacker and Lomax (2010). Using AMOS 21 (Arbuckle, 2012), the relationship among latent variables of value strain, aspiration strain, deprivation strain, coping strain, perceived burdensomeness, thwarted belongingness, and suicidal thoughts were examined. The visual depiction of the measurement model, including standardized regression weights for each indicator and correlation coefficients among latent variables within the model is presented in Figure 4.1 below.

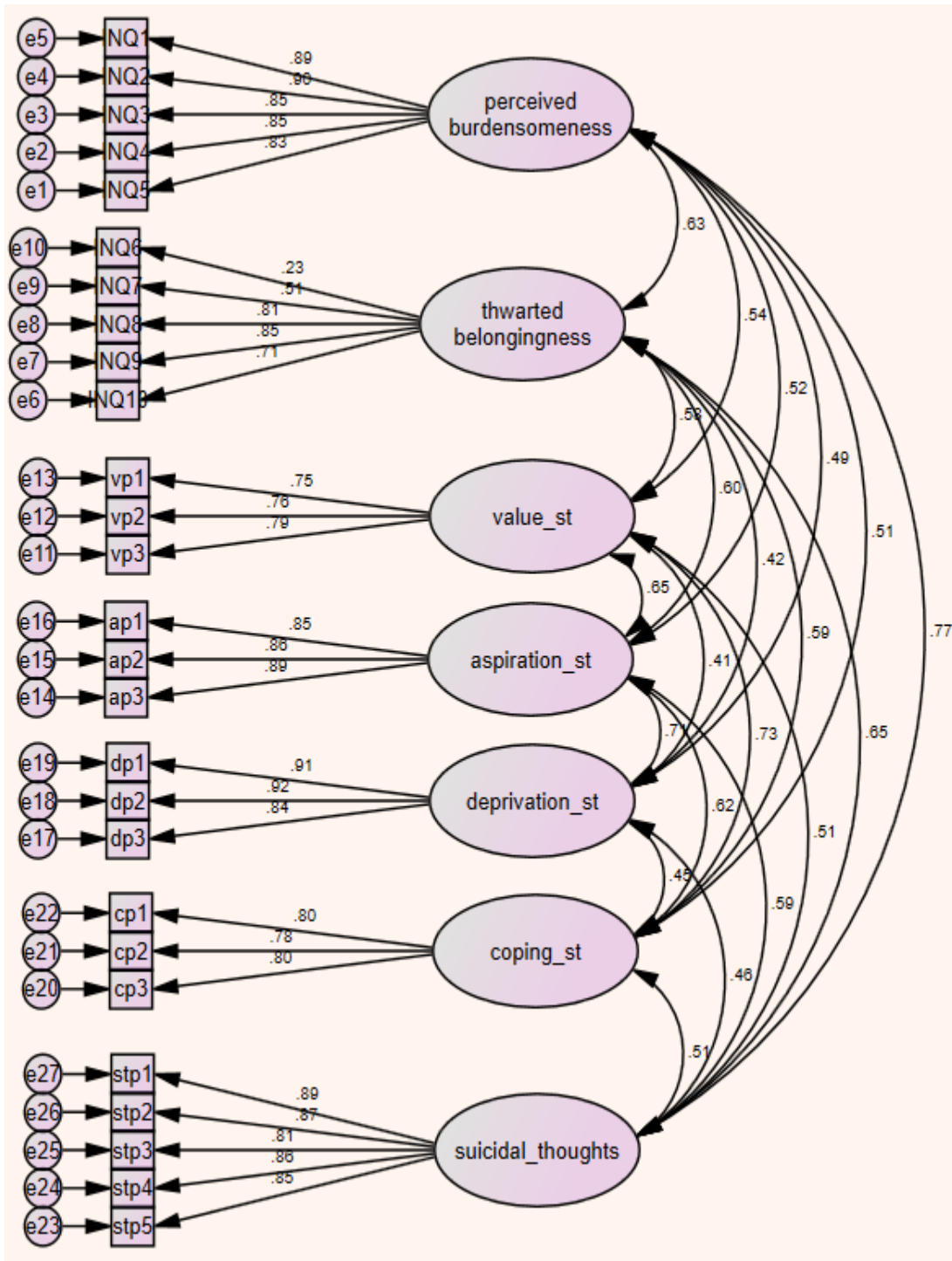


Figure 4. 1 Measurement model with standardized estimates and latent factor correlations

A CFA was conducted to see whether the hypothesized measurement model satisfactorily fit the data. Based on the criterion presented in Table 3.3., the results indicated a satisfactory fit $X^2(303) = 1016.91$, $p < .001$, X^2/df ratio = 3.36, CFI = .94,

TLI/NNFI = .92, SRMR = .04, RMSEA = .068 (90% CI, [.063-.072]). The standardized regression coefficients within the measurement model ranged from .51 to .96 (except for one estimate being .23) and all were statistically significant. The t values for each indicator were above the threshold of 1.96, ranging from 11.73 to 26.46. Below in Table 4.5, the standardized regression coefficients and squared multiple correlations are presented.

Table 4. 5
Standardized Regression Weights, Squared Multiple Correlations regarding Indicators in Measurement Model

| | Standardized regression weight | Squared multiple correlation |
|--------------------------|--------------------------------|------------------------------|
| Perceived burdensomeness | | |
| INQ1 | .89 | .80 |
| INQ2 | .90 | .81 |
| INQ3 | .85 | .71 |
| INQ4 | .85 | .72 |
| INQ5 | .83 | .69 |
| Thwarted belongingness | | |
| INQ6 | .23 | .05 |
| INQ7 | .51 | .26 |
| INQ8 | .81 | .66 |
| INQ9 | .85 | .73 |
| INQ10 | .72 | .51 |
| Value strain | | |
| vp1 | .75 | .56 |
| vp2 | .76 | .58 |
| vp3 | .79 | .62 |
| Aspiration strain | | |
| ap1 | .85 | .72 |
| ap2 | .86 | .74 |

| | | |
|--------------------|-----|-----|
| ap3 | .89 | .80 |
| Deprivation strain | | |
| dp1 | .91 | .82 |
| dp2 | .92 | .84 |
| dp3 | .84 | .71 |
| Coping strain | | |
| cp1 | .80 | .64 |
| cp2 | .78 | .60 |
| cp3 | .81 | .65 |
| Suicidal thoughts | | |
| stp1 | .89 | .80 |
| stp2 | .87 | .75 |
| stp3 | .81 | .65 |
| stp4 | .86 | .75 |
| stp5 | .85 | .73 |

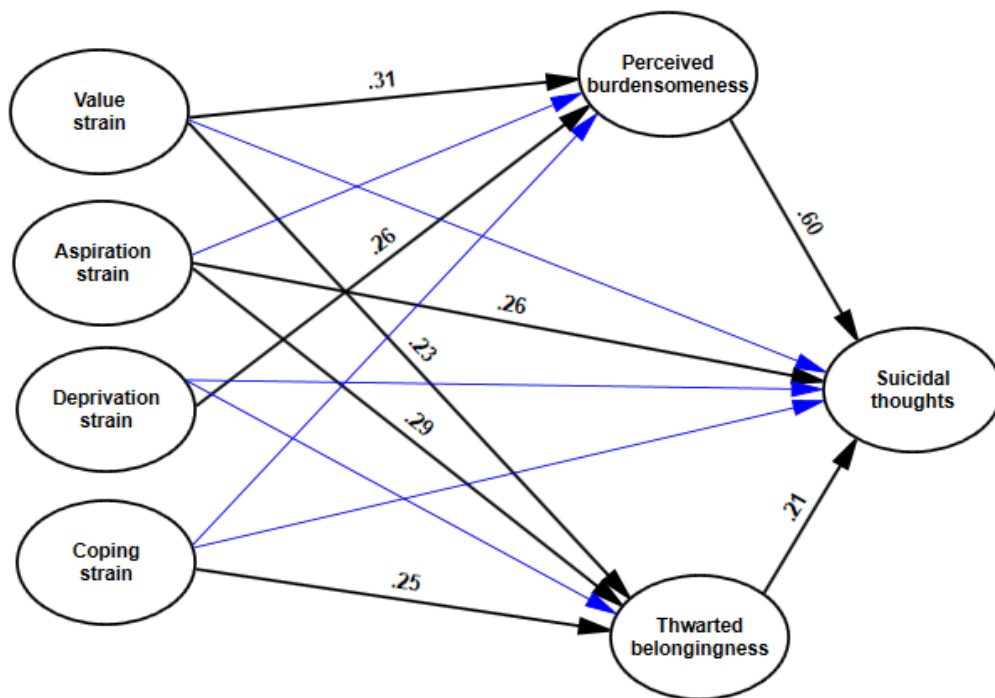
4.4.4. Structural Model

The direct and indirect relationships among study variables were inspected through Structural Equation Modeling (SEM). The structural model, which intends to clarify the relationship between latent variables, was tested by utilizing AMOS 21. Maximum likelihood estimation (MLE) was used as a method of estimation. Moderated mediation analyses were conducted by using PROCESS Macro (Hayes, 2013). During the analyses, the bootstrapping procedure was utilized as multivariate non-normality was the case, and the bootstrapping procedure was one suggested way to deal with the case of non-normality (Byrne, 2016). To be more specific, 1000 samples with 95% CI were utilized while testing the structural model.

Results of the analyses for the structural model were evaluated based on fit indices of χ^2/df ratio, CFI, NNFI/TLI, SRMR, and RMSEA. In the hypothesized model, direct and indirect associations among study variables were inspected. In this respect, firstly, the direct associations between four exogenous variables (i.e., value, aspiration,

deprivation, coping strains) and the endogenous variable (i.e., suicidal thoughts) were tested. Secondly, the direct associations between two mediator variables (i.e., perceived burdensomeness and thwarted belongingness) and the endogenous variable (i.e., suicidal thoughts) were tested. Thirdly, the indirect effect of four psychological strains on suicidal thoughts through perceived burdensomeness and thwarted belongingness was tested through the bootstrapping method. Lastly, the moderator effect of perceived social support on the indirect effect of psychological strains on suicidal thoughts through perceived social support was investigated. In addition, the correlations among exogeneous variables were presented in Table 4.6.

It was revealed that the structural model satisfactorily fit the data, $\chi^2(351) = 868.14$, $p = .00$; χ^2/df -ratio = 2.87, CFI = .95, TLI/NNFI = .94, SRMR = .05, and RMSEA = .06 (90% CI = .056, .065). Regarding the relationship between latent variables and their indicators, all relationships were found statistically significant with coefficients ranging from .52 to .92 (with one weight being .23). The regression coefficients for significant associations among latent variables ranged from .21 to .60.



Note. Black lines represent significant and blue lines represent non-significant paths. *Figure 4.2.* Hypothesized structural model with significant and non-significant paths

In terms of direct paths, 8 out of the total 14 paths were found statistically significant. In more detail, there were a total of 8 paths from exogenous variables (value, aspiration, deprivation, and coping) to mediators (perceived burdensomeness and thwarted belongingness), and 5 of them were significant. There was a total of 2 paths from mediators (perceived burdensomeness and thwarted belongingness) to endogenous variables (suicidal thoughts), and all were significant. Finally, there was a total of 4 paths from exogenous variables (value, aspiration, deprivation, coping) to endogenous variables (suicidal thoughts), of which, 1 was significant. The visual depiction of significant paths with their standardized regression weights is presented above in Figure 4.2.

Table 4.6.
The Correlations among Exogeneous Variables

| | <i>r</i> |
|--------------------------|----------|
| Value ↔ Aspiration | .65 |
| Value ↔ Deprivation | .41 |
| Value ↔ Coping | .73 |
| Aspiration ↔ Deprivation | .71 |
| Aspiration ↔ Coping | .62 |
| Deprivation ↔ Coping | .45 |

To test how much variance was explained for each outcome latent variable, the squared multiple correlations (R^2) were computed. In Table 4.6, the R^2 values for thwarted belongingness, perceived burdensomeness, and suicidal thoughts, and standardized regression weights were provided. Psychological strains (value, aspiration, deprivation, coping) were able to explain 38% of the variance in perceived burdensomeness and 47% of the variance in thwarted belongingness. As for the

endogenous variable of the study, the combination of variables of IPTS (perceived burdensomeness and thwarted belongingness) and STS (value, aspiration, deprivation, and coping) explained 66% of the variance in suicidal thoughts.

Table 4. 7
Squared Multiple Correlations for Mediator and Endogenous Variables in the Structural Model

| Variables | R^2 |
|--|-------|
| Perceived burdensomeness (mediator variable) | .38 |
| Thwarted belongingness (mediator variable) | .47 |
| Suicidal thoughts (endogenous variable) | .66 |

4.4.4.1. Direct Effects for the Structural Model

Under this heading, (1) the direct effects from four exogenous variables (value, aspiration, deprivation, coping) to mediator variables (perceived burdensomeness, thwarted belongingness), (2) the direct effects from mediator variables (perceived burdensomeness, thwarted belongingness) to the endogenous variable (suicidal thoughts), (3) the direct effects from exogenous variables (value, aspiration, deprivation, coping) to the endogenous variable (suicidal thoughts) are demonstrated. The significance tests of those direct effects were computed via the bootstrapping method (Bollen & Stine, 1990).

The direct effects of exogenous variables on mediators were as follows: The direct effects from value strain ($\gamma = .30, p < .05$) and deprivation strain ($\gamma = .26, p < .05$) to perceived burdensomeness were significant, but the same direct effect was not significant for aspiration strain ($\gamma = .05, p > .05$) and coping strain ($\gamma = .13, p > .05$). The direct effects of value strain ($\gamma = .23, p < .05$), aspiration strain ($\gamma = .29, p < .05$) and coping strain ($\gamma = .25, p < .05$) on thwarted belongingness were significant, but the direct effect of deprivation strain ($\gamma = .02, p > .05$) on thwarted belongingness was not significant.

The direct effects of mediator variables on outcome variable were as follows: The direct effects of perceived burdensomeness ($\beta = .60, p < .05$) and thwarted belongingness ($\beta = .21, p < .05$) on suicidal thoughts were significant.

The direct effects of psychological strains on suicidal thoughts were as follows: While the direct effect of aspiration strain ($\gamma = .26, p < .05$) on suicidal thoughts was significant, the direct effect of value strain ($\gamma = .08, p > .05$), deprivation strain ($\gamma = -.07, p > .05$) and coping strain ($\gamma = .03, p > .05$) on suicidal thoughts were not significant.

4.4.4.2. Total and Specific Indirect Effects for the Structural Model

In this part, the results of the indirect effect of psychological strains (value, aspiration, deprivation, coping) on suicidal thoughts via perceived burdensomeness and thwarted belongingness are presented. The significance tests of indirect effects were calculated by using the bootstrapping method with 1000 samples, 90% *CI* (Bollen & Stine, 1990).

The total indirect effects of value strain ($\gamma = .23, p < .05$) and deprivation strain ($\gamma = .16, p < .05$) were significant on suicidal thoughts via perceived burdensomeness and thwarted belongingness. On the other hand, the total indirect effects of aspiration strain ($\gamma = .09, p > .05$) and coping strain ($\gamma = .13, p > .05$) on suicidal thoughts through perceived burdensomeness and thwarted belongingness were not significant. In brief, perceived burdensomeness and thwarted belongingness indirectly influenced the association between value strain, coping strain, and suicidal thoughts.

As for specific indirect effects, 5 out of 8 paths were found to be significant. While the indirect effect of value strain ($\gamma = .19, p < .05$) and deprivation strain ($\gamma = .17, p < .05$) on suicidal thoughts via perceived burdensomeness was significant, the same indirect relationship was non-significant for aspiration strain ($\gamma = .03, p > .05$) and coping strain ($\gamma = .08, p > .05$). Furthermore, the indirect effect of value strain ($\gamma = .09, p < .05$), aspiration strain ($\gamma = .14, p < .05$), and coping strain ($\gamma = .11, p < .05$) on suicidal thoughts via thwarted belongingness was significant, but the indirect effect

of deprivation strain ($\gamma = .01, p > .05$) on suicidal thoughts through thwarted belongingness was not significant. The results regarding direct, specific indirect, and total indirect effects are presented in Table 4.7. The threshold for p value was adjusted to .05.

Table 4. 2
Direct, Specific Indirect, and Total Indirect Effects

| Direct Effects | γ/β |
|---|----------------|
| Value strain → Perceived burdensomeness | .31* |
| Aspiration strain → Perceived burdensomeness | .05 |
| Deprivation strain → Perceived burdensomeness | .26* |
| Coping strain → Perceived burdensomeness | .13 |
| Value strain → Thwarted belongingness | .23* |
| Aspiration strain → Thwarted belongingness | .29* |
| Deprivation strain → Thwarted belongingness | .02 |
| Coping strain → Thwarted belongingness | .25* |
| Perceived burdensomeness → Suicidal thoughts | .60* |
| Thwarted belongingness → Suicidal thoughts | .21* |
| Value strain → Suicidal thoughts | .08 |
| Aspiration strain → Suicidal thoughts | .26* |
| Deprivation strain → Suicidal thoughts | -.07 |
| Coping strain → Suicidal thoughts | .03 |
| Indirect Effects (Specific) | |
| Value strain → Perceived burdensomeness → Suicidal thoughts | .19* |
| Aspiration strain → Perceived burdensomeness → Suicidal thoughts | .03 |
| Deprivation strain → Perceived burdensomeness → Suicidal thoughts | .17* |
| Coping strain → Perceived burdensomeness → Suicidal thoughts | .08 |
| Value strain → Thwarted belongingness → Suicidal thoughts | .09* |

| | |
|---|------|
| Aspiration strain → Thwarted belongingness → Suicidal thoughts | .14* |
| Deprivation strain → Thwarted belongingness → Suicidal thoughts | .01 |
| Coping strain → Thwarted belongingness → Suicidal thoughts | .11* |
| Indirect Effects (Total) | |
| Value strain → Suicidal thoughts | .23* |
| Aspiration strain → Suicidal thoughts | .09 |
| Deprivation strain → Suicidal thoughts | .16* |
| Coping strain → Suicidal thoughts | .13 |

Note. * $p < .05$.

4.4.4.3. The Moderator Role of Perceived Social Support and Depression

In this section, the moderating role of perceived social support and depression on the indirect effect of value, aspiration deprivation, and coping strains on suicidal thoughts through perceived burdensomeness and thwarted belongingness were investigated. In this study, the aim of moderated mediation analysis is to explore whether the previously demonstrated mediation effects of perceived burdensomeness and thwarted belongingness in the relationship between psychological strains (value, aspiration, deprivation and coping) and suicidal thoughts differentiate as a function of depression and perceived social support.

During the analyses, the PROCESS (Hayes, 2013) Model 7 was run using one independent variable, two mediators, one moderator, and one dependent variable. Bootstrapping was used with 1000 samples with 95% CI. Based on Aiken et al.'s (1991) criteria, conditional indirect effects were evaluated at one standard deviation above the mean, at the mean, and below the mean for the moderator variables (i.e., perceived social support and depression). As the results of mediation analyses (i.e., direct, indirect, and total effects) have previously been presented, only the interaction effects between the hypothesized variables will be provided. The decision regarding the moderated mediation effect was made based on the combination of mediation analyses and moderation analyses on indirect effects (e.g., for moderated mediation

to occur, the significant mediation effect, either partial or full, should be present along with significant moderation effects on indirect effects).

According to results, perceived social support moderated the indirect effect of value ($\beta = -.003, p < .05, CI [-.0058, -.0001]$) and deprivation ($\beta = -.0022, p < .05, CI [-.0042, -.0001]$) strains to suicidal thoughts via perceived burdensomeness. Although the moderator effect of perceived social support to indirect effects of aspiration ($\beta = -.0022, p < .05, CI [-.0040, -.0005]$) and coping strains ($\beta = -.0032, p < .05, CI [-.0060, -.0005]$) to suicidal thoughts through perceived burdensomeness was significant, initial inspection of mediation effects was not sustained for these relationships (see Table 4.7). Therefore, the moderated mediation effect was not the case. However, the same indirect effect was not obtained for value ($\beta = .00, p > .05, CI [-.0008, .0006]$), aspiration ($\beta = .0003, p > .05, CI [.0000, .0007]$), deprivation ($\beta = .0008, p > .05, CI [.0000, .0016]$) and coping strains ($\beta = -.0003, p > .05, CI [-.0011, .0004]$) when thwarted belongingness was treated as mediator. The results of moderated indirect effects are presented in Table 4.8.

Table 4. 3

The Results of Moderated Mediation Analysis for Perceived Social Support (PSS) as Moderator

| | β /Index | SE/Boot SE | Confidence Interval | Mediation Result | Decision |
|--|----------------|------------|---------------------|------------------|------------------------|
| Value → Perceived burdensomeness → Suicidal thoughts | | | | | |
| Low level of PSS | .28 | .47 | [.20, .35] | | |
| Moderate level of PSS | .23 | .36 | [.17, .29] | | |
| High level of PSS | .17 | .46 | [.11, .25] | | |
| Index of moderated mediation | -.003 | .0017 | [-.0058, -.0001] | Full Mediation | Moderated Mediation |
| Aspiration → Perceived burdensomeness → Suicidal thoughts | | | | | |
| Low level of PSS | .17 | .03 | [.13, .23] | | |
| Moderate level of PSS | .14 | .03 | [.10, .18] | | |
| High level of PSS | .10 | .03 | [.06, .14] | | |
| Index of moderated mediation | -.0022 | .0011 | [-.0040, -.0005] | No Mediation | No Moderated Mediation |

| | | | | | |
|--|--------|-------|------------------|----------------------|------------------------------|
| Deprivation → Perceived burdensomeness → Suicidal thoughts | | | | | |
| Low level of PSS | .18 | .03 | [.11, .24] | | |
| Moderate level of PSS | .14 | .02 | [.10, .19] | | |
| High level of PSS | .10 | .03 | [.05, .16] | | |
| Index of moderated mediation | -.0022 | .0012 | [-.0042, -.0001] | Full Mediation | Moderated Mediation |
| Coping → Perceived burdensomeness → Suicidal thoughts | | | | | |
| Low level of PSS | .24 | .04 | [.16, .33] | | |
| Moderate level of PSS | .19 | .03 | [.13, .24] | | |
| High level of PSS | .13 | .04 | [.08, .19] | | |
| Index of moderated mediation | -.0032 | .0014 | [-.0060, -.0005] | No Mediation | No Moderated Mediation |
| Value → Thwarted belongingness → Suicidal thoughts | | | | | |
| Low level of PSS | .07 | .02 | [.04, .10] | | |
| Moderate level of PSS | .07 | .02 | [.04, .09] | | |
| High level of PSS | .07 | .02 | [.04, .09] | | |
| Index of moderated mediation | .00 | .0004 | [-.0008, .0006] | Full Mediation | No Moderated Mediation |
| Aspiration → Thwarted belongingness → Suicidal thoughts | | | | | |
| Low level of PSS | .03 | .01 | [.02, .05] | | |
| Moderate level of PSS | .04 | .01 | [.02, .05] | | |
| High level of PSS | .04 | .01 | [.03, .06] | | |
| Index of moderated mediation | .0003 | .0002 | [.0000, .0007] | Partial Mediation | No Moderated Mediation |
| Deprivation → Thwarted belongingness → Suicidal thoughts | | | | | |
| Low level of PSS | .02 | .01 | [.00, .03] | | |
| Moderate level of PSS | .03 | .01 | [.02, .05] | | |
| High level of PSS | .04 | .01 | [.21, .72] | | |
| Index of moderated mediation | .0008 | .0004 | [.0000, .0016] | No Mediation | No Moderated Mediation |
| Coping → Thwarted belongingness → Suicidal thoughts | | | | | |
| Low level of PSS | .06 | .01 | [.04, .10] | | |
| Moderate level of PSS | .05 | .01 | [.03, .08] | | |
| High level of PSS | .05 | .01 | [.02, .07] | | |

| | | | | | |
|------------------------------|--------|-------|-----------------|----------------|------------------------|
| Index of moderated mediation | -.0003 | .0004 | [-.0011, .0004] | Full Mediation | No Moderated Mediation |
|------------------------------|--------|-------|-----------------|----------------|------------------------|

After investigating whether conditional indirect effects from psychological strains to suicidal thoughts via perceived burdensomeness and thwarted belongingness change by different levels of perceived social support, the same effect was scrutinized by treating depression as a moderator variable within the same indirect relationships. According to the results, depression moderated the indirect effect of value ($\beta = .0128$, $p < .05$, $CI [.0063, -.0200]$) and deprivation strains ($\beta = .0086$, $p < .05$, $CI [-.0042, .0136]$) to suicidal thoughts via perceived burdensomeness. In addition, although the indirect effects of aspiration ($\beta = .0089$, $p < .05$, $CI [.0048, .0135]$), and coping strains ($\beta = .011$, $p < .05$, $CI [.0054, .0169]$) to suicidal thoughts through perceived burdensomeness was moderated by depression, the mediation effects did not occur in previous analyses (see Table 4.7). Subsequently, depression moderated the indirect effect of value ($\beta = .0062$, $p < .05$, $CI [.0005, .0122]$), aspiration ($\beta = .0046$, $p < .05$, $CI [.0006, .0088]$), and coping strains ($\beta = .0054$, $p < .05$, $CI [.0004, .018]$) to suicidal thoughts via thwarted belongingness. The same moderated mediation effect by depression was not sustained only for the effect of deprivation ($\beta = .0033$, $p < .05$, $CI [.0003, .0066]$) to suicidal thoughts through thwarted belongingness, but for the other indirect paths. The results regarding the moderated mediation analysis for depression as moderator are presented in Table 4.9.

Table 4. 4
The Results of Moderated Mediation Analysis for Depression as Moderator

| | β /Index | SE/Boot SE | Confidence Interval | Mediation Result | Decision |
|--|----------------|------------|---------------------|------------------|---------------------|
| Value → Perceived burdensomeness → Suicidal thoughts | | | | | |
| Low level of depression | .07 | .03 | [.01, .14] | | |
| Moderate level of depression | .15 | .02 | [.10, .20] | | |
| High level of depression | .23 | .03 | [.16, .30] | | |
| Index of moderated mediation | .0128 | .0035 | [.0063, .0200] | Full Mediation | Moderated Mediation |

| | | | | | | |
|--|-------|-------|-------------------|----------------------|------------------------------|--|
| Aspiration→Perceived burdensomeness→Suicidal thoughts | | | | | | |
| Low level of depression | .04 | .02 | [-.01, .08] | | | |
| Moderate level of depression | .09 | .02 | [.05, .12] | | | |
| High level of depression | .14 | .02 | [.10, .19] | | | |
| Index of moderated mediation | .0089 | .0022 | [.0048, .0135] | No Mediation | No Moderated Mediation | |
| Deprivation→Perceived burdensomeness→Suicidal thoughts | | | | | | |
| Low level of depression | .04 | .02 | [.00, .09] | | | |
| Moderate level of depression | .10 | .02 | [.06, .13] | | | |
| High level of depression | .15 | .02 | [.10, .19] | | | |
| Index of moderated mediation | .0086 | .0024 | [.0042, .0136] | Full Mediation | Moderated Mediation | |
| Coping →Perceived burdensomeness→Suicidal thoughts | | | | | | |
| Low level of depression | .06 | .03 | [.01, .12] | | | |
| Moderate level of depression | .13 | .02 | [.09, .17] | | | |
| High level of depression | .19 | .03 | [.14, .25] | | | |
| Index of moderated mediation | .011 | .0029 | [.0054, .0169] | No Mediation | No Moderated Mediation | |
| Value →Thwarted belongingness→Suicidal thoughts | | | | | | |
| Low level of depression | .00 | .02 | [-.03, .04] | | | |
| Moderate level of depression | .04 | .02 | [.01, .07] | | | |
| High level of depression | .08 | .03 | [.02, .13] | | | |
| Index of moderated mediation | .0062 | .0030 | [.0005, .0122] | Full Mediation | Moderated Mediation | |
| Aspiration→ Thwarted belongingness →Suicidal thoughts | | | | | | |
| Low level of depression | -.01 | .01 | [-.04, .02] | | | |
| Moderate level of depression | .02 | .01 | [-.01, .05] | | | |
| High level of depression | .05 | .02 | [.01, .09] | | | |
| Index of moderated mediation | .0046 | .0021 | [.0006, .0088] | Partial Mediation | Moderated Mediation | |
| Deprivation→ Thwarted belongingness →Suicidal thoughts | | | | | | |

| | | | | | |
|---|-------|-------|----------------|----------------|------------------------|
| Low level of depression | -.01 | .01 | [-.02, .02] | | |
| Moderate level of depression | .02 | .01 | [.00, .04] | | |
| High level of depression | .04 | .02 | [.01, .07] | | |
| Index of moderated mediation | .0033 | .0016 | [.0003, .0066] | No Mediation | No Moderated Mediation |
| <hr/> | | | | | |
| Coping → Thwarted belongingness → Suicidal thoughts | | | | | |
| Low level of depression | .00 | .02 | [-.03, .03] | | |
| Moderate level of depression | .03 | .01 | [.01, .06] | | |
| High level of depression | .07 | .03 | [.01, .12] | | |
| Index of moderated mediation | .0054 | .0027 | [.0004, .018] | Full Mediation | Moderated Mediation |

4.5. Summary of the Results

According to the results of the descriptive statistics, participants reported lower levels of suicidal thoughts, depression, value strain, deprivation strain, and perceived burdensomeness while relatively higher scores in perceived social support, aspiration strain, coping strain, and thwarted belongingness. Bivariate correlations among study variables were all significant and an overwhelming majority of coefficients were strong in power. In line with the literature and study hypotheses, all four sources of psychological strains (i.e., value, aspiration, deprivation, coping) produced statistically significant associations with suicidal thoughts and depression while inverse associations with perceived social support.

Although the gender difference in suicidal thoughts was not significant, a multi-group structural equation modeling was conducted to check whether the hypothesized structural model would allow drawing invariable conclusions irrespective of gender. The results revealed that the measurement invariance was ensured and remaining analyses were carried out utilizing a single sample model consisting of different genders.

Findings suggested that the hypothesized model yielded a satisfactory fit to the data. Among the exogenous variables in the model, aspiration strain was found to be the

only predictor of suicidal thoughts, although all strains yielded significant loadings in the absence of the mediator variables, pointing out promising mediation effects. For the direct effect of mediator variables on endogenous variables, both perceived burdensomeness and thwarted belongingness yielded solid results, with perceived burdensomeness inserting a much more powerful influence.

In terms of indirect and mediation effects, the results of SEM indicated that treating both IPTS constructs (i.e., perceived burdensomeness and thwarted belongingness) as mediator variables in the relationship between psychological strains and suicidal thoughts brought forth substantial contribution. While perceived burdensomeness produced two full mediation effects, thwarted belongingness entailed two full and a partial mediation effect. Perceived burdensomeness fully mediated the relationships from value and deprivation strains to suicidal thoughts. Thwarted belongingness fully mediated the relationships between value and coping strains to suicidal thoughts and partially mediated the relationship between aspiration and suicidal thoughts. In addition, while depression moderated five out of eight conditional indirect effects from psychological strains to suicidal thoughts in a way that this particular indirect effect was stronger at higher levels of depression, perceived social support moderated two out of eight indirect effects only through perceived burdensomeness, but through thwarted belongingness, in a way that this particular indirect effect was weaker as perceived social support increases. The hypothesized model explained 66% of the variance in suicidal thoughts.

CHAPTER 5

DISCUSSION

This concluding chapter is structured into three primary parts. In the first section, the results (i.e., direct, indirect, and moderator effects) obtained from the current study were discussed within the context of existing literature. In the subsequent section, implications for theory, practice, and research were covered. The last section delves into the recommendations for future research.

5.1. Discussion of the Findings

The purpose of the current study was to investigate how psychological strains (i.e., value, aspiration, deprivation, coping), perceived burdensomeness, thwarted belongingness, perceived social support, and depression related to suicidal thoughts in a sample of emerging adults. Hence, structural equation modeling and moderated mediation analysis were performed to investigate the associations through hypothesized structural model. The findings of the study are discussed in the following sections.

5.1.1. Discussion of Direct Effects

Under this heading, the direct effects among exogenous (i.e., value, aspiration, deprivation, and coping strains), endogenous (suicidal thoughts), and mediator variables (i.e., perceived burdensomeness and thwarted belongingness) were discussed.

Initially, as measurement invariance was ensured at all four hierarchical levels (see Table 4.4), the findings and conclusions derived from the current study reflect the same meaning and can be interpreted in the same way across genders. To the researcher's knowledge, the measurement invariance regarding gender has not been tested in a structural that involve psychological strains, although gender differences in psychological strains were reported such that females are more inclined to report higher levels of value and coping strain while males are more likely to score higher on the domains of aspiration and deprivation strains (Sun & Zhang, 2016; Zhang et al., 2009). Therefore, to the researcher's knowledge, this study is the first attempt to investigate psychological strains in a structural model and to examine whether the measurement invariance was ensured for the relationship between psychological strains and suicidality concerning gender.

In terms of the psychological strains, although all four domains (i.e., value, aspiration, deprivation, and coping) were statistically significant predictors of suicidal thoughts, the inclusion of IPTS variables as mediators turned those significant relationships into non-significant ones, indicating potential mediating effects within the hypothesized model. In the hypothesized model, only aspiration strain was found to be directly related to suicidal thoughts; however, all four sources of strains separately predicted suicidal thoughts in the absence of mediators. In a similar vein, among all sources of strains, aspiration strain yielded the strongest bivariate correlation with suicidal thoughts.

Aspiration strain arises from the gap between what individuals are hoping to achieve and the reality of their current circumstances. The bigger the gap, the more severe the strain, which might result in feelings of frustration, stress, and a sense of being overwhelmed. This, in return, leads to decreases in life satisfaction (Zhao et al., 2020). Using data from two case-control epidemiologic studies in China, it was revealed that higher levels of aspiration strain increase the odds of suicide death by 5.70 times while it was 1.59, 1.15, and 1 for deprivation, value, and coping strains (Lyu et al., 2020). In another study, it was revealed that among four sources of strains, aspiration strain was the only subdimension that was significantly associated with both perceived

burdensomeness and thwarted belongingness (Zhang et al., 2020). Altogether, it is apparent that aspiration strain holds special importance when it comes to suicidal behavior, irrespective of the inclusion of other relevant constructs.

According to Zhang (2009), educational achievement, choice of profession, and partner selection are primary areas where aspiration strain might manifest itself. Considering the developmental period of emerging adulthood, those areas correspond to the developmental tasks that individuals strive to accomplish during this phase (Trible, 2000). During the emerging adulthood period, individuals gradually assume more responsibilities and commit to more enduring life decisions, which might result in confusion and self-doubt (Schwartz et al., 2013). Therefore, it is quite possible that the impairments and/or challenges in meeting those tasks might increase the severity or duration of aspiration strain, which theoretically creates feelings of dissatisfaction, frustration, entrapment, and desperation (Zhang, 2019), which makes individuals more vulnerable to experiencing suicidal thoughts.

For the non-significant direct effect of value strain to suicidal thoughts, one plausible explanation is that experiencing value strain might not be generalizable to the entire population as women are more likely to experience value strain (Sun & Zhang, 2016). Some sources of value strain were conflicts between adopting the tenets of individualism versus collectivism, Eastern versus Western values, and traditionalism versus modernism in the status of women (Zhang et al., 2018). Although Turkish culture underlines both interpersonal relatedness and separation (Kağıtçıbaşı, 1996; Tamar et al., 2006) individualistic values are pervasive and perceived as acceptable among young and educated people in Türkiye (Yetim, 2002). The overwhelming majority of the sample for the current study consisted of either college students or graduates, which depicts a relatively highly-educated profile. For the current sample, compared to other sources of strains (e.g., aspiration, deprivation and coping) the mean values for value strain was found to be the lowest among all four sources of strain. Therefore, a non-significant direct effect might be an indicator of lower levels of conflict experienced in the domain of value by highly educated emerging adults.

For the non-significant direct effect of deprivation strain on suicidal thoughts, one reasonable explanation could be that deprivation strain is a perceived situation where individuals compare themselves with other people who have a similar background and reach the conclusion that the others are better off in terms of economical conditions (Zhang, 2019). In the current study sample, a clear majority of participants identified themselves as belonging to the middle-class category in terms of socioeconomic domain. As Zhang (2011) puts it, for deprivation strain to emerge, one should believe that they live in absolute poverty so that they can make comparisons and experience the sense of tangible lacking. It is apparent that the participants of the current study do not experience intense relative deprivation. Therefore, because current participants' perception of their economic circumstances is not at extreme ends, a state of comparison would not be feasible for most, as supported by computed mean scores in deprivation strain which yields the lowest mean score among all four sources of strain. As a result, due to equality in terms of socioeconomic domain, respondents might not have been experiencing deprivation strain to the extent that it would immediately trigger suicidal thoughts.

As for the non-significant direct effect of coping strain on suicidal thoughts, it appears as though coping strain is a distinct predictor of severe suicidal behaviors such as suicide attempts and completed suicides (Zhang, 2009), and coping skills are relevant factors explaining suicide attempts and completed suicides across different samples (Li & Zhang, 2012; Mirkovic et al., 2015; Sun & Zhang, 2015). In line with the theoretical baseline, although coping strain was positively related to depression, suicidal thoughts, perceived burdensomeness, thwarted belongingness, and negatively related to perceived social support, the direct effect of coping strain on suicidal thoughts was non-significant. The sample characteristics might be also of importance because coping strain tended to stand out when more serious suicidal behaviors such as suicide attempts and completed suicides are matters of subjects (Sun & Zhang, 2016; Zhang, 2009; Zhang et al., 2018). Considering the sample of the current study, let alone fatal suicidal behaviors, participants reported fairly low scores in suicidal thoughts. Taken together, to speculate, especially within the scope of the strain theory of suicide, as the coping strain was found to be prominently related to fatal suicidal

behaviors, the strength of the direct effect of it might have remained in the background as participants reported considerably lower scores in suicidal thoughts.

Contrary to the “gender paradox” (Canetto & Sakinofsky, 1998) in suicidal behavior, results of the present study indicated a statistically non-significant difference in the scores of suicidal thoughts between males and females, though males reported slightly higher mean scores. The gender paradox of suicidal behavior, which implies that while completed suicides were more common among males, non-fatal suicidal behaviors (e.g., suicide ideation, attempts, self-injurious behaviors) are more prevalent among females, was supported by numerous meta-analysis studies (Freeman, 2017; Miranda-Mendizabal et al., 2019). In this study, suicidal thoughts demonstrated a gender-invariant pattern. Studies investigating gender differences in suicidal behavior in the context of Turkish young and emerging adults revealed a disuniform pattern and substantially yielded results that were congruent with gender paradox (Coşkun et al., 2012; Göktaş & Metintaş, 2019; Ulusoy, 2005). Nevertheless, this non-significant result in suicidal thoughts can partly be attributable to the characteristics of the sample studied. As mentioned, the sample of the current study consisted of individuals who had relatively high educational attainment. Several studies reported that as educational attainment increases, the gap between genders in terms of suicidality decreases (Lorant et al., 2005; Philips & Hempstead, 2017), or there is a curvilinear relationship between educational attainment and suicidality (Shah et al., 2008).

Research findings aiming to reveal the effect of religious involvement on suicidality vary. In the current study, religious involvement was measured by three different questions, and each component was related to decreased risk of having suicidal thoughts. That is, there was an inverse and significant relationship between suicidal thoughts and believing in a religion, the strength of the religious belief, and more frequent participation in religious activities. There are pile of research that validate this association (Chang et al., 2000; Dervic et al., 2004; Lizardi et al., 2007; Szanto et al., 2003). In the current sample, the results of descriptive statistics revealed relatively higher scores in perceived social support and religiosity while lower scores in suicidal thoughts. Having a high degree of religious affiliation might directly or indirectly

affect the reasons for living (Gearing & Lizardi, 2009) and inoculate hope (King et al., 2020), which could be prospective factors explaining the inverse relationship obtained between religiosity and suicidality. The other feasible explanation is that religious beliefs against suicidal acts are of essential determinant of how people react to suicide (Stark et al., 1983). As the sample of the current study presents a highly religious profile, the negative relationships in all domains of religiosity (i.e., belief, the strength of the belief, and participation in religious activities) and suicidal thoughts were expected results.

As previously noted, within the scope of the current study, relatively lower scores in suicidal thoughts were reported. A feasible rationale behind that might be the site of the study. As the convenience sampling method was used, a quick inspection of the cities where participants live revealed that most of them were from provinces (rather than metropolitans) where suicidal behavior is far less common compared to metropolitan cities in Türkiye (Eskin, 1999). A similar relationship was found in a meta-analysis including 35 research articles conducted by Satherley et al. (2022), where it was concluded that suicide rates are more prevalent in metropolitans. For this reason, a potential explanation for this result is that unlike individuals living in provinces, individuals residing in metropolitans might have to deal with serious drawbacks such as heightened crime rates, social fragmentation due to urbanization, economic hardships, lower-quality accommodation services, and restricted availability of green space (Hatch, 2005).

Last but not least, it is worth mentioning the direct effects of mediators (perceived burdensomeness and thwarted belongingness) on suicidal thoughts. Two cornerstone concepts of Joiner's IPTS (2015), are *perceived burdensomeness* (the entrenched perception of becoming a burden on others, often stemming from the mistaken assumption that one's death holds more value than their existence) and *thwarted belongingness* (the feelings of social isolation or impairments in basic need of belongingness) were found to be related to suicidality across divergent contexts (Becker et al., 2020; Czyz et al., 2015; Glaesmer et al., 2017; Hill and Pettit, 2014; Ma et al., 2016; McClay, 2020; Van Orden et al., 2012). In the current study, in a

similar manner to Ma et al.'s (2016) meta-analysis including 66 studies, though both concepts were significantly associated with suicidal thoughts, perceived burdensomeness exerted a substantially powerful direct effect when compared to thwarted belongingness. The distorted perception of being a burden on others may lead to withdrawal from social interactions, which in return, leads to feelings of isolation and disconnection. Even further, the absence of social support may exacerbate the emotional pain, reinforcing the cognitive distortion that their absence might be preferable to their presence. Thwarted belongingness, in the same vein, was related to suicidal thoughts, but the relationship between thwarted belongingness and suicidality was somehow weaker. One reason could be that the thwarted belongingness measured by the Interpersonal Needs Questionnaire does not coincide with the theoretical conceptualization of the term (Ma et al., 2016), implying potential measurement problems. Nevertheless, the direct effect of thwarted belongingness to suicidal thoughts was significant, implying that lack of social connectedness, rejection, exclusion, or isolation tended to make individuals more vulnerable to experience suicidal thoughts.

Lastly, the inclusion of depression, which produced the strongest correlation with suicidal thoughts when compared to other variables of the present study, would increase a great deal of variance explained in suicidal thoughts. Concordantly, it is very well known that among other mental health concerns, depression is one of the most prominent predictors of behaviors on the suicidality spectrum (i.e., ideation, attempts, and completed suicides). However, to make the structural model more parsimonious and sophisticated, rather than including depression as a direct predictor, it was treated as a moderator variable, and therefore, its explanatory effect on suicidal thoughts could not be computed except for a strong bivariate correlation. Instead of exploring the direct impact of depression, it was examined whether depression was able to change the strength or direction of the indirect relationships offered through the hypothesized model. Similar procedure was applied to the variable of perceived social support. Rather than exploring its direct effect on suicidal thoughts, it was examined whether the indirect relationships proposed within the model changes by different levels of perceived social support.

5.1.2. Discussion of Psychometric Properties of the Psychological Strain Scale

The one aim of this study was to adapt PSS, originally developed by Zhang et al. (2014), into Turkish. According to the results obtained from both the pilot and the main study, PSS is a valid and reliable instrument to be utilized in Turkish culture. Similar to the original version of the PSS, a four-factor structure was maintained, with internal consistency scores in both the pilot and the main study ranging from good to excellent based on Cortina's (1993) criteria.

Before testing the measurement and structural models, it was aimed to pilot the PSS by providing validity and reliability evidence. The results of convergent validity were as hypothesized. In a similar vein to the original study, four factors were extracted and entire subscales were significant predictors of suicidal thoughts, and positively correlated with depression, anxiety, and stress. In addition, self-esteem, which was found to be a protective factor against suicidality (Bhar et al., 2008), was inversely related to all four types of psychological strains as well as the total psychological strain score. Lastly, the correlations between social desirability and all four psychological strains were non-significant, implying that the PSS is largely unaffected by social desirability bias. In total, eight out of forty items were excluded due to low factor loadings. Three items in value strain, three items in coping strain, one item for deprivation, and one item for aspiration strain yielded weak loadings on the hypothesized dimensions.

To start with, in the subscale of value strain, seemingly, the Likert statement indicates the conflict between whether women and men should have equal rights (item 5) and the statement referring to conflict/choosing between living one's life as a virgin or not (item 7) are not distinguishing statements that hypothetically able to differentiate emerging adults who have higher and lower levels of value congruence or who have a conflict in adopting one value but not the opposite. Another explanation, which supports the previous speculation, could be related to the mean scores obtained from those questions. For those two items, the mean scores and standard deviations were considerably low, indicating that participants mostly provided invariant replies which

pointed out the low discriminative power of those two items. Hence, those items did not serve the purpose of differentiating individuals who have higher value strain than lower value strain. In addition, the item ‘I am not living the way I want, and I feel bad about it’ was weakly loaded on the hypothesized dimension. In Zhang et al.’s (2022) study aiming to test the psychometric properties of the PSS in larger samples, it was revealed that the same item (value 9) was cross-loaded. In the original version, the authors decided that the item should be kept as the factor loading was decent. In the Russian version of the PSS, Chistopolskaya et al. (2023) found that the first two items that were dropped out in this study (value 5 and value 7) yielded low factor loadings, and the last item excluded (value 9) was cross-loaded.

Following that, in the subdimension of coping strain, three items yielded low factor loadings. The statements ‘Face is so important to me that I will do everything to protect my public image, even suicide’ (item 1), ‘I cannot handle too many things at the same time’ (item 2), and ‘I am always to do things as I like, without thinking of the consequence’ (item 4) did not significantly load on the hypothesized dimension. Interestingly, among all items, the lowest mean and variance belonged to item 1 in coping strain, which indicates extremely low discriminatory power. One possible explanation of this could be related to using the word “suicide” explicitly. As the data were collected from a non-clinical sample and most of them reported that they believe in a religion, using the word itself may have pointed out the stigma existing in Muslim-majority countries (Shoib et al., 2022) and might not have resonated with a non-clinical population. Furthermore, as a salient difference between the rest of the items in coping strain and item 2 and/or item 4, almost 70% of the respondents either replied as ‘1-definitely disagree’ or ‘2-disagree’ to those two items. Once more, this point may enable one to conclude that the items were low in terms of distinctiveness. However, as coping strain was hypothesized to be one source of psychological strain that precedes suicidal behavior, it is important to obtain relatively higher variability in the scores of the items belonging to the PSS. Therefore, one reason why those particular two items did not work could be related to the relatively lower levels of distinctiveness of the items, indicating that those items would not differentiate individuals experiencing low and high levels of psychological strains.

The Turkish translation of excluded items in both aspiration strain and deprivation strains seemed to be “double-barreled” (Bradburn et al., 2004) questions. Therefore, including more than one stimulus in one question might increase the complexity of that particular question (Dillman et al., 2004) which may have led respondents to confer two different meanings, eventually yielding weak loadings. The other explanation for the excluded item in the aspiration subscale, ‘I wish I were living in a better family, but I cannot realize it according to some reasons’ (item 2), might be that the Turkish translation of this item connotes the meaning that having a ‘better’ family is in the hands of the individual. Throughout cognitive interviews, this item was one of the few that participants had a hard time comprehending as they stated that they view their families as an innate/unquestionable entity, leaving no room for further questions and most of the participants stated that the question is somehow unsuited as ‘there is nothing they can do about it’. In the deprivation strain, the excluded item was ‘I believe I am good enough, but I am not satisfied with the treatment from others’ (item 3). One possible explanation for this is that, in a similar vein to item 2 in aspiration strain, the Turkish translation of this item resembles a double-barreled question, which leads to confusion as it consists of two parts. Even if participants might have experienced difficulties interpreting the first part, the second part might not seem applicable to them, or vice versa.

Among all subscales, the deprivation strain (tension stemming from perceived deprivation based on economic conditions) yielded the highest factor loadings and reliability scores, and it seems that one of the second most relevant constructs across four types of strains. Throughout the literature, economic conditions were proven to have a major influence on suicidal behavior. In addition, in Türkiye, a significant increase in suicide rates during times of economic crises (e.g., the economic crisis in the year 2001) was reported. Similarly, during the COVID-19 pandemic, it was reported that the poverty rate in Türkiye has undergone a substantial increase (The World Bank, 2023). As a consequence, impairments in economic conditions might have led to detrimental results such as limited access to mental health services and financial instability, which, in return, might have increased suicidality indirectly through feelings of hopelessness, helplessness, and depression. However, in the

Russian version of the PSS, the deprivation subscale was found to be somehow “less informative” (Chistopolskaya et al., 2023). One reason behind this result might be the relative economic stability and lower poverty rates in Russia during and post-pandemic when compared to Türkiye (The World Bank, 2023). The second reason why deprivation strain was a more relevant construct within the scope of this research could be related to the sample characteristics. In the Russian version or other versions of the PSS (scale development and adaptation studies), the data were derived from college students. However, it might be possible that economic conditions play a more crucial role during emerging adulthood (Lilly et al., 2023) because, in this period, emerging adults were expected to forge social ties, follow educational opportunities, and establish a family, which demands financial responsibility (Arnett, 2000).

On the other hand, the subscale of value revealed somehow weaker factor loadings and reliability scores when compared to other dimensions. One reason behind this might be that this sub-dimension included such sensitive questions related to the conflict between virginity and adopting sexual freedom and such (item 7). In Türkiye, discussions about sexuality are frequently deemed taboo, leading to feelings of shame among both men and women (Bakır & Avcı, 2023; Evcili & Gölbaşı, 2019). Therefore, lower mean scores and variability in this subscale might partly be related to this assumption. According to Yan (2021), asking delicate questions about sensitive topics such as sexuality and politics may lead to false reporting and inaccurate responses, which is considered to be a type of measurement error. Similarly, Chistopolskaya et al. (2023) concluded that the same sensitive questions yielded low mean scores and variability, and ultimately dropped out of the scale in the Russian form of the PSS.

5.1.3. Discussion of the Indirect Effects

In this heading, the indirect effects of perceived burdensomeness (PB) and thwarted belongingness (TB) on the relationship between psychological strains (value, aspiration, deprivation, and coping) and suicidal thoughts were described and discussed. Each indirect effect was presented in different headings and explained in detail.

The significant indirect effects of PB and TB in the relationship between psychological strains and suicidal thoughts were found. First of all, for the relationship between value strain and suicidal thoughts, both PB and TB fully mediated this relationship, which is one of the most striking findings of the current study because value strain is the only source of strain whose direct effect on suicidal thoughts was fully mediated by both IPTS constructs (i.e., PB and TB). In other words, higher levels of value strain point out greater levels of unmet interpersonal needs (e.g., PB and TB), and as a result, suicidal thoughts demonstrate an increase. More importantly, only the inclusion of IPTS constructs ensured this relationship via full mediation effect. For the direct effect of aspiration strain on suicidal thoughts, TB partially mediated this relationship, but PB did not result in a significant indirect effect. That is, higher levels of aspiration strain led to impairments in the basic need to belong, which, in return, brought about suicidal thoughts. For the relationship between deprivation strain and suicidal thoughts, PB fully mediated this relationship, but TB did result in an indirect effect. This indicates that individuals' distorted perception that they would pose a burden on others because of the way that exist or act (i.e., PB) occurring in the presence of deprivation strain leads to suicidal behavior. Lastly, for the direct effect of coping strain on suicidal thoughts, TB fully mediated this relationship, but PB did not result in an indirect effect. Put differently, experiencing coping strain at higher levels led to thwarted belongingness, which, in return, increased suicidal thoughts.

RQ 1.3. Value strain to suicidal thoughts via perceived burdensomeness and thwarted belongingness.

As might be one of the most salient results of the current study, both IPTS constructs (PB and TB) fully mediated the relationship between value strain and suicidality. In other words, unfulfilled needs in terms of the interpersonal domain (PB and TB) fully explained the association between value strain and suicidality. Value strain refers to the inner conflict stemming from holding two opposite internalized notions (i.e., values or beliefs) in a person's value system. One possible explanation for such a result could be related to sample characteristics. A vast majority of participants reported that they believe in a religion and obtained relatively higher scores in

different domains of religiosity (e.g., participation in religious activities and strength of the religious belief). Considering that as religiosity level increases, the effect of conflicts stemming from values (i.e., value strain) tends to intensify, which leads to adverse mental health outcomes such as lower levels of self-forgiveness (Hook et al., 2015; Lee et al., 2015), it appears to be feasible to conclude that value strain was a distinctive predictor of suicidality through perceived burdensomeness and thwarted belongingness.

The period of emerging adulthood is a phase where individuals initiate a journey of self-discovery, exploring their identity and forming the principles, beliefs, values, and paths they aim to pursue in life (Para, 2008). This period is characterized by constant exploration and experimentation with potential choices, and shared values often form the basis of strong and enduring social connections (Arnett, 2000). On the other hand, in a study conducted in Turkey, it was concluded that with increased exposure to individualistic cultural values through social media, people holding collectivistic tendencies, especially younger generations, are starting to feel more uncertain about the traditional values they hold (Akdoğan & Çimşir, 2022), which in return, might exacerbate the conflicts occurring as a result of value strain. Subsequently, higher levels of value strain might prevent emerging adults from establishing enduring social connections as shared values seem to be one cornerstone aspect of meaningful social interactions (Arnett, 2000), and feelings of social isolation resulting from value strain might make individuals more vulnerable to experiencing suicidal thoughts.

Sharing and expressing personal values through actions and relationships lead to feelings of inclusion and belongingness, which caters to establishing deep and satisfactory bonds (Arnett, 2006). Values are formed based on various needs and requirements, such as harmonious social interactions (Seligman et al. 1996), and value congruence, which is an indicator of lower levels of value strain, was found to be a protective factor against suicidality (Taku & Arai, 2023) and positively associated with life satisfaction (Khaptsova & Schwartz, 2016). Therefore, if a person experiences constant conflicts related to a social/personal value, that might be an indicator of lower levels of social and sociocultural adjustment (Ward & Kennedy,

1999; Wesley & Booker, 2021). Social support, which is closely related to the concept of social adjustment, was found to be inversely related to TB (Hill et al., 2017). The determinants pointing out that the fundamental need to belong is somehow thwarted are low levels of perceived social support, loneliness, and living alone (Van Orden et al., 2012). Eventually, in line with the results of the present study, it is feasible to conclude that when individuals are in the absence of reciprocal care (i.e., thwarted belongingness) caused by value incongruence, they might be at greater risk of experiencing suicidal thoughts.

As for the mediator role of PB, during the emerging adulthood phase, individuals have a chance to realize the difference in values between their family and society, which is a major theme in Zhang's (2016) conceptualization of value strain, and make decisions based on their values in a more independent way (Wright, 2012). Thus, during the emerging adulthood period, individuals are thought to be more self-focused (Arnett, 2000) due to relatively lower levels of compliance with traditional responsibilities. However, emerging adulthood in non-Western contexts is slightly different, as the practices that were attributed utmost importance, such as marriage, education, and responsibility to others, might rush them to make a transition to adulthood (Nelson et al., 2004). For an emerging adult living in a conformist-oriented culture like Türkiye, meeting those demands of marriage, education and responsibility to elders might be challenging and as a result, the transition process may become painful. Unable to respond to those demands, individuals might feel left off, which may invite the distorted belief that one's existence is a burden to others. As a result, individual might become more inclined to experience suicidal thoughts.

In a study aiming to test tenets of PSS by analyzing the content of 261 suicide notes conducted by Zhang et al. (2018), however, it was found that neither PB nor TB mediated the relationship between value strain and attempted suicides. It might be possible that apart from completed suicides led by PB and TB, value strain could be more relevant in the context of non-fatal suicidal behaviors such as suicide ideation and attempts (Zhang & Zhao, 2013; Zhang & Lv, 2004; Zhang et al., 2016; Zhang, 2010).

RQ 1.3. Aspiration strains to suicidal thoughts only through thwarted belongingness

Aspiration refers to a strong desire for accomplishments in ideals in several aspects of life, including professional expertise, independence, identity development, increasing knowledge, and bearing roles within the community and the family (Ambrose, 2003). Hope, life goals, dreams, and accomplishments are common phrases related to aspirations from the theoretical framework of strengths perspective (Saleebey, 2006). On the other hand, aspiration strain refers to the gap between what a person has accomplished so far and what they aim to achieve, indicating the anticipated future success (Zhang, 2019). Lower levels of aspiration strain mean that individuals have a sense of purpose and accomplishable goals, which were found to be protective factors against suicidality (Lapierre, 2007; Wang et al., 2007). Therefore, the result regarding higher scores in aspiration strain predicting suicidal thoughts was somehow expected, as proved by several studies (Liu et al., 2019; Lyu et al., 2018; Lyu et al., 2019; Zhang et al., 2011; Zhang et al., 2018).

Individuals have an inherent need to perceive the world as just and morally consistent. Therefore, living and operating in an environment where endeavors seldomly lead to desired outcomes would pose a challenge and affect individuals' functioning in an unhealthy way (Pearlin & Schooler, 1978). In the current sample, individuals may feel frustrated due to aspiration strain as they observe their goals are somehow unachievable, and as this strain intensifies, the result might be feelings of inadequacy and restricted social engagement (Marmot, 2004). Another possible source of aspiration strain could be related to future expectations of emerging adults, as they make plans about education, occupation, and achievement-related issues (Ranta et al., 2014). However, in Türkiye, many young adults face a high degree of competition in finding employment because unemployment rates have undergone a rapid increase, and are concerned about their future goals (Yavuzaslan et al., 2016). Consequently, these feelings of incompetence and restriction could lead to an overall sense of helplessness, anxiety, and disconnection from others over time (Zhang, 2016). TB, which refers to the feeling of being unable to establish connections with others as desired, is hypothesized to be associated with social isolation (Gratz et al., 2020; Qin

& Nordentoft, 2005). Higher levels of social environment and social support in particular, which lead to easier access to resources and opportunities, is one factor having the potential to close the gap between goals and reality for the individual (Sabancı, 2015). In this sense, social environment and social support are opposite concepts of thwarted belongingness, meaning that lower levels of TB have the potential to fill this gap. Therefore, it is feasible to assume that the wider the gap between reality and goals, the more intense the suicidal thoughts, however, this relationship was able to flow through TB.

RQ 1.3. Deprivation strain to suicidal thoughts only through perceived burdensomeness

Deprivation strain, which also refers to relative deprivation, occurs when individuals make a comparison between their economic conditions and the conditions of others, and reach the conclusion that others are much better off (Zhang, 2016). Therefore, relative deprivation is more concrete and perceivable if a society is more polarized in terms of economic domain (Zhang, 2019). Also, the social justice framework underlines the detrimental effect of the unequal distribution of wealth and resources within society on mental health (Smith et al., 2003). Apart from comparisons related to economic conditions, more general negative social comparisons resulted in suicide ideation as well (Kingsbury et al., 2021; Spitzer et al., 2023).

Economical factors play a crucial role in mental health and suicidality at both individual (financial hardships, unemployment) (Haw et al., 2015) and aggregate levels (e.g., economic recessions, low gross domestic product) (Gunnell & Chang, 2016), and those two levels are interconnected and influence each other in various ways (Mathieu, 2022). On the other hand, one aspect peculiar to deprivation strain is that how individuals perceive their circumstances when compared to others exerts a negative influence on well-being (Gabriele & Sahrani, 2021; Lee, 2022).

In the relationship between psychological strains and suicidality, Zhang et al. (2018) found that PB mediated the association between psychological strains and suicidality

only for deprivation strain. Van Orden et al. (2010) indicated that liability to others is one peculiar aspect of PB. Therefore, it is understandable that relative deprivation in terms of the fiscal domain triggers the distorted perception of being a burden on others, which hypothetically makes individuals more vulnerable to experiencing suicidal thoughts. Therefore, it is an expected result that relative deprivation has an enormous influence on suicidal thoughts through PB, which is closely linked to the variables of depression and hopelessness as well (Cuckrowicz, 2011; Van Orden et al., 2010).

The findings of the current study indicated that higher scores in deprivation strain lead to suicidal thoughts through PB, the perception of being a burden on others. Van Orden et al. (2010) indicated that homelessness and unemployment, which are closely related concepts with relative deprivation, contribute to the rigidity of the perception of PB. According to the results of the current study, the association between deprivation strain and suicidal thoughts was fully explained by PB. To interpret this finding, it is important to note that one aspect of PB is liability to others (Van Orden et al., 2010). In a qualitative study aiming to investigate the themes contributing to the perception of PB, being a drain on others, which was represented by financial concerns and expenses, was found to be the most prominent theme (Hill et al., 2019). Several scholars underlined that burdensomeness can be economical, emotional, or situational (Opperman et al., 2015; Van Orden et al., 2008;). Furthermore, unemployment might contribute to the perception of burdensomeness to others (Liu et al., 2022). Several meta-analysis studies revealed that unemployment and suicidality in the forms of suicide ideation, attempts, and completed suicides are associated (Milner et al., 2003; Nordt et al., 2015).

As mentioned, PB is a distorted cognition that others will be better off if the person is dead, and the existence of individuals poses an additional burden on others. In the literature, it was concluded that relative deprivation was associated with several adverse mental health outcomes such as depression, cognitive vulnerability, and negative automatic thoughts (Beshai et al., 2017; Gero et al., 2017; Qin et al., 2022; Suls et al., 2002; Zhao & Peng, 2021). Therefore, it is an expected result that the

perception of relative deprivation leads to distorted cognition that the individual is a burden on others' shoulders, which eventually gives rise to suicidal thoughts.

RQ 1.3. Coping strain to suicidal thoughts only through thwarted belongingness

Coping strain refers to a limited set of abilities to deal with life crises such as unemployment, bereavement, financial losses, failure in educational attainment, problems at workplace and social setbacks (Zhang, 2019). It represents the challenges and deficiencies in effectively managing and overcoming the crises and adversities that individuals encounter. According to the results of the present study, feelings of isolation resulting from limited coping skills to deal with a variety of life events tended to make individuals more vulnerable to experiencing suicidal thoughts. Within the hypothesized model, TB assumed a full mediator role, implying that the path from coping strain to suicidal thoughts is meaningful only when TB is present. TB is characterized by loneliness, lack of reciprocal care, and a sense of social isolation (Van Orden et al., 2012). One reason behind such a striking finding could be that the shift from periods of adolescence to young adulthood brings along several challenges, such as academic expectations and setbacks, pressure due to competitive atmospheres, and achieving less than anticipated might result in interpersonal conflicts and feelings of isolation (Lamis et al., 2016; Mortier et al., 2017). On the other hand, the developmental tasks to be fulfilled by emerging adults, such as educational attainment, establishing close relationships, and selecting a partner and profession (Trible, 2000), would require certain coping skills, especially when an impediment is encountered in fulfilling those. In addition, considering the empirical result that increased levels of feelings of belongingness protect individuals from detrimental consequences of transition periods in developmental stages (Howard et al., 2023), it can be speculated that thwarted belongingness (i.e., impediments in the need for belongingness) might be one result of higher levels of coping strain, which hypothetically antecedes suicidal thoughts.

Within the spectrum of suicidal behavior, the coping strain appears to be the most prominent strain for completed suicides and suicide attempts (Long & Zhang, 2016;

Zhang et al. 2018). In a study aimed at identifying psychological strains in suicide notes in Australia, Zhang et al. (2018) concluded that there was a positive relationship between TB and coping strain. The results of the present study point out the significant positive path from coping strain to TB meaning that greater levels of difficulty in coping skills are associated with impairments in utilizing social support. It was suggested that if individuals have coping skills that are built upon/utilizing the social support sources (i.e., family, friends, and significant others), then it would yield better outcomes in terms of dealing with life crises, but on the other hand, having coping skills that are not responsive to the environment (i.e., not utilizing social support sources) increases the effect of stressors, indicating that utilizing social support while dealing with a certain life event is of utmost importance (Perry et al., 2018).

5.1.4. Discussion of Moderation Effects

RQ 2.1. Moderation role of perceived social support on the strength of the indirect relationship between psychological strains (value, aspiration, deprivation, coping) and suicidal thoughts via perceived burdensomeness and thwarted belongingness.

Both the Psychological Strain Theory of Suicide (STS) and the Interpersonal-Psychological Theory of Suicide (IPTs) treat the concept of perceived social support as a relevant construct with their theory-specific variables and as an integral part of suicide research, as proved by numerous empirical studies. For instance, social support acted as a moderator between psychological strains and suicidality (Lew et al., 2020) in such a way that the higher scores obtained from perceived social support weaken the association between psychological strains and suicidality, which supports the findings of the present study. In addition, a pile of studies demonstrated that social support acts as a moderator between several risk factors such as hopelessness, depression, impulsivity, and suicidal thoughts (Kleiman, 2012; Lamis et al., 2016; Rimmer et al., 2021) such that individuals who reported high levels of perceived social support were less likely to experience suicidal thoughts when compared to the ones who scored relatively low, implying that social support is one prominent factor that decreases the association between risk factors and suicidal behavior.

According to the results, perceived social support moderated the indirect relationship between (1) value strain and suicidal thoughts through PB and (2) deprivation strain and suicidal thoughts through PB. None of the indirect effects of TB were moderated through perceived social support. In other words, the loading of the indirect path from value and deprivation strains to suicidal thoughts through PB was contingent upon perceived social support in such a way that this indirect effect tended to decrease as the level of perceived social support increased, but the same tendency was not obtained for TB. One potential justification of this finding could be that if individuals experience any of the psychological strains (e.g., value, aspiration, deprivation, or coping) leading to the perception that they are disconnected and/or alienated from others, which potentially brings about a sense of exclusion, they might be ignoring or having trouble in identifying/receiving the sources of the social support available since TB is mainly based on perception (Joiner, 2005) and may hamper the process of utilizing the sources of social support available. Accordingly, Barrera's (1987) conceptualization of social support focuses on the two distinctive aspects of social support, which are perceived and received support, though the former one was proved to have more explanatory power in mental health outcomes than the other (Eagle, 2018). For this reason, the 'perceived' characteristics of social support might make it challenging to recognize and utilize it for individuals whose sense of belongingness is somehow deterred.

Another explanation for why higher levels of perceived social support were unable to significantly decrease the indirect effect from psychological strains to suicidal thoughts via TB is related to the concept of TB itself. As argued by Ma et al. (2016), the *TB* subscale of the Interpersonal Needs Questionnaire does not adequately represent the construct. In fact, multiple findings (Bryan et al., 2009; Bryan et al., 2012; Cero et al., 2015; Van Orden et al., 2008) with non-significant associations between TB and suicidality seem to support this conclusion. Although this gap gave rise to the development of a new instrument to measure TB by Ma et al. (2019), PB was still found to be the stronger predictor of suicide risk. Another potential alternative to be explored as to why TB is a less explanatory construct is that it might be a categorical risk factor that increases the risk of suicide when it reaches a specific

threshold of experience rather than representing a continuum (Witte et al., 2017). Lastly, despite TB being seen as a causal factor in suicidality (Joiner, 2005), Allan et al. (2018) concluded that it was not a risk factor based on Kraemer's (2017) conceptualization.

Though perceived social support did not moderate any of the conditional indirect effects from psychological strains to suicidal thoughts through TB, it moderated conditional indirect effects from value and deprivation strains to suicidal thoughts through PB. A likely hypothesis behind this result could be that PB yields much stronger explanatory power when it comes to suicidal behavior (Hollingsworth, 2016; Ma et al., 2016; Ma et al., 2019). Another reason could be that when compared to TB, which is characterized by low levels of perceived social support, limited relations to others, or a sense of isolation, PB promises more hope in the way of being subject to a change (Allan et al., 2018; Ma et al., 2016). Therefore, changes in the strength or the direction (i.e., moderation) of the indirect effects obtained through PB by perceived social support were in line with the promising feature of the structure.

RQ 2.2. Moderation role of depression on the strength of the indirect relationship between psychological strains (value, aspiration, deprivation, coping) and suicidal thoughts via perceived burdensomeness and thwarted belongingness.

According to the results of the current study, depression moderated 5 out of 8 indirect effects of psychological strains on suicidal thoughts, either through PB or TB. To be more specific, the indirect effects of value and deprivation strains to suicidal thoughts through PB and the indirect effects of value, aspiration, and coping strains to suicidal thoughts through TB were moderated based on the levels of depressive symptoms. In other words, for individuals who reported high levels of depression, the indirect effect from certain psychological strains to suicidal behavior through PB and TB turned out to be more powerful when compared to the individuals who reported middle and low levels of depression. More interestingly, as opposed to perceived social support being a moderator for 2 out of 8 indirect effects through PB and TB, depression moderated more associations, which implies that the moderator role of depression to the indirect

effect of psychological strains to suicidal thoughts was more overarching in the context of unmet interpersonal needs (i.e., PB and TB) and psychological strains. From the perspective of both STS and IPTS, some studies supported the present outcome that apart from its direct influence, depression is a potential variable that has an indirect influence on the spectrum of suicidality. For instance, depression acted as a mediator between interpersonal needs and suicidal behavior (Chang et al., 2022) and as a moderator in the relationship between relative deprivation and suicidality (Zhao et al., 2023).

Depression, or major depressive disorder, is the foremost mental health condition associated with suicidal behavior (Cai et al., 2021; Rotenstein, 2016). It was also found to be closely linked with PB and TB (Silva et al., 2015). In addition, depression is found to be related to value, aspiration, deprivation, and coping strains (Liu et al., 2019; Zhang et al., 2020). Without dispute, it is an exceptionally relevant construct in suicide research and has already been found to be significantly associated with entire study variables, along with its meaningful moderator effects on the indirect effects of psychological strains on suicidal thoughts through PB and TB within the scope of the current study. Although not every depressed individual is inclined to engage in suicidality (Bauer, 2005), one feasible way to interpret this finding is that depression might exacerbate the magnitude of the effects derived from hypothesized pathways (e.g., from psychological strains to suicidal thoughts through PB and TB), thereby, putting individuals at even higher risk for vulnerability to suicidal thoughts.

In addition, according to the diathesis-stress model of suicide (Schotte & Clum, 1987), the combination of trait factors and major life events that precede negative emotional states and stress trigger the emergence of behaviors within the suicidality spectrum, particularly in the form of suicidal thoughts. Psychological strains were hypothesized to be occurring in response to negative life events that lead to conflicts and psychological distress (Zhang et al., 2018), and depression was mainly responsible for the occurrence of feelings of emptiness, sadness, hopelessness, and helplessness. Following that, the mediator variables of the current study (PB and TB) are psychological structures that hypothetically emerge as a result of social interactions

(Joiner, 2005; Van Orden et al., 2010). Depression was hypothesized to be influenced by both major life events and diathesis including genetic/biological factors, personality traits, and early life events (Saveanu & Nemeroff, 2012). Hence, the result indicating that depression is a moderator for the 5 out of 8 indirect effects can substantially be explained by the diathesis-stress model, where suicidal behavior is seen as the result of complex interactions within certain psychological, social, and biological structures (Mann et al., 1999).

RQ 3. Does the hypothesized measurement model differ across gender?

In terms of suicidal thoughts, the result of the independent t-test revealed that there was no significant difference across genders. In addition, measurement invariance was ensured through multigroup CFA at all four hierarchical levels, and therefore, the results of the SEM were interpreted based on a single sample model.

To the researcher's knowledge, no prior SEM studies have investigated the measurement invariance of a model that treats psychological strains either as endogenous, exogenous, or mediator variables. However, gender differences were inspected separately for each psychological strain domain in previous research (e.g., Sun & Zhang, 2016; Sun et al., 2020). In these studies, it was found that males reported higher scores in relative deprivation and aspiration strains, and females reported higher scores in value strain. No differences were found in terms of coping strain, but it was underlined that the coping strain was the only strain associated with attempted suicides for both men and women.

In the current study, significant gender differences were found only for value and coping strains in such a way that females scored significantly higher scores in both domains. For value strain, one interpretation could be that Turkish culture holds elements from both individualist and collectivistic cultures (Göregenli, 1997), which creates conflict in terms of the roles that women possess because in developing countries, the values of traditional collectivism and modern individualism may diverge and the result usually becomes a state of disequilibrium eliciting suicidal

behavior (Zhang, 2019). As for the coping strain, it can be speculated that while women tend to focus on altering their emotional responses and use emotion-focused coping when facing a crisis, which was hypothesized to be associated with higher levels of suicidality (Safa et al., 2014), men are inclined to use problem-focused coping strategies (Matud, 2004). Therefore, hypothesized as a predictor of suicidal behavior, women reporting higher scores in coping strain might be related to the coping style utilized, but further clarification is needed.

5.2. Implications for Theory

The current study offers novel findings to existing literature regarding suicidality. First up, so far, several theories using either psychological or sociological backgrounds have presented their perspectives and conceptualized suicidal behavior and/or come up with factors leading to increased odds of engaging in those behaviors. The hypothesized model within the scope of the current study was based on two theories: Zhang's Strain Theory of Suicide (STS) and Joiner's Interpersonal-Psychological Theory of Suicide (IPTS). The former attempts to explain suicidality from a sociology-based perspective, while the latter attempts a psychology-based perspective. To the best of the researcher's knowledge, no prior studies have investigated the mechanism leading to suicidal thoughts by combining IPTS and STS in a structural equation model, with the inclusion of moderator variables of perceived social support and depression. Therefore, the current study pioneers an extensive exploration in suicide research, offering a more intricate point-of-view on how psychological strains and unmet interpersonal needs affect suicidality and whether the strength or the direction of this effect changes based on different levels (i.e., low, middle, and high) of depression and perceived social support. Hence, the ultimate aim of the current study was to explain suicidal thoughts by integrating the aforementioned two theories to provide a more comprehensive understanding. The results were promising as to the applicability, practicality, and usability of those concepts among Turkish emerging adults. Another contribution of this study in terms of theoretical perspective is that multiple risk factors (psychological strains, interpersonal needs) and protective factors (e.g., perceived social support) were incorporated into the same

structural model, allowing one to reach more broad-in-scope conclusions about suicidality, which is one point that was repeatedly criticized by scholars (e.g., Sher, 2019; Ivbijaro et al., 2019).

It is argued that one limitation of IPTS is its lack of focus on sociocultural and systemic structures (Hjelmeland & Knizek, 2020; Opara et al., 2020). For this reason, along with IPTS variables, the inclusion of STS variables in the same hypothetical model was believed to increase the comprehensiveness in terms of the etiology of suicidal behavior, leading to the improvement of the theory and obtaining a more comprehensive understanding of the complex and multifaceted nature of suicide.

Adapting the Psychological Strain Scale (PSS) (Zhang et al., 2014a) into Turkish was one of the backbone theoretical implications of the current study. The original PSS has undergone two processes to decrease the number of items for each dimension and to prove the psychometric properties of the instrument in diverse samples (Zhang et al., 2014a; Zhang et al., 2014b). Results of the present study indicated that the original four-factor structure was maintained, and PSS was found to be a valid and reliable instrument to assess psychological strains that hypothetically precede suicidal thoughts among emerging adults. This finding per se is of extreme value as clinical assessment tools, which help to identify individuals who are at risk of suicidal behaviors, are at the heart of suicide prevention efforts (Runeson et al., 2017).

The other results derived from the current study present some foundational theoretical implications as well. To start with, experiencing certain psychological strains (i.e., value, aspiration, deprivation, and coping) in the furtherance of negative life events was shown to be associated with the increment of one's vulnerability to suicidal thoughts. Subsequently, the distorted cognition of being a burden on others and escalated feelings of social exclusion further increase this vulnerability to the point that with the exclusion of those two mediators (i.e., PB and TB), the psychological strains (except for deprivation strain) would not be significantly linked to suicidal behavior (i.e., full mediation effects). More specifically, perceived burdensomeness was demonstrated to increase vulnerability to suicidal thoughts resulting from value

and deprivation strains, whereas thwarted belongingness was shown to increase this vulnerability emerging as a consequence of value, aspiration, and coping strains. In addition, this study is one of few attempts that allows concomitant inclusion of potential mediators and moderators that influence the mediation effects to explain the factors making individuals more vulnerable to suicidal thoughts. In brief, hypothesizing a relatively sophisticated structural model that allows the inclusion of several variables from distinctive theories, this study has a theoretically integrative feature that could enable researchers to grasp suicidality from a meta-theoretical perspective.

Another implication for theory is related to the inclusion of demographic variables, which were hypothesized to be associated with suicidal thoughts. As a part of the current study, the effect of gender, religiosity, educational level, and socioeconomic situation on suicidal thoughts were investigated and the results were presented, although suicide literature treats the relationship between demographics and suicidality with sensitivity, as findings were inconsistent (Huang et al., 2017). Added to that, within the scope of the current study, it was also concluded that the hypothesized structural model did not differ across genders, ensuring that the measurement invariance was obtained. To the researcher's knowledge, this is the first attempt to test STS's assumptions in a hypothetical model where obtaining measurement invariance was prioritized as a purpose of the study. Therefore, the results were promising in terms of enriching the theoretical background.

5.3. Implications for Practice

The findings of the current study yielded several suggestions for practice as well. The results, through the hypothesized structural model, granted promising findings for practice regarding the statistically significant role of psychological strains (i.e., value, aspiration, deprivation, and coping), interpersonal needs (i.e., perceived burdensomeness and thwarted belongingness), perceived social support and depression on vulnerability to experiencing suicidal thoughts. Furthermore, ensuring measurement invariance implies that practical implications can be generalizable to both male and female emerging adults. According to the results of a population

survey, individuals with suicide ideation were four times more likely to commit suicide when compared to individuals without suicide ideation (Maguire et al., 2019). Hence, it is paramount to identify, control, and intervene in suicidal thoughts in the realm of suicide prevention.

Mental health practitioners working with emerging adults who are at risk for engaging in suicidal behaviors might benefit from the results of the current study. First up, both the previous research (Sun & Zhang, 2016; Zhang et al., 2009; Zhang & Zhao, 2017) and current findings pointed out that contextual variables such as value incongruence (i.e., value strain), the discrepancy between personal goals and individual's perceived ability to achieve them (i.e., aspiration strain), perceived deprivation of resources that were deemed important for their well-being (i.e., deprivation strain), and limited coping skills when facing a life crisis (i.e., coping strain) are significantly linked to suicide risk. Therefore, when conducting intake sessions or crisis interventions, practitioners might apply the PSS to measure the conflicts arising from the abovementioned four domains and shape their treatment plans accordingly.

To decrease value strain, during the counseling sessions, it might be feasible to apply the value clarification technique, which is used in cognitive behavioral therapy, by preparing reflection cards or revealing distorted cognitions about values. In addition, applying several other cognitive behavioral techniques (e.g., cost-benefit analysis and cognitive restructuring) might help clients deal more effectively with the tension resulting from the indecision between adopting a particular value. For a more systematic way of examining and clarifying values during the session, one might benefit from Twohig and Crosby's (2008) seven-step approach. For decreasing aspiration strain, it was suggested that goal-setting processes within different areas of life should be implemented wisely (Zhang, et al., 2017). One practical implication would be that during the session, impractical and unrealizable goals in divergent aspects of life (i.e., family, friends, career, school, etc.) should be reframed in a way that they would be more realistic (e.g., by implementing cognitive restructuring) and expectations should be inspected more carefully so that unrealistic anticipations can be substituted for more realistic ones. To diminish deprivation strain, which was

defined as the conflict arising from perceived economic deprivation and/or the consequence of making comparisons with others who have similar backgrounds and reaching a conclusion that others lead a better life, practitioners should be aware that this imbalance potentially damages clients' emotions and cause resentment and sense of desperation. Therefore, on an individual basis, practitioners should expand their counselor toolbox in terms of the techniques to be implemented in such a situation. On a systemic basis, on the other hand, Richardson (2011) pointed out that the effect of relative deprivation is perceived as more intense among individuals who are highly educated because their expectations regarding their social status would be higher as well. The sample of the present study mainly consisted of emerging adults who are unemployed and hold higher levels of educational degrees. Therefore, one implication on a systemic level would be that recruitment procedures should be regulated by the government/law to restrain any unfair treatment or incidents of injustice in recruitment procedures. For the coping strain, practitioners from the field of counseling should work with suicidal clients to improve their coping and problem-solving skills. It is important to note that coping strain can be exacerbated by such factors as traumas, social isolation, mental health issues or a lack of access to resources and support.

Other possible implications of the current study are related to the mediator variables of the study (i.e., the IPTS' variables of perceived burdensomeness and thwarted belongingness). In light of the findings, first and foremost, practitioners working with individuals who have suicidal thoughts could conduct an in-depth inquiry about those contextual/ecological factors having the potential to result in the occurrence of feelings of perceived burdensomeness (PB) and thwarted belongingness (TB), two variables that utilize direct effects from strains to vulnerability to suicidal thoughts. When the themes related to PB and TB are uncovered during the session, practitioners should keep their eyes peeled to evaluate the thoughts that can be in the frame of PB and TB and implement appropriate techniques to challenge the distorted beliefs that intensify suicidal thoughts. Fortunately, perceived burdensomeness, which refers to the dysfunctional belief that one's existence is a burden on others, was found to be malleable through interventions that resulted in decreases in suicidal thoughts, while thwarted belongingness was found to be more robust to change and interventions

aiming to decrease it seemed to be running a stone wall (Hill and Petit, 2016; Van Orden et al., 2016). During sessions, some pathways to work thwarted belongingness could be promoting social connectedness and social integration by encouraging the development of social support networks. To the extent possible, a joint attempt to intervene in both depression and distorted cognition of perceived burdensomeness, and to increase the levels of perceived social support (or to increase individuals' awareness of how to better utilize it) might be effective for decreasing vulnerability to experiencing suicidal thoughts.

Another important implication regarding practice is appertaining to creating a suicide safety plan which is used to help individuals at risk of suicide by identifying idiosyncratic coping strategies, support systems, and resources during times of crisis to improve the likelihood of survival (Moscardini et al., 2020). Therefore, inferences drawn from the current study could be of particular importance for practitioners working with emerging adults who came to the session with suicidal thoughts because the present findings have a great potential to enrich the content of safety plans. For instance, in a study conducted with 119 safety plan providers to investigate the most ingredients of a safety plan, signs/triggers of a crisis, and utilization of social support resources were among the top three components (Moscardini et al., 2020). As this study concluded that several risk and protective factors were associated with vulnerability to suicidal thoughts, the findings can very well be used while creating safety plans within the context of Turkish emerging adults.

Perceived social support, which posed a moderator effect in such a way that suicidal thoughts arising from contextual factors would be less influential when perceived social support is high, needs to be paid particular attention in terms of quality and quantity of the support received, especially when perceived burdensomeness is somehow present. One way to do that could be measuring it through utilizing instruments that are psychometrically sound or receiving more elaborate information about the social support obtained from family, friends, and significant others while making treatment plans with clients. Programs that aim to enhance the perceived social support can be implemented as they are to the point, easily administered, and

proved to be efficacious (Cohen et al., 2000; Hogan et al., 2002). Depression is another moderator variable that has been found a significant predictor for behaviors within the range of the suicidality spectrum by a good many studies, also needs to be measured and its symptoms should be inquired about before initiating any treatment plan with a suicidal client.

5.4.Recommendations for Further Research

The current study has several recommendations for further research to be conducted. First of all, this is the very first attempt to adapt the PSS to the Turkish. Though the entire results with regards to validity and reliability analyses were promising and the Turkish version of the PSS can be utilized in Turkish culture, the survey length (i.e., 40 items in total) was relatively long. Therefore, in the light of theoretical underpinnings, further studies might consider developing/adapting a shorter version of the PSS, as shorter surveys could produce higher response and completion rates and are much more feasible and economical (Kost & Rosa, 2018). In addition, further studies to be conducted in Türkiye might take into consideration testing the psychometric properties of the PSS among clinical samples and other distinctive and delicate developmental periods (e.g., adolescence), as the sample of the current study consisted of individuals selected from a non-clinical population.

Fortunately, according to IPTS (Joiner, 2005), the universal interpersonal-psychological needs of belongingness and burdensomeness (i.e., the mediator variables of the current study) can be modified with intervention. Therefore, having a clear understanding of measuring those two concepts holds promise for identifying suicide risks and tailoring appropriate interventions accordingly (Velez-Grau et al., 2023). Recently, Allan et al. (2018) aimed to alleviate the distorted cognition of perceived burdensomeness and thwarted belongingness by applying techniques of cognitive bias modification and psychoeducation. Results were promising only for perceived burdensomeness, indicating that thwarted belongingness might be more resistant to change. Future studies, therefore, aim to extend the techniques that can be utilized to intervene in PB and TB to help individuals.

Although religiosity and perceived social support were found to be two protective factors against suicidal behavior, the mechanism behind how those constructs interfere is somehow unclear (Dervic et al., 2004; Kleiman, 2013; Koenig, 2012). Therefore, further qualitative/explanatory studies are required to come up with a more detailed perspective as to the reasons why those variables were found to be protective against the entire behaviors within the spectrum of suicidality. In addition, though limited coping skills were found to be associated with increased vulnerability to suicidal thoughts, it was not possible to investigate which particular coping style(s) were linked to suicidal thoughts. Further studies could delve into this aspect and investigate whether a particular coping skill prepares the onset of vulnerability to experiencing suicidal thoughts.

The findings of the current study provide insight into preparing interventions that focus on decreasing perceived burdensomeness (i.e., the perception of being a drain on others) and thwarted belongingness (i.e., social isolation) as proximal risk factors for vulnerability to suicidal thoughts. A detailed perspective focusing on the psychological strains that make individuals more inclined to perceive themselves as a burden to others (i.e., value and deprivation strains) and isolate themselves socially (i.e., value, aspiration, and coping strains) can assist program/intervention developers on behalf of addressing the sense of burdensomeness and social isolation, which increased suicidal thoughts, within emerging adults.

REFERENCES

- Acharya, B., Subedi, K., Acharya, P., & Ghimire, S. (2022). Association between COVID-19 pandemic and the suicide rates in Nepal. *PloS one*, *17*(1), e0262958. <https://doi.org/10.1371/journal.pone.0262958>
- Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, *30*(1), 47-87. <https://doi.org/10.1111/j.1745-9125.1992.tb01093.x>
- Aiken L.S, West S.G & Reno R.R (1991). *Multiple regression: Testing and interpreting interactions*. Sage.
- Akdoğan, R., & Çimşir, E. (2022). Collectivistic ambivalence: A potential source of social anxiety for individuals with higher inferiority feelings. *International Journal of Intercultural Relations*, *89*, 195-207. <https://doi.org/10.1016/j.ijintrel.2022.07.003>
- Akyüz, M., Kabul, C., & Nazlioglu, S. (2020). Dynamics of suicide in Turkey: An empirical analysis. *East Mediterranean Health Journal*, *26* (10):1184–1192. <https://doi.org/10.26719/emhj.20.033>
- Allan, N. P., Boffa, J. W., Raines, A. M., & Schmidt, N. B. (2018). Intervention related reductions in perceived burdensomeness mediates incidence of suicidal thoughts. *Journal of Affective Disorders*, *234*, 282-288. <https://doi.org/10.1016/j.jad.2018.02.084>
- Almasi, K., Belso, N., Kapur, N., Webb, R., Cooper, J., Hadley, S., Kerfoot, M., Dunn, G., Sotonyi, P., Rihmer, Z., & Appleby, L. (2009). Risk factors for suicide in Hungary: A case-control study. *BMC psychiatry*, *9*, 45. <https://doi.org/10.1186/1471-244X-9-45>
- Ambrose, D. (2003). Barriers to aspiration development and self-fulfillment: Interdisciplinary insights for talent discovery. *Gifted Child Quarterly*, *47*(4), 282-294. <https://doi.org/10.1177/001698620304700405>.

- Anestis, M. D., Khazem, L. R., Mohn, R. S., & Green, B. A. (2015). Testing the main hypotheses of the interpersonal-psychological theory of suicidal behavior in a large diverse sample of United States military personnel. *Comprehensive Psychiatry*, *60*, 78–85. <https://doi.org/10.1016/j.comppsy.2015.03.006>
- Arenson, M., Bernat, E., De Los Reyes, A., Neylan, T. C., & Cohen, B. E. (2021). Social support, social network size, and suicidal ideation: A nine-year longitudinal analysis from the Mind Your Heart Study. *Journal of Psychiatric Research*, *135*, 318–324. <https://doi.org/10.1016/j.jpsychires.2021.01.017>
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469–480. <https://doi.org/10.1037/0003-066X.55.5.469>
- Arnett, J. J., Žukauskienė, R., & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18-29 years: Implications for mental health. *The Lancet Psychiatry*, *1*(7), 569–576. [https://doi.org/10.1016/S2215-0366\(14\)00080-7](https://doi.org/10.1016/S2215-0366(14)00080-7)
- Arnett, J.J. (2006). Emerging adulthood: Understanding the new way of coming of age. In J. J. Arnett & J. Tanner (Eds.), *Emerging adults in america: Coming of age in the 21st century* (pp. 3-22). American Psychological Association.
- Atak, H., & Çok, F. (2010). İnsan yaşamında yeni bir dönem: Beliren yetişkinlik [A new period in human life: Emerging adulthood]. *Journal of Childhood and Adolescence Mental Health*, *17*(1), 39-50.
- Atlı, Z., Eskin, M., & Dereboy, Ç. (2009). İntihar olasılığı ölçeğinin klinik örneklemede geçerlik ve güvenilirliği [The validity and reliability of suicida probability scale (SPS) in clinical sample]. *Klinik Psikiyatri*, *12*, 111-124.
- Baca-Garcia, E., Perez-Rodriguez, M.M., Oquendo, M.A., Keyes, K. M., Hasin, D. S., Grant, B.F., & Blanco, C. (2011). Estimating risk for suicide attempt: Are we asking the right questions? Passive suicidal ideation as a marker for suicidal behavior. *Journal of Affective Disorders*, *134*(1-3), 327–332. <https://doi.org/10.1016/j.jad.2011.06.026>
- Bakır, A. & Haskan-Avcı, Ö. (2023). *The cultural closet: Masculinity tested by sexuality in Turkey* [Paper presentation]. 6th International Conference on Gender Research, 20-21 April, Derry-Londonderry, Northern Ireland.

- Bandalos, D. L. (2002). The effects of item parceling on goodness-of-fit and parameter estimate bias in structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 9(1), 78–102. https://doi.org/10.1207/s15328007sem0901_5.
- Bandalos, D. L., & Finney, S. J. (2001). Item parceling issues in structural equation modeling. In G. A. Marcoulides, & R. E. Schumacker (Eds.), *New developments and techniques in structural equation modeling* (pp. 269–296). Routledge. .
- Baqutayan S. (2011). Stress and social support. *Indian Journal of Psychological Medicine*, 33(1), 29–34. <https://doi.org/10.4103/0253-7176.85392>
- Bartik, W., Maple, M., Edwards, H., & Kiernan, M. (2013). Adolescent survivors after suicide: Australian young people’s bereavement narratives. *Crisis*, 34(3), 211–217. <https://doi.org/10.1027/0227-5910/a000185>
- Barzilay, S., Feldman, D., Snir, A., Apter, A., Carli, V., Hoven, C. W., Wasserman, C., Sarchiapone, M., & Wasserman, D. (2015). The interpersonal theory of suicide and adolescent suicidal behavior. *Journal of Affective Disorders*, 183, 68–74. <https://doi.org/10.1016/j.jad.2015.04.047>
- Bauer, D. J., & Curran, P. J. (2005). Probing interactions in fixed and multilevel regression: inferential and graphical techniques. *Multivariate Behavioral Research*, 40(3), 373–400. https://doi.org/10.1207/s15327906mbr4003_5
- Baumeister, R. F. (1990). Suicide as escape from self. *Psychological Review*, 97(1), 90. <https://doi.org/10.1037/0033-295x.97.1.90>.
- Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing*, 13(2), 139–161. [https://doi.org/10.1016/0167-8116\(95\)00038](https://doi.org/10.1016/0167-8116(95)00038).
- Becker, S. P., Foster, J. A., & Luebke, A. M. (2020). A test of the interpersonal theory of suicide in college students. *Journal of Affective Disorders*, 260, 73–76. <https://doi.org/10.1016/j.jad.2019.09.005>
- Bentley, K. H., Franklin, J. C., Ribeiro, J. D., Kleiman, E. M., Fox, K. R., & Nock, M. K. (2016). Anxiety and its disorders as risk factors for suicidal thoughts

and behaviors: A meta-analytic review. *Clinical Psychology Review*, 43, 30–46. <https://doi.org/10.1016/j.cpr.2015.11.008>

Beshai, S., Mishra, S., Meadows, T. J. S., Parmar, P., & Huang, V. (2017). Minding the gap: Subjective relative deprivation and depressive symptoms. *Social Science & Medicine* (1982), 173, 18–25. <https://doi.org/10.1016/j.socscimed.2016.11.021>

Bhar, S., Ghahramanlou-Holloway, M., Brown, G., & Beck, A. T. (2008). Self-esteem and suicide ideation in psychiatric outpatients. *Suicide & Life-Threatening Behavior*, 38(5), 511–516. <https://doi.org/10.1521/suli.2008.38.5.511>

Bhargav, M., & Swords, L. (2022). Role of thwarted belongingness, perceived burdensomeness and psychological distress in the association between adverse childhood experiences and suicidal ideation in college students. *BJPsychiatry Open*, 8(2). <https://doi.org/10.1192/bjo.2021.1087>

Bilsen J. (2018). Suicide and youth: Risk factors. *Frontiers in Psychiatry*, 9, 540. <https://doi.org/10.3389/fpsy.2018.00540>

Biswas, T., Scott, J. G., Munir, K., Renzaho, A. M. N., Rawal, L. B., Baxter, J., & Mamun, A. A. (2020). Global variation in the prevalence of suicidal ideation, anxiety and their correlates among adolescents: A population based study of 82 countries. *EClinical Medicine*, 24 (24). <https://doi.org/10.1016/j.eclinm.2020.100395>

Blades, C. A., Stritzke, W. G. K., Page, A. C., & Brown, J. D. (2018). The benefits and risks of asking research participants about suicide: A meta-analysis of the impact of exposure to suicide-related content. *Clinical Psychology Review*, 64, 1–12. <https://doi.org/10.1016/j.cpr.2018.07.001>

Blakely T.A., Collings S.C.D., & Atkinson J. (2003). Unemployment and suicide. Evidence for a causal association? *Journal of Epidemiology & Community Health*, 57(8), 594-600. <https://doi.org/10.1136/jech.57.8.594>

Blanchard, M., & Farber, B. A. (2016). Lying in psychotherapy: Why and what clients don't tell their therapist about therapy and their relationship. *Counselling Psychology Quarterly*, 29(1), 90–112. <https://doi.org/10.1080/09515070.2015.1085365>

- Bradburn, N.M., Sudman, S. & Wansink, B. (2004). *Asking questions: the definitive guide to questionnaire design: For market research, political polls, and social and health questionnaires*. Jossey-Bass.
- Brent D. & Mann J. (2006). Familial factors in adolescent suicidal behaviour. In: King R. & Apter A. (Eds.), *Suicide in children and adolescents* (pp. 86–117). Cambridge University Press.
- Brent D. A. (2011). Preventing youth suicide: Time to ask how. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50(8), 738–740. <https://doi.org/10.1016/j.jaac.2010.09.017>
- Bryan C. J. (2011). The clinical utility of a brief measure of perceived burdensomeness and thwarted belongingness for the detection of suicidal military personnel. *Journal of Clinical Psychology*, 67(10), 981–992. <https://doi.org/10.1002/jclp.20726>
- Button, M. E. (2016). Suicide and social justice: Toward a political approach to suicide. *Political Research Quarterly*, 69(2), 270–280. <https://doi.org/10.1177/1065912916636689>
- Byrne, B. M. (2016). *Structural equation modeling with Amos: Basic concepts, applications, and programming* (3rd ed.). Routledge.
- Cai, H., Xie, X. M., Zhang, Q., Cui, X., Lin, J. X., Sim, K., Ungvari, G. S., Zhang, L., & Xiang, Y. T. (2021). Prevalence of suicidality in major depressive disorder: a systematic review and meta-analysis of comparative studies. *Frontiers in Psychiatry*, 16(12). <https://doi.org/10.3389/fpsy.2021.690130>.
- Calear, A. L., Christensen, H., Freeman, A., Fenton, K., Busby Grant, J., van Spijker, B., & Donker, T. (2016). A systematic review of psychosocial suicide prevention interventions for youth. *European Child & Adolescent Psychiatry*, 25(5), 467–482. <https://doi.org/10.1007/s00787-015-0783-4>
- Calear, A. L., McCallum, S., Kazan, D., Werner-Seidler, A., Christensen, H., & Batterham, P. J. (2021). Application of the interpersonal psychological theory of suicide in a non-clinical community-based adolescent population. *Journal of Affective Disorders*, 294, 235–240. <https://doi.org/10.1016/j.jad.2021.07.011>

- Canetto, S. S., & Sakinofsky, I. (1998). The gender paradox in suicide. *Suicide & Life-Threatening Behavior*, 28(1), 1–23.
- Caribé, A. C., Rocha, M. F., Junior, D. F., Studart, P., Quarantini, L. C., Guerreiro, N., & Miranda-Scippa, Â. (2015). Religiosity and impulsivity in mental health: is there a relationship? *The Journal of Nervous and Mental Disease*, 203(7), 551–554. <https://doi.org/10.1097/NMD.0000000000000316>
- Carli, V., Mandelli, L., Zaninotto, L., Iosue, M., Hadlaczky, G., Wasserman, D., Hegerl, U., Värnik, A., Reisch, T., Pfuhlmann, B., Maloney, J., Schmidtke, A., Serretti, A., & Sarchiapone, M. (2014). Serious suicidal behaviors: socio-demographic and clinical features in a multinational, multicenter sample. *Nordic Journal of Psychiatry*, 68(1), 44–52. <https://doi.org/10.3109/08039488.2013.767934>
- Cavanagh, J. T., Carson, A. J., Sharpe, M., & Lawrie, S. M. (2003). Psychological autopsy studies of suicide: A systematic review. *Psychological Medicine*, 33(3), 395–405. <https://doi.org/10.1017/s0033291702006943>
- Centers for Disease Control and Prevention (2017). *Web-based Injury Statistics Query and Reporting System (WISQARS)*. https://webappa.cdc.gov/sasweb/ncipc/mortrate10_us.html.
- Centers for Disease Control and Prevention (2022). *Risk and protective factors*. <https://www.cdc.gov/suicide/factors/index.html>
- Centers for Disease Control and Prevention (2021). *National Center for Health Statistics: 1999-2020 Wide Ranging Online Data for Epidemiological Research (WONDER), Multiple Cause of Death files [Data file]*. <https://wonder.cdc.gov/ucd-icd10.html>
- Cerel, J., Brown, M. M., Maple, M., Singleton, M., van de Venne, J., Moore, M., & Flaherty, C. (2019). How many people are exposed to suicide? Not six. *Suicide & Life-Threatening Behavior*, 49(2), 529–534. <https://doi.org/10.1111/sltb.12450>
- Cero, I., Zuromski, K. L., Witte, T. K., Ribeiro, J. D., & Joiner, T. E. (2015). Perceived burdensomeness, thwarted belongingness, and suicide ideation: Re-examination of the interpersonal-psychological theory in two samples. *Psychiatry Research*, 228(3), 544–550. <https://doi.org/10.1016/j.psychres.2015.05.055>

- Chang, B., Gitlin, D., & Patel, R. (2011). The depressed patient and suicidal patient in the emergency department: evidence-based management and treatment strategies. *Emergency Medicine Practice*, *13*(9), 1–24.
- Chang, R., Zeng, C., Qiao, S., Wang, H., Xu, C., Yu, X., Ma, T., Wang, Y., Li, X., & Cai, Y. (2022). The mediating effect of depression on the relation between interpersonal needs and suicidal ideation among chinese transgender women. *Frontiers in Public Health*, *9*, 746198. <https://doi.org/10.3389/fpubh.2021.764198>
- Cheng, A., Chen, T., Chen, C., & Jenkins, R. (2000). Psychosocial and psychiatric risk factors for suicide: Case-control psychological autopsy study. *The British Journal of Psychiatry*, *177*, 360–365. <https://doi.org/10.1192/bjp.177.4.360>.
- Chistopolskaya, K. A., Kolachev, N. I., Enikolopov, S. N., Drovosekov, S. E. & Zhang, J. (2023). Adaptation of the psychological strain scales and an empirical testing of the strain theory of suicide by J.Zhang in a Russian sample. *Suicidology (Russia)*, *14*(1), 14-37.
- Chioqueta, A. P., & Stiles, T. C. (2003). Suicide risk in outpatients with specific mood and anxiety disorders. *Crisis*, *24*(3), 105–112. <https://doi.org/10.1027//0227-5910.24.3.105>
- Chioqueta, A. P., & Stiles, T. C. (2007). The relationship between psychological buffers, hopelessness, and suicidal ideation: Identification of protective factors. *Crisis*, *28*, 67–73. <https://doi.org/10.1027/0227-5910.28.2.67>
- Christoffersen, M. N., Poulsen, H. D., & Nielsen, A. (2003). Attempted suicide among young people: risk factors in a prospective register based study of Danish children born in 1966. *Acta Psychiatrica Scandinavica*, *108*(5), 350–358. <https://doi.org/10.1034/j.1600-0447.2003.00165.x>.
- Chu, C., Buchman-Schmitt, J. M., Stanley, I. H., Hom, M. A., Tucker, R. P., Hagan, C. R., Rogers, M. L., Podlogar, M. C., Chiurliza, B., Ringer, F. B., Michaels, M. S., Patros, C. H. G., & Joiner, T. E. (2017). The interpersonal theory of suicide: A systematic review and meta-analysis of a decade of cross-national research. *Psychological Bulletin*, *143*(12), 1313–1345. <https://doi.org/10.1037/bul0000123>
- Chu, C., Rogers, M. L., Gai, A., & Joiner, T. E. (2017). Role of thwarted belongingness and perceived burdensomeness in the relationship between

violent daydreaming and suicidal ideation in two adult samples. *Journal of Aggression, Conflict and Peace Research*, 10(1), 11–23. <https://doi.org/10.1108/JACPR-10-2016-0255>

- Cohen, S., Underwood, L. G., & Gottlieb, B. H. (Eds.). (2000). *Social support measurement and intervention: A guide for health and social scientists*. Oxford University Press.
- Cole-Lewis, Y. C., Gipson, P. Y., Opperman, K. J., Arango, A., & King, C. A. (2016). Protective role of religious involvement against depression and suicidal ideation among youth with interpersonal problems. *Journal of Religion and Health*, 55(4), 1172–1188. <https://doi.org/10.1007/s10943-016-0194-y>
- Colucci, E., & Martin, G. (2008). Religion and spirituality along the suicidal path. *Suicide & Life-Threatening Behavior*, 38(2), 229–244. <https://doi.org/10.1521/suli.2008.38.2.229>
- Corson K., Denneson L.M., Bair M.J., Helmer D.A., Goulet J.L., & Dobscha S.K. (2013). Prevalence and correlates of suicidal ideation among operation enduring freedom and operation Iraqi freedom veterans. *Journal of Affective Disorders*, 149(1-3):291-298. <https://doi.org/10.1016/j.jad.2013.01.043>
- Coskun, M., Zoroglu, S., & Ghaziuddin, N. (2012). Suicide rates among Turkish and American youth: A cross-cultural comparison. *Archives of Suicide Research* 16(1), 59–72. <https://doi.org/10.1080/13811118.2012.640612>
- Çelebi, G. Y. & Kaya, F. (2023). The association between personal, affective and cognitive factors and suicide risk among Muslims in Turkey. *Journal of Religion and Health*, 62(6), 3780-3800. <https://doi.org/10.1007/s10943-023-01945-x>
- Çuhadaroğlu, Ö. (1986). Adolesanlarda benlik saygısı [Self-esteem in adolescents]. [Unpublished Ph.D. thesis], Hacettepe University.
- Cukrowicz, K. C., Cheavens, J. S., Van Orden, K. A., Ragain, R. M., & Cook, R. L. (2011). Perceived burdensomeness and suicide ideation in older adults. *Psychology and Aging*, 26(2), 331–338. <https://doi.org/10.1037/a0021836>
- Cwik, M. F., Tingey, L., Wilkinson, R., Goklish, N., Larzelere-Hinton, F., & Barlow, A. (2016). Suicide prevention gatekeeper training: Can they advance

prevention in Indian country? *Archives of Suicide Research*, 20(3), 402-411. <https://doi.org/10.1080/13811118.2015.1033122>.

Czyz, E. K., Liu, Z., & King, C. A. (2012). Social connectedness and one-year trajectories among suicidal adolescents following psychiatric hospitalization. *Journal of Clinical Child and Adolescent Psychology*, 41(2), 214–226. <https://doi.org/10.1080/15374416.2012.651998>

Dazzi, T., Gribble, R., Wessely, S., & Fear, N. T. (2014). Does asking about suicide and related behaviours induce suicidal ideation? What is the evidence?. *Psychological Medicine*, 44(16), 3361–3363. <https://doi.org/10.1017/S0033291714001299>

De Beurs, D., Fried, E.I., Wetherall, K., Cleare, S., O' Connor, D.B., Ferguson, E., O'Carroll, R.E., & O' Connor, R.C. (2019). Exploring the psychology of suicidal ideation: A theory driven network analysis. *Behaviour Research and Therapy*, 120. <https://doi.org/10.1016/j.brat.2019.103419>

Deng, Y., Li, X., Liu, L., & Chui, W. H. (2020). Suicide attempts and perceived social support among Chinese drug users: The mediating role of self-esteem and depression. *International Journal of Environmental Research and Public Health*, 18(1), 208. <https://doi.org/10.3390/ijerph18010208>

Dervic, K., Oquendo, M. A., Grunebaum, M. F., Ellis, S., Burke, A. K., & Mann, J. J. (2004). Religious affiliation and suicide attempt. *The American Journal of Psychiatry*, 161(12), 2303–2308. <https://doi.org/10.1176/appi.ajp.161.12.2303>.

Dienst, F., Forkmann, T. & Schreiber, D. (2023). Attachment and need to belong as moderators of the relationship between thwarted belongingness and suicidal ideation. *BMC Psychology*, 11, 50. <https://doi.org/10.1186/s40359-023-01080-y>

Dillman, D.A., Smyth, J.D. & Christian, L. M. (2014). *Internet, mail, and mixed-mode surveys: The tailored design method*. Wiley.

Durkheim, E. (2005). *Suicide: A study in sociology* (Spaulding, J. A. & Simpson, G., Trans.). Taylor & Francis. (Original work published in 1897).

- Dutton, G. R., Bodell, L. P., Smith, A. R., & Joiner, T. E. (2013). Examination of the relationship between obesity and suicidal ideation. *International Journal of Obesity*, 37(9), 1282–1286. <https://doi.org/10.1038/ijo.2012.224>
- Dvorak, R. D., Lamis, D. A., & Malone, P. S. (2013). Alcohol use, depressive symptoms, and impulsivity as risk factors for suicide proneness among college students. *Journal of Affective Disorders*, 149(1-3), 326–334. <https://doi.org/10.1016/j.jad.2013.01.046>
- Eagle, D. E., Hybels, C. F., & Proeschold-Bell, R. J. (2019). Perceived social support, received social support, and depression among clergy. *Journal of Social and Personal Relationships*, 36(7), 2055-2073. <https://doi.org/10.1177/0265407518776134>
- Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Flint, K. H., Hawkins, J. & Wechsler, H. (2012). Youth risk behavior surveillance—United States, 2011. *Morbidity and Mortality Weekly Report: Surveillance Summaries*, 61(4), 1-162.
- Eker, D., Arkar, H., & Yaldız, H. (2001). Çok boyutlu algılanan sosyal destek ölçeği'nin gözden geçirilmiş formunun faktör yapısı, geçerlik ve güvenilirliği [Factorial structure, validity, and reliability of revised form of the multidimensional scale of perceived social support]. *Türk Psikiyatri Dergisi*, 12, 17-25.
- Emul, M., Uzunoglu, Z., Sevinç, H., Güzel, Ç., Yılmaz, Ç., Erkut, D., & Arıkan, K. (2011). The attitudes of preclinical and clinical Turkish medical students toward suicide attempters. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, 32(3), 128–133. <https://doi.org/10.1027/0227-5910/a000065>
- Ertl, A., Crosby, A. E., & Blair, J. M. (2020). Youth suicide: An opportunity for prevention. *Journal of the American Academy of Child and Adolescent Psychiatry*, 59(9), 1019–1021. <https://doi.org/10.1016/j.jaac.2020.01.017>
- Eskin, M (1993). Swedish translations of the suicide probability scale, perceived social support from friends and family scales and the scale for interpersonal behavior: a reliability analysis. *Scandinavian Journal of Psychology*, 34(3), 276-281. <https://doi.org/10.1111/j.1467-9450.1993.tb01122.x>

- Eskin M. (2003). A cross-cultural investigation of the communication of suicidal intent in Swedish and Turkish adolescents. *Scandinavian Journal of Psychology*, 44(1), 1–6. <https://doi.org/10.1111/1467-9450.t01-1-00314>
- Eskin, M. (1999). Gender and cultural differences in the 12-month prevalence of suicidal thoughts and attempts in Swedish and Turkish adolescents. *Journal of Gender, Culture, and Health* 4, 187–200. <https://doi.org/10.1023/A:1023277231880>.
- Eskin, M., Kaynak-Demir, H., & Demir, S. (2005). Same-sex sexual orientation, childhood sexual abuse, and suicidal behavior in university students in Turkey. *Archives of Sexual Behavior*, 34(2), 185–195. <https://doi.org/10.1007/s10508-005-1796-8>
- Eskin, M., Arslantaş, H., Öztürk-Şafak, C., & Eskin, B. (2020). An investigation of the psychometric properties of the Turkish versions of the interpersonal needs questionnaire and acquired capability for suicide-fearlessness about death. *Journal of Clinical Psychology*, 23(2), 161-169. <https://doi.org/10.5505/kpd.2020.30922>
- Espinosa-Salido, P., Perez, M., Baca-Garcia, E. & Ortega, M.P. (2020). Systematic review of the indirect relationships of thwarted belongingness and perceived burdensomeness in suicide. *Clinica y Salud*, 32(1), 29-36. <https://doi.org/10.5093/clysa2020a27>
- Evcili, F., & Gölbaşı, Z. (2019). The effect of peer education model on sexual myths of Turkish university students: An interventional study. *Perspectives in Psychiatric Care*, 55(2), 239–248. <https://doi.org/10.1111/ppc.12344>
- Farooq, S., Tunmore, J., Wajid Ali, M., & Ayub, M. (2021). Suicide, self-harm and suicidal ideation during COVID-19: A systematic review. *Psychiatry Research*, 306, 114228. <https://doi.org/10.1016/j.psychres.2021.114228>
- Favril, L., Yu, R., Uyar, A., Sharpe, M., & Fazel, S. (2022). Risk factors for suicide in adults: systematic review and meta-analysis of psychological autopsy studies. *Evidence-Based Mental Health*, 25(4), 148–155. <https://doi.org/10.1136/ebmental-2022-300549>
- Fernandes, A.C., Dutta, R., & Velupillai, S. (2018). Identifying suicide ideation and suicidal attempts in a psychiatric clinical research database using natural language processing. *Scientific Reports*, 8. <https://doi.org/10.1038/s41598-018-25773-2>

- Ferrari, A. J., Somerville, A. J., Baxter, A. J., Norman, R., Patten, S. B., Vos, T., & Whiteford, H. (2013). Global variation in the prevalence and incidence of major depressive disorder: A systematic review of the epidemiological literature. *Psychological Medicine, 43*(3), 471-481.
- Fisher, L. B., Overholser, J. C., Ridley, J., Braden, A., & Rosoff, C. (2015). From the outside looking in: Sense of belonging, depression, and suicide risk. *Psychiatry, 78*(1), 29–41. <https://doi.org/10.80/00332747.2015.1015867>
- Fisher, R. & Katz, J. (2000). Social desirability bias and the validity of self-reported values. *Psychology & Marketing, 17*(2), 105-120. [https://doi.org/10.1002/\(SICI\)1520-6793\(200002\)17:2<105::AID-MAR3>3.0.CO;2-9](https://doi.org/10.1002/(SICI)1520-6793(200002)17:2<105::AID-MAR3>3.0.CO;2-9)
- Franklin, J. C., Ribeiro, J. D., Fox, K. R., Bentley, K. H., Kleiman, E. M., Huang, X., Musacchio, K. M., Jaroszewski, A. C., Chang, B. P., & Nock, M. K. (2017). Risk factors for suicidal thoughts and behaviors: A meta-analysis of 50 years of research. *Psychological Bulletin, 143*(2), 187–232. <https://doi.org/10.1037/bul0000084>
- Freeman, A., Mergl, R., Kohls, E., Szekely, A., Gusmao, R., Arensman, E., & Rummel-Kluge, C. (2017). A cross-national study on gender differences in suicide intent. *BMC Psychiatry, 17*, 234. <https://doi.org/10.1186/s12888-017-1398-8>
- Gabriele, M. & Sahrani, R. (2021). Moderator role of social support in relationship between social comparison and life satisfaction of instagram users. *Advances in Social Science, Education and Humanities Research, 570*, 958-963. <https://doi.org/10.2991/assehr.k.210805.151>
- Gearing, R. E., & Lizardi, D. (2009). Religion and suicide. *Journal of Religion and Health, 48*(3), 332–341. <https://doi.org/10.1007/s10943-008-9181-2>
- Gero, K., Kondo, K., Kondo, N., Shirai, K., & Kawachi, I. (2017). Associations of relative deprivation and income rank with depressive symptoms among older adults in Japan. *Social Science & Medicine, 189*, 138–144. <https://doi.org/10.1016/j.socscimed.2017.07.028>
- Ghossoub, E., Kassir, G., El Bashour, J., & Saneh, W. (2022). Associations between religiosity, aggression and crime: Results from the national survey on drug use and health. *Social Psychiatry And Psychiatric Epidemiology, 57*(9), 1829–1838. <https://doi.org/10.1007/s00127-021-02181-y>

- Glaesmer, H., Hallensleben, N., Forkmann, T., Spangenberg, L., Kapusta, N., & Teismann, T. (2017). Testing the main prediction of the interpersonal theory of suicide in a representative sample of German general population. *Journal of Affective Disorders*, 211, 150–152. <https://doi.org/10.1016/j.jad.2017.01.010>
- Glock, C. Y. (1972). Images of " God," images of man, and the organization of social life. *Journal for the Scientific Study of Religion*, 11(1), 1-15.
- Göktaş, S. & Metintaş, S. (2019). Suicide mortality trends by age, gender and method in Turkey. *Turkish Journal of Public Health*, 17 (2), 195-206. https://dergipark.org.tr/en/pub/tjph/issue/48212/442055_
- Goldsmith, S.K., Pellmar T.C. & Kleinman A.M. (2002). [Review of the book *Reducing suicide: A national imperative*, by Goldsmith, S.K., Pellmar T.C. & Kleinman A.M. *Committee on Pathophysiology and Prevention of Adolescent and Adult Suicide and Board on Neuroscience and Behavioral Health*. <https://doi.org/10.17226/10398>.
- Göregenli, M. (1997). Individualist-collectivist tendencies in a Turkish sample. *Journal of Cross-Cultural Psychology*, 28(6), 787-794. <https://doi.org/10.1177/0022022197286009>
- Gratz, K. L., Tull, M. T., Richmond, J. R., Edmonds, K. A., Scamaldo, K. M., & Rose, J. P. (2020). Thwarted belongingness and perceived burdensomeness explain the associations of COVID-19 social and economic consequences to suicide risk. *Suicide & Life-Threatening Behavior*, 50(6), 1140–1148. <https://doi.org/10.1111/sltb.12654>
- Grimm, P. (2010). Social desirability bias. In J. Sheth & N. Malhotra (Eds.), *Wiley international encyclopedia of marketing*. John Wiley & Sons. <https://doi.org/10.1002/9781444316568.wiem02057>
- Gulec Oyekcin, D., Sahin, E. M., & Aldemir, E. (2017). Mental health, suicidality and hopelessness among university students in Turkey. *Asian Journal of Psychiatry*, 29, 185–189. <https://doi.org/10.1016/j.ajp.2017.06.007>
- Gunnell, D., & Chang, S. S. (2016). Economic recession, unemployment and suicide. In O'Connor, R. C., & Pirkis, J. (Eds.), *The international handbook of suicide prevention*. John Wiley & Sons.

- Gvion, Y., Levi-Belz, Y., Hadlaczky, G., & Apter, A. (2015). On the role of impulsivity and decision-making in suicidal behavior. *World Journal of Psychiatry, 5*(3), 255–259. <https://doi.org/10.5498/wjp.v5.i3.255>
- Haghighi, E.F., Nes, R.B., Obaidi, M., Qin, P., Stanicke, L. I., Bekkhus, M., Laeng, B. & Czajkowski, N. (2024). Unveiling adolescent suicidality: Holistic analysis of protective and risk factors using multiple machine learning algorithms. *Journal of Youth Adolescence, 53*, 507–525. <https://doi.org/10.1007/s10964-023-01892-6>
- Hallensleben, N., Glaesmer, H., Forkmann, T., Rath, D., Strauss, M., Kersting, A., & Spangenberg, L. (2019). Predicting suicidal ideation by interpersonal variables, hopelessness and depression in real-time. An ecological momentary assessment study in psychiatric inpatients with depression. *European Psychiatry, 56*(1), 43-50. <https://doi.org/10.1016/j.eurpsy.2018.11.003>
- Hamdan, S., Melhem, N., Orbach, I., Farbstein, I., El-Haib, M., Apter, A., & Brent, D. (2012). Protective factors and suicidality in members of Arab kindred. *Crisis, 33*(2), 80–86. <https://doi.org/10.1027/0227-5910/a000116>
- Hamilton A. (2013, October 3). *Suicide silence and stigma*. Eureka Street. <https://www.eurekastreet.com.au/article.aspx?aeid=38287>
- Han, J., Wong, I., Christensen, H., & Batterham, P. J. (2022). Resilience to suicidal behavior in young adults: A cross-sectional study. *Scientific Reports, 12*(1), 114-119. <https://doi.org/10.1038/s41598-022-15468-0>
- Harmer, B., Lee, S., Duong, T. V. H., & Saadabadi, A. (2023). *Suicidal ideation*. StatPearls Publishing.
- Hatch S. L. (2005). Conceptualizing and identifying cumulative adversity and protective resources: Implications for understanding health inequalities. *The Journals of Gerontology, 60*(2), 130–134. https://doi.org/10.1093/geronb/60.special_issue_2.s130
- Haw, C., Hawton, K., Gunnell, D., & Platt, S. (2015). Economic recession and suicidal behaviour: Possible mechanisms and ameliorating factors. *The International Journal of Social Psychiatry, 61*(1), 73–81. <https://doi.org/10.1177/0020764014536545>

- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.
- Hem, E., Haldorsen, T., Aasland, O.G., Tyssen, R., Vaglum, P. & Ekeberg, O. (2005). Suicide rates according to education with a particular focus on physicians in Norway 1960–2000. *Psychological Medicine* 35, 873–880.
- Henry, J. D. & Crawford, J. R. (2005). The short-form version of the depression anxiety stress scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, 44(2), 227–239. <https://doi.org/10.1348/014466505X29657>
- Hill, R. M., & Pettit, J. W. (2016). Pilot randomized controlled trial of leap: A selective preventive intervention to reduce adolescents' perceived burdensomeness. *Journal of Clinical Child & Adolescent Psychology*, 48, 1-12. <https://doi.org/10.1080/15374416.2016.1188705>.
- Hill, R.M. & Pettit, J. W. (2014). Perceived burdensomeness and suicide-related behaviors in clinical samples: Current evidence and future directions. *Journal of Clinical Psychology*, 70(7), 631-643. <https://doi.org/10.1002/jclp.22071>.
- Hjelmeland, H., & Knizek, B. L. (2004). The general public's views on suicide and suicide prevention, and their perception of participating in a study on attitudes towards suicide. *Archives of Suicide Research*, 8(4), 345-359. <https://doi.org/10.1080/13811110490476725>.
- Hogan, B. E., Linden, W., & Najarian, B. (2002). Social support interventions: do they work? *Clinical Psychology Review*, 22(3), 383–442. [https://doi.org/10.1016/s0272-7358\(01\)00102-7](https://doi.org/10.1016/s0272-7358(01)00102-7)
- Hollingsworth, D. W., Shish, M. L., Wingate, L. R., Davidson, C. L., Rasmussen, K. A., O'Keefe, V. M., Tucker, R. P., & Grant, D. M. (2018). The indirect effect of perceived burdensomeness on the relationship between indices of social support and suicide ideation in college students. *Journal of American College Health*, 66(1), 9–16. <https://doi.org/10.1080/07448481.2017.1363764>
- Holman, M. S., & Williams, M. N. (2022). Suicide risk and protective factors: A network approach. *Archives of Suicide Research*, 26(1), 137–154. <https://doi.org/10.1080/13811118.2020.1774454>

- Hook, J. N., Farrell, J. E., Ramos, M. J., Davis, D. E., Karaga, S., Van Tongeren, D. R., & Grubbs, J. (2015). Religiousness and congruence between sexual values and behavior. *Journal of Psychology and Christianity, 34*(2). <https://link.gale.com/apps/doc/A426900894/AONE?u=googlescholar&sid=bookmark-AONE&xid=86fef41a>
- Hooven, C., Snedker, K. A., & Thompson, E. A. (2012). Suicide risk at young adulthood: Continuities and discontinuities from adolescence. *Youth & Society, 44*(4), 524–547. <https://doi.org/10.1177/0044118X11407526>
- Hovey, J. D., Roley-Roberts, M. E., Hurtado, G., Seligman, L. D., Levine, J. C., Kene, P., & Gonzalez, R. N. (2022). Coping competence and hopelessness moderate the influence of perceived burdensomeness on suicidal ideation in undergraduate college students. *Current Psychology, 1–8*. Advance online publication. <https://doi.org/10.1007/s12144-022-04190-9>
- Howard, A. H., Dadirai Gwenzi, G., Newsom, L., Gebru, B. T., & Gilbertson Wilke, N. (2023). The relationship between sense of belonging and well-being outcomes in emerging adults with care experience. *International Journal of Environmental Research and Public Health, 20*(13), 6311. <https://doi.org/10.3390/ijerph20136311>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- IBM Corp. (2017). Released 2017. IBM SPSS Statistics for Windows, Version 25.0. IBM Corporation.
- İnanç B. B. (2021). Suicide Cause and Method from 2009-2017 in Turkey. *Iranian Journal of Public Health, 50*(7), 1389–1397. <https://doi.org/10.18502/ijph.v50i7.6628>
- Isometsä E. (2014). Suicidal behaviour in mood disorders--who, when, and why?. *Canadian Journal of Psychiatry, 59*(3), 120–130. <https://doi.org/10.1177/070674371405900303>
- Ivbijaro, G., Kolkiewicz, L., Goldberg, D., Riba, M. B., N'jie, I. N. S., Geller, J., Kallivayalil, R., Javed, A., Švab, I., Summergrad, P., Laher, S., & Enum, Y. (2019). Preventing suicide, promoting resilience: Is this achievable from a

global perspective? *Asia-Pacific Psychiatry*, 11(4), e12371.
<https://doi.org/10.1111/appy.12371>

Iwamoto, D. K., Cheng, A., Lee, C. S., Takamatsu, S., & Gordon, D. (2011). "Man-ing" up and getting drunk: the role of masculine norms, alcohol intoxication and alcohol-related problems among college men. *Addictive Behaviors*, 36(9), 906–911. <https://doi.org/10.1016/j.addbeh.2011.04.005>

JASP Team (2019). JASP (Version 0.18.1) [Computer software].

Jeong, J. H., & Kim, J. S. (2015). The effect of abuse experience and coping styles on suicide ideation in elderly. *Journal of Korean Academy of Community Health Nursing*, 26(1), 42-51. <https://doi.org/10.12799/jkachn.2015.26.1.42>

Joiner, T. E., Hollar, D., & Orden, K. V. (2006). On buckeyes, gators, super bowl sunday, and the miracle on ice: “Pulling together” is associated with lower suicide rates. *Journal of Social and Clinical Psychology*, 25(2), 179-195. <https://doi.org/10.1521/JSCP.2006.25.2.179>

Joiner, T. E. (2005). *Why people die by suicide*. Harvard University Press.

Joiner, T.E., Van Orden, K.A., Witte, T.K. & Rudd, M.D. (2009). The interpersonal theory of suicide: Guidance for working with suicidal clients. *American Psychological Association*, 117(2), 575-600. <https://doi.org/10.1037/11869-000>

Jordan, J. R., & McIntosh, J. L. (Eds.). (2011). *Grief after suicide: Understanding the consequences and caring for the survivors*. Routledge.

Kagitcibası, Ç. (1996). *Family and human development across cultures: A view from the other side*. Lawrence Erlbaum.

Kartal, E., Demir, U., Hekimoglu, Y., Keskin, S., & Asirdizer, M. (2022). Suicides in Turkey: 25-year trend (1995-2019). *Journal of Forensic Sciences*, 67(5), 1858–1866. <https://doi.org/10.1111/1556-4029.15086>

Katz, C., Bolton, J. & Sareen, J. (2016). The prevalence rates of suicide are likely underestimated worldwide: why it matters. *Social Psychiatry and Psychiatric Epidemiology*, 51(1), 125–27. <https://doi.org/10.1007/s00127-015-1158-3>.

- Keefner, T. P., & Stenvig, T. (2020). Rethinking suicide risk with a new generation of suicide theories. *Research and Theory for Nursing Practice*, 34(4), 389–408. <https://doi.org/10.1891/RTNP-D-19-00128>
- Kessler, R. C., Berglund, P., Borges, G., Nock, M., & Wang, P. S. (2005). Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990–1992 to 2001–2003. *JAMA*, 293(20), 2487–95. <https://doi.org/10.1001/jama.293.20.2487>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., Rush, A. J., Walters, E. E., Wang, P. S., & National Comorbidity Survey Replication (2003). The epidemiology of major depressive disorder: results from the national comorbidity survey replication (NCS-R). *JAMA*, 289 (23), 3095–3105. <https://doi.org/10.1001/jama.289.23.3095>
- Kessler, R. C., Borges, G., & Walters, E. E. (1999). Prevalence of and risk factors for lifetime suicide attempts in the national comorbidity survey. *Archives of General Psychiatry*, 56(7), 617–626. <https://doi.org/10.1001/archpsyc.56.7.617>
- Kessler, R. C., Bossarte, R. M., Luedtke, A., Zaslavsky, A. M., & Zubizarreta, J. R. (2020). Suicide prediction models: A critical review of recent research with recommendations for the way forward. *Molecular Psychiatry*, 25(1), 168–179. <https://doi.org/10.1038/s41380-019-0531-0>
- Kessler, R. C. & Wang, P. S. (2008). The descriptive epidemiology of commonly occurring mental disorders in the United States. *Annual Review of Public Health*, 29, 115–29. <https://doi.org/10.1146/annurev.publhealth.29.020907.090847>
- Khaptsova, A., & Schwartz, S. H. (2016). Life satisfaction and value congruence. *Social Psychology*, 47(3), 163–173. <https://doi.org/10.1027/1864-9335/a000268>.
- Kim, S. Y., Kim, H. R., Park, B., & Choi, H. G. (2021). Comparison of stress and suicide-related behaviors among Korean youths before and during the COVID-19 pandemic. *JAMA Network Open*, 4(12), e2136137. <https://doi.org/10.1001/jamanetworkopen.2021.36137>
- King, P. E., Vaughn, J. M., Yoo, Y., Tirrell, J. M., Dowling, E. M., Lerner, R. M., Geldhof, G. J., Lerner, J. V., Iraheta, G., Williams, K., & Sim, A.T.R. (2020). Exploring religiousness and hope: examining the roles of spirituality and

social connections among Salvadoran youth. *Religions*, 11(2), 75-94.
<https://doi.org/10.3390/rel11020075>

Kingsbury, M., Reme, B.-A., Skogen, J. C., Sivertsen, B., Øverland, S., Cantor, N., Hysing, M., Petrie, K., & Colman, I. (2021). Differential associations between types of social media use and university students' nonsuicidal self-injury and suicidal behavior. *Computers in Human Behavior*, 115.
<https://doi.org/10.1016/j.chb.2020.106614>

Kishi, T., Matsunaga, S., & Iwata, N. (2016). Mortality risk associated with long-acting injectable antipsychotics: a systematic review and meta-analyses of randomized controlled trials. *Schizophrenia Bulletin*, 42(6), 1438–1445.
<https://doi.org/10.1093/schbul/sbw043>

Kleiman, E. M., & Liu, R. T. (2013). Social support as a protective factor in suicide: findings from two nationally representative samples. *Journal of Affective Disorders*, 150(2), 540–545. <https://doi.org/10.1016/j.jad.2013.01.033>

Kleiman, E. M., Riskind, J. H., Schaefer, K. E., & Weingarden, H. (2012). The moderating role of social support on the relationship between impulsivity and suicide risk. *Crisis*, 33(5), 273–279. <https://doi.org/10.1027/0227-5910/a000136>

Kleiman, E. M., Turner, B. J., Fedor, S., Beale, E. E., Huffman, J. C., & Nock, M. K. (2017). Examination of real-time fluctuations in suicidal ideation and risk factors: Results from two ecological momentary assessment studies. *Journal of Abnormal Psychology*, 126(6), 726–738.
<https://doi.org/10.1037/abn0000273>

Kline, R. B. (1998). *Principles and practice of structural equation modeling*. Guilford Press.

Klonsky, E. D. & May, A. M. (2015). The Three-Step Theory (3ST): A new theory of suicide rooted in the “ideation-to-action” framework. *International Journal of Cognitive Therapy*, 8(2), 114-129.
<https://doi.org/10.1521/ijct.2015.8.2.114>

Klonsky, E. D., & May, A. (2010). Rethinking impulsivity in suicide. *Suicide & Life-Threatening Behavior*, 40(6), 612–619.
<https://doi.org/10.1521/suli.2010.40.6.612>

- Klonsky, E. D., May, A. M. & Saffer, B. Y. (2016). Suicide, suicide attempts and suicidal ideation. *Annual Review of Clinical Psychology*, 12, 307-330. <https://doi.org/10.1146/annurev-clinpsy-021815-093204>.
- Klonsky, E. D., Saffer, B. Y., & Bryan, C. J. (2018). Ideation-to-action theories of suicide: a conceptual and empirical update. *Current Opinion in Psychology*, 22, 38–43. <https://doi.org/10.1016/j.copsyc.2017.07.020>
- Klonsky, E. D., Dixon-Luinenburg, T., & May, A. M. (2021). The critical distinction between suicidal ideation and suicide attempts. *World Psychiatry*, 20(3), 439–441. <https://doi.org/10.1002/wps.20909>
- Knapstad, M., Sivertsen, B., Knudsen, A. K., Smith, O. R. F., Aarø, L. E., Lønning, K. J., & Skogen, J. C. (2021). Trends in self-reported psychological distress among college and university students from 2010 to 2018. *Psychological Medicine*, 51(3), 470–478. <https://doi.org/10.1017/S0033291719003350>
- Koenig H. G. (2012). Religion, spirituality, and health: The research and clinical implications. *ISRN Psychiatry*, 2012, 278730. Doi:10.5402/2012/278730
- Koenig, G. & Larson, H. (2001). Religion and mental health: Evidence for an association. *International Review of Psychiatry*, 13(2), 67–78. <https://doi.org/10.1080/09540260124661>.
- Koenig, H. G., McCullough, M. E., & Larson, D. B. (2001). *Handbook of religion and health*. Oxford University Press.
- Koenig, J., Kohls, E., Moessner, M., Lustig, S., Bauer, S., Becker, K., Thomasius, R., Eschenbeck, H., Diestelkamp, S., Gillé, V., Hiery, A., Rummel-Kluge, C., Kaess, M., & ProHEAD Consortium (2023). The impact of COVID-19 related lockdown measures on self-reported psychopathology and health-related quality of life in German adolescents. *European Child & Adolescent Psychiatry*, 32(1), 113–122. <https://doi.org/10.1007/s00787-021-01843-1>
- Kost, R. G., & Rosa, J. C. (2018). Impact of survey length and compensation on validity, reliability, and sample characteristics for ultrashort-, short-, and long-research participant perception surveys. *Journal of Clinical and Translational Science*, 2(1), 31–37. <https://doi.org/10.1017/cts.2018.18>
- Kraemer, H., Kazdin, A. E., Offord, D. R., Kessler, R. C., Jensen, P. S., & Kupfer, D. J. (1997). Coming to terms with the terms of risk. *Archives of General*

- Kralovec, K., Fartacek, C., Fartacek, R., & Plöderl, M. (2014). Religion and suicide risk in lesbian, gay and bisexual Austrians. *Journal of Religion and Health*, 53(2), 413–423. <https://doi.org/10.1007/s10943-012-9645-2>
- Kuria, M. W., Ndeti, D. M., Obot, I. S., Khasakhala, L. I., Bagaka, B. M., Mbugua, M. N., & Kamau, J. (2012). The association between alcohol dependence and depression before and after treatment for alcohol dependence. *ISRN Psychiatry*, 2012, 482802. <https://doi.org/10.5402/2012/482802>
- La Rosa, N. L., Brown, S. L., Mitchell, S. M., Seegan, P. L., & Cukrowicz, K. C. (2022). The moderating role of pessimism in the association between retrospective relational peer victimization, interpersonal risk factors, and suicide ideation. *Aggressive Behavior*, 48(1), 75–84. <https://doi.org/10.1002/ab.22003>
- Lamis, D. A., Ballard, E. D., May, A. M., & Dvorak, R. D. (2016). Depressive symptoms and suicidal ideation in college students: The mediating and moderating roles of hopelessness, alcohol problems, and social support. *Journal of Clinical Psychology*, 72(9), 919–932. <https://doi.org/10.1002/jclp.22295>
- Lapierre, S., Dubé, M., Bouffard, L., & Alain, M. (2007). Addressing suicidal ideations through the realization of meaningful personal goals. *Crisis*, 28(1), 16–25. <https://doi.org/10.1027/0227-5910.28.1.16>
- Large M. M. (2018). The role of prediction in suicide prevention. *Dialogues In Clinical Neuroscience*, 20(3), 197–205. <https://doi.org/10.31887/DCNS.2018.20.3/mlarge>
- Lawrence, R. E., Oquendo, M. A., & Stanley, B. (2016). Religion and suicide risk: A systematic review. *Archives of Suicide Research*, 20(1), 1–21. <https://doi.org/10.1080/13811118.2015.1004494>
- Lee J. K. (2022). The effects of social comparison orientation on psychological well-being in social networking sites: Serial mediation of perceived social support and self-esteem. *Current Psychology*, 41(9), 6247–6259. <https://doi.org/10.1007/s12144-020-01114-3>

- Lee, B. N., & Grubbs, J. B. (2023). Religiousness and sexual values predict sexual incongruence: Results from a U.S. nationally representative study. *Journal of Sex & Marital Therapy*, 49(5), 451–471. <https://doi.org/10.1080/0092623X.2022.2143461>
- Leo D. (2015). Can we rely on suicide mortality data? *Crisis*, 36(1), 1–3. <https://doi.org/10.1027/0227-5910/a000315>
- Levi-Belz, Y., Gavish-Marom, T., Barzilay, S., Apter, A., Carli, V., Hoven, C., Sarchiapone, M., & Wasserman, D. (2019). Psychosocial factors correlated with undisclosed suicide attempts to significant others: Findings from the adolescence seyle study. *Suicide & Life-Threatening Behavior*, 49(3), 759–773. <https://doi.org/10.1111/sltb.12475>
- Lew, B., Chistopolskaya, K., Liu, Y., Talib, M. A., Mitina, O., & Zhang, J. (2020). Testing the strain theory of suicide - the moderating role of social support. *Crisis*, 41(2), 82–88. <https://doi.org/10.1027/0227-5910/a000604>
- Li, J., Zhang, Y., Siu Man Chan, B., Tan, S. N., Lu, J., Luo, X., Shen, Y., & Zhang, X. Y. (2022). Associations between anxiety, depression, and risk of suicidal behaviors in Chinese medical college students. *Frontiers in Psychiatry*, 13. <https://doi.org/10.3389/fpsy.2022.1012298>
- Li, Z., & Zhang, J. (2012). Coping skills, mental disorders, and suicide among rural youths in China. *The Journal of Nervous and Mental Disease*, 200(10), 885–890. <https://doi.org/10.1097/NMD.0b013e31826b6ecc>
- Li, Z., Page, A., Martin, G., & Taylor, R. (2011). Attributable risk of psychiatric and socio-economic factors for suicide from individual-level, population-based studies: A systematic review. *Social Science & Medicine*, 72(4), 608–616. <https://doi.org/10.1016/j.socscimed.2010.11.008>
- Liang, C. S., Chung, C. H., Ho, P. S., Tsai, C. K., & Chien, W. C. (2018). Superior anti-suicidal effects of electroconvulsive therapy in unipolar disorder and bipolar depression. *Bipolar Disorders*, 20(6), 539–546. <https://doi.org/10.1111/bdi.12589>
- Liang, J., Kõlves, K., Lew, B., de Leo, D., Yuan, L., Abu Talib, M., & Jia, C. X. (2020). Coping strategies and suicidality: A cross-sectional study from China. *Frontiers in Psychiatry*, 13(11), 129. <https://doi.org/10.3389/fpsy.2020.00129>

- Lilly, K. J., Sibley, C. G., & Osborne, D. (2023). Perceived relative deprivation across the adult lifespan: An examination of aging and cohort effects. *Personality and Social Psychology Bulletin*, 0(0), 1-19. <https://doi.org/10.1177/01461672231195332>
- Linehan, M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. Guilford Press.
- Linzer, S., Chesir, A., Ginsburg, T. & Varas, O. (2017). Stressful life events. In Galynker, I. (Eds.). *The suicidal crisis*. Oxford University Press.
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling: A Multidisciplinary Journal*, 9(2), 151–173. https://doi.org/10.1207/s15328007sem0902_1
- Liu, Y., Wang, R., Chang, R., Wang, H., Xu, L., Xu, C., Yu, X., Liu, S., Chen, H., Chen, Y., Jin, L., Wang, Y., & Cai, Y. (2022). Perceived burdensomeness, thwarted belongingness, and social exclusion in transgender women: psychometric properties of the interpersonal needs questionnaire. *Frontiers in Psychology*, 10(13), 787-809. <https://doi.org/10.3389/fpsyg.2022.787809>
- Liu, Y., Zhang, J., Hennessy, D. A., Zhao, S., & Ji, H. (2019). Psychological strains, depressive symptoms, and suicidal ideation among medical and non-medical staff in urban china. *Journal of Affective Disorders*, 245, 22–27. <https://doi.org/10.1016/j.jad.2018.10.111>
- Lizardi, D., Currier, D., Galfalvy, H., Sher, L., Burke, A., & Mann, J. J. (2007). Perceived reasons for living ant index hospitalization and future suicide attempt. *The Journal of Nervous and Mental Disease*, 195(5), 451–455. <https://doi.org/10.1097/NMD.0b013e3180522661>
- Lorant, V., Kunst, A. E., Huisman, M., Bopp, M., Mackenbach, J., & EU Working Group (2005). A European comparative study of marital status and socio-economic inequalities in suicide. *Social Science & Medicine*, 60(11), 2431-41. <https://doi.org/10.1016/j.socscimed.2004.11.033>
- Lu, C. Y., Zhang, F., Lakoma, M. D., Madden, J. M., Rusinak, D., Penfold, R. B., Simon, G., Ahmedani, B. K., Clarke, G., Hunkeler, E. M., Waitzfelder, B., Owen-Smith, A., Raebel, M. A., Rossom, R., Coleman, K. J., Copeland, L. A. & Soumerai, S. B. (2014). Changes in antidepressant use by young people

and suicidal behavior after FDA warnings and media coverage: Quasi-experimental study. *BMJ*, 348, g3596. <https://doi.org/10.1136/bmj.g3596>

Ludwig, J., Dreier, M., Liebherz, S., Härter, M., & von dem Knesebeck, O. (2022). Suicide literacy and suicide stigma - results of a population survey from Germany. *Journal of Mental Health*, 31(4), 517–523. <https://doi.org/10.1080/09638237.2021.1875421>

Luoma, J. B., Martin, C. E., & Pearson, J. L. (2002). Contact with mental health and primary care providers before suicide: A review of the evidence. *The American Journal of Psychiatry*, 159(6), 909–916. <https://doi.org/10.1176/appi.ajp.159.6.909>

Lynn C. W. (2008). When a coworker completes suicide. *Official Journal of the American Association of Occupational Health Nurses*, 56(11), 459–469. <https://doi.org/10.3928/08910162-20081101-02>.

Lyu, J., & Zhang, J. (2019). BP neural network prediction model for suicide attempt among Chinese rural residents. *Journal of Affective Disorders*, 246, 465–473. <https://doi.org/10.1016/j.jad.2018.12.111>

Lyu, J., Wang, Y., Shi, H., & Zhang, J. (2018). Early warnings for suicide attempt among Chinese rural population. *Journal of Affective Disorders*, 238, 353–358. <https://doi.org/10.1016/j.jad.2018.06.009>

Lyu, J., Zhang, J., & Sun, L. (2020). Stronger psychological strains increase the odds of suicide death: A comparison between suicides and suicide attempters. *Comprehensive Psychiatry*, 103. <https://doi.org/10.1016/j.comppsy.2020.152205>

Ma, J., Batterham, P. J., Calear, A. L., & Han, J. (2016). A systematic review of the predictions of the interpersonal-psychological theory of suicidal behavior. *Clinical Psychology Review*, 46, 34–45. <https://doi.org/10.1016/j.cpr.2016.04.008>

MacDonald, D.K., (2017). *Biopsychosocial model of suicidal behaviour*. <http://dustinkmacdonald.com/biopsychosocial-model-suicidal-behaviour/>

Mann, J. J., Bortinger, J., Oquendo, M. A., Currier, D., Li, S., & Brent, D. A. (2005). Family history of suicidal behavior and mood disorders in probands with

- mood disorders. *The American Journal of Psychiatry*, 162(9), 1672–79. <https://doi.org/10.1176/appi.ajp.162.9.1672>.
- Mann, J. J., Waternaux, C., Haas, G. L., & Malone, K. M. (1999). Toward a clinical model of suicidal behavior in psychiatric patients. *The American Journal of Psychiatry*, 156(2), 181–189. <https://doi.org/10.1176/ajp.156.2.181>
- Marmot, M. (2004). *The status syndrome: How social standing affects our health and longevity*. Henry Holt and Company.
- Mathieu, S., Treloar, A., Hawgood, J., Ross, V., & Kölves, K. (2022). The role of unemployment, financial hardship, and economic recession on suicidal behaviors and interventions to mitigate their impact: A review. *Frontiers in Public Health*, 10, 907052. <https://doi.org/10.3389/fpubh.2022.907052>
- Matsunaga, M. (2008). Item parceling in structural equation modeling: A primer. *Communication Methods and Measures*, 2(4), 260–293. <https://doi.org/10.1080/19312450802458935>.
- Matud, M. P. (2004). Gender differences in stress and coping styles. *Personality and Individual Differences*, 37(7), 1401–1415. <https://doi.org/10.1016/j.paid.2004.01.010>
- McAuliffe, C. M. (2002). Suicidal ideation as an articulation of intent: A focus for suicide revention? *Archives of Suicide Research*, 6(4), 325–338. <https://doi.org/10.1080/13811110214524>
- McClay, M. M., Brausch, A. M., & O'Connor, S. S. (2020). Social support mediates the association between disclosure of suicide attempt and depression, perceived burdensomeness, and thwarted belongingness. *Suicide & Life-Threatening Behavior*, 50(4), 884–898. <https://doi.org/10.1111/sltb.12622>
- McCloskey, M. S., & Ammerman, B. A. (2018). Suicidal behavior and aggression-related disorders. *Current Opinion in Psychology*, 22, 54–58. <https://doi.org/10.1016/j.copsyc.2017.08.010>
- McHugh, C. M., Chun Lee, R. S., Hermens, D. F., Corderoy, A., Large, M., & Hickie, I. B. (2019). Impulsivity in the self-harm and suicidal behavior of young people: A systematic review and meta-analysis. *Journal of Psychiatric Research*, 116, 51–60. <https://doi.org/10.1016/j.jpsychires.2019.05.012>

- McMahon, G., Creaven, A. M., & Gallagher, S. (2020). Stressful life events and adolescent well-being: The role of parent and peer relationships. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 36(3), 299–310. <https://doi.org/10.1002/smi.2923>
- Merton, R. (1957). *Social theory and social structure*. Glencoe, IL: The Free Press.
- Milner, A., McClure, R. & De Leo, D. (2012). Socio-economic determinants of suicide: an ecological analysis of 35 countries. *Social Psychiatry and Psychiatric Epidemiology*, 47(1), 19–27. <https://doi.org/10.1007/s00127-010-0316-x>
- Milner, A., Page, A., & LaMontagne, A. D. (2013). Long-term unemployment and suicide: a systematic review and meta-analysis. *Plos One*, 8(1). <https://doi.org/10.1371/journal.pone.0051333>
- Miranda-Mendizabal, A., Castellví, P., Parés-Badell, O., Alayo, I., Almenara, J., Alonso, I., Blasco, M. J., Cebrià, A., Gabilondo, A., Gili, M., Lagares, C., Piqueras, J. A., Rodríguez-Jiménez, T., Rodríguez-Marín, J., Roca, M., Soto-Sanz, V., Vilagut, G., & Alonso, J. (2019). Gender differences in suicidal behavior in adolescents and young adults: Systematic review and meta-analysis of longitudinal studies. *International Journal of Public Health*, 64(2), 265–283. <https://doi.org/10.1007/s00038-018-1196-1>
- Mirkovic, B., Labelle, R., Guilé, J. M., Belloncle, V., Bodeau, N., Knafo, A., Condat, A., Bapt-Cazalets, N., Marguet, C., Breton, J. J., Cohen, D., & Gérardin, P. (2015). Coping skills among adolescent suicide attempters: results of a multisite study. *Canadian Journal of Psychiatry*. 60(2), 37–45.
- Miron, O., Yu, K. H., Wilf-Miron, R., & Kohane, I. S. (2019). Suicide Rates Among Adolescents and Young Adults in the United States, 2000-2017. *Journal of American Medical Association*, 321(23), 2362–64. <https://doi.org/10.1001/jama.2019.5054>
- Moos, R. H., Brennan, P. L., Fondacaro, M. R., & Moos, B. S. (1990). Approach and avoidance coping responses among older problem and nonproblem drinkers. *Psychology and Aging*, 5(1), 31–40. <https://doi.org/10.1037//0882-7974.5.1.31>
- Mortier, P., Demyttenaere, K., Auerbach, R. P., Cuijpers, P., Green, J. G., Kiekens, G., Kessler, R. C., Nock, M. K., Zaslavsky, A. M., & Bruffaerts, R. (2017). First onset of suicidal thoughts and behaviours in college. *Journal of*

- Moscardini, E. H., Hill, R. M., Dodd, C. G., Do, C., Kaplow, J. B., & Tucker, R. P. (2020). Suicide safety planning: Clinician training, comfort, and safety plan utilization. *International Journal of Environmental Research and Public Health*, 17(18). <https://doi.org/10.3390/ijerph17186444>
- Mosqueiro, B. P., Caldieraro, M. A., Messinger, M., da Costa, F. B. P., Peteet, J. R., & Fleck, M. (2021). Religiosity, spirituality, suicide risk and remission of depressive symptoms: a 6-month prospective study of tertiary care Brazilian patients. *Journal of Affective Disorders*, 279, 434–442. <https://doi.org/10.1016/j.jad.2020.10.028>
- Murray, H. A. (1938). *Explorations in personality*. Oxford University
- Näher, A., Rummel-Kluge, C. & Hegerl, U. (2018). Associations of suicide rates with socioeconomic status and social isolation: Findings from longitudinal register and census data. *Frontiers in Psychiatry*, 10(898). <https://doi.org/10.3389/fpsy.2019.00898>
- Nasser, F. & Takahashi, T. (2003). The effect of using item parcels on ad hoc goodness-of-fit indexes in confirmatory factor analysis: An example using Sarason's reactions to tests. *Applied Measurement in Education*, 16(1), 75–97. <https://doi.org/10.1207/s15324818ame16014>
- National Institute of Mental Health Suicide [NIMH] (2020, May). Suicide. https://www.nimh.nih.gov/health/statistics/suicide.shtml#part_154968
- Nelson, L., Badger, S. & Wu, B. (2004). The influence of culture in emerging adulthood: Perspectives of Chinese college students. *International Journal of Behavioral Development*, 28(1), 26–36. <https://doi.org/10.1080/01650250344000244>
- Nock, M. K., Borges, G., Bromet, E. J., Alonso, J., Angermeyer, M., Beautrais, A. & Williams, D. (2008b). Cross-national prevalence and risk factors for suicidal ideation, plans and attempts. *The British Journal of Psychiatry*, 192(2), 98–105. <https://doi.org/10.1192/bjp.bp.107.040113>

- Nock, M. K., Borges, G., Bromet, E. J., Cha, C. B., Kessler, R. C., & Lee, S. (2008a). Suicide and suicidal behavior. *Epidemiologic Reviews*, *30*(1), 133-154. <https://doi.org/10.1093/epirev/mxn002>
- Nock, M.K., Prinstein, M.J., & Sterba, S. (2009). Revealing the form and function of self-injurious thoughts and behaviors: A real-time ecological assessment study among adolescents and young adults. *Journal of Abnormal Psychology*, *118*, 816–827. <https://doi.org/10.1037/a0016948>
- Nordt, C., Warnke, I., Seifritz, E., & Kawohl, W. (2015). Modelling suicide and unemployment: a longitudinal analysis covering 63 countries, 2000-11. *The Lancet Psychiatry*, *2*(3), 239–245. [https://doi.org/10.1016/S2215-0366\(14\)00118-7](https://doi.org/10.1016/S2215-0366(14)00118-7)
- O'Connor R.C & Portzky, G. (2018). Looking to the future: a synthesis of new developments and challenges in suicide research and prevention. *Frontiers in Psychology*, *9*, 21-39. <https://doi.org/10.3389/fpsyg.2018.02139>
- O'Connor, R. C. & Nock, M. K. (2014). The psychology of suicidal behavior. *The Lancet Psychiatry*, *1*(1), 73-85. [https://doi.org/10.1016/S2215-0366\(14\)70222-6](https://doi.org/10.1016/S2215-0366(14)70222-6)
- Obegi J. H. (2019). Rethinking suicidal behavior disorder. *Crisis*, *40*(3), 209–219. <https://doi.org/10.1027/0227-5910/a000543>
- O'Carroll, P. W., Berman, A. L., Maris, R. W., Moscicki, E. K., Tanney, B. L., & Silverman, M. M. (1996). Beyond the tower of babel: A nomenclature for suicidology. *Suicide & Life-Threatening Behavior*, *26*(3), 237–252.
- O'Connor, R. C. & Kirtley, O. J. (2018). The integrated motivational–volitional model of suicidal behaviour. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *373*(1754). <https://doi.org/10.1098/rstb.2017.0268>
- Opperman, K., Czyz, E. K., Gipson, P. Y., & King, CH. A. (2015). Connectedness and perceived burdensomeness in adolescents at elevated suicide risk: An examination of the interpersonal theory of suicidal behavior. *Archives of Suicide Research*, *19*(3), 385 -400. <https://doi.org/10.1080/13811118.2014.957451>

- Oquendo, M. A., & Baca-Garcia, E. (2014). Suicidal behavior disorder as a diagnostic entity in the DSM-5 classification system: Advantages outweigh limitations. *World Psychiatry, 13*(2), 128–130. <https://doi.org/10.1002/wps.20116>
- Oquendo, M. A., & Volkow, N. D. (2018). Suicide: A Silent Contributor to Opioid-Overdose Deaths. *The New England Journal of Medicine, 378*(17), 1567–1569. <https://doi.org/10.1056/NEJMp1801417>
- Otten, D., Ernst, M., Tibubos, A. N., Brähler, E., Fleischer, T., Schomerus, G., Wild, P. S., Zöller, D., Binder, H., Kruse, J., Johar, H., Atasoy, S., Grabe, H. J., Ladwig, K. H., Münzel, T., Völzke, H., König, J., & Beutel, M. E. (2022). Does social support prevent suicidal ideation in women and men? Gender-sensitive analyses of an important protective factor within prospective community cohorts. *Journal of Affective Disorders, 306*, 157–166. <https://doi.org/10.1016/j.jad.2022.03.031>
- Oyekcin, G., Sahin, D., & Aldemir E. (2017). Mental health, suicidality and hopelessness among university students in Turkey. *Asian Journal of Psychiatry, 29*, 185–189. <https://doi.org/10.1016/j.ajp.2017.06.007>
- Öztunç, G., Yeşil, P., Paydaş, S., & Erdoğan, S. (2013). Social support and hopelessness in patients with breast cancer. *Asian Pacific Journal of Cancer Prevention, 14*(1), 571–578.
- Palacio, C., Garcia, J., Diago, J., Zapata, C., Lopez, G., Ortiz, J., Lopez, M. (2007). Identification of suicide risk factors in Medellin, Colombia: A case–control study of psychological autopsy in a developing country. *Archives of Suicide Research, 11*(3), 297–308. <https://doi.org/10.1080/13811110600894223>
- Paladino, D., & Barrio Minton, C. A. (2008). Comprehensive college student suicide assessment: Application of the BASIC ID. *Journal of American College Health, 56*(6), 643-650. <https://doi.org/10.3200/JACH.56.6.643-650>
- Panesar, B., Rosic, T., Rodrigues, M., Sanger, N., Baptist-Mohseni, N., Hillmer, A., Chawar, C., D'Elia, A., Minuzzi, L., Thabane, L., & Samaan, Z. (2021). The role of perceived social support in the association between stressful life events and suicidal behavior. *Frontiers in Psychiatry, 12*, 699682. <https://doi.org/10.3389/fpsy.2021.699682>
- Para, E. A. (2008). The role of social support in identity formation: A literature review. *Graduate Journal of Counseling Psychology, 1*(1), 97-105.

- Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B. & Viner, R. M. (2016). Our future: A Lancet commission on adolescent health and wellbeing. *The Lancet*, 387(10036), 2423-2478. [https://doi.org/10.1016/S0140-6736\(16\)00579-1](https://doi.org/10.1016/S0140-6736(16)00579-1)
- Pearlin, L. I. & Schooler, C. (1978.) The structure of coping. *Journal of Health and Social Behavior* 19(1), 2–21. <https://doi.org/10.2307/2136319>
- Peeters, M., Oldehinkel, A., Veenstra, R., & Vollebergh, W. (2019). Unique developmental trajectories of risk behaviors in adolescence and associated outcomes in young adulthood. *Plos One*, 14(11), Article e0225088. <https://doi.org/10.1371/journal.pone.0225088>
- Pelton, M. K., & Cassidy, S. A. (2017). Are autistic traits associated with suicidality? A test of the interpersonal-psychological theory of suicide in a non-clinical young adult sample. *Autism Research*, 10(11), 1891–1904. <https://doi.org/10.1002/aur.1828>
- Peralta R. (2007). College alcohol use and the embodiment of hegemonic masculinity among European American men. *Sex Roles*, 56, 741–756. <https://doi.org/10.1007/s11199-007-9233-1>
- Pereira, A. S., Willhelm, A. R., Koller, S. H., & Almeida, R. M. M. (2018). Risk and protective factors for suicide attempt in emerging adulthood. *Ciencia & Saude Coletiva*, 23(11), 3767–3777. <https://doi.org/10.1590/1413812320182311.29112016>
- Perry, J. C., Fisher, A. L., Caemmerer, J. M., Keith, T. Z. & Poklar, A. E. (2018). The role of social support and coping skills in promoting self-regulated learning among urban youth. *Youth & Society*, 50(4), 1-20. <https://doi.org/10.1177/0044118X15618313>
- Phillips, J. A., & Hempstead, K. (2017). Differences in U.S. suicide rates by educational attainment, 2000-2014. *American Journal of Preventive Medicine*, 53(4), 123–130. <https://doi.org/10.1016/j.amepre.2017.04.010>
- Pia, T., Galynker, I., Schuck, A., Sinclair, C., Ying, G., & Calati, R. (2020). Perfectionism and prospective near-term suicidal thoughts and behaviors: The mediation of fear of humiliation and suicide crisis syndrome. *International Journal of Environmental Research and Public Health*, 17(4), 14-24. <https://doi.org/10.3390/ijerph17041424>

- Polanco-Roman, L. & Miranda, R. (2013). Culturally related stress, hopelessness, and vulnerability to depressive symptoms and suicide ideation in emerging adulthood. *Behavior Therapy*, 44(1), 75-87. <https://doi.org/10.1016/j.beth.2012.07.002>
- Pompili, M., Shrivastava, A., Serafini, G., Innamorati, M., Milelli, M., Erbutto, D., Ricci, F., Lamis, D. A., Scocco, P., Amore, M., Lester, D., & Girardi, P. (2013a). Bereavement after the suicide of a significant other. *Indian Journal of Psychiatry*, 55(3), 256–263. <https://doi.org/10.4103/0019-5545.117145>
- Pompili, M., Vichi, Monica, Q., Ping, I., Marco, D.L. & Diego; G. P. (2013b). Does the level of education influence completed suicide? A nationwide register study. *Journal of Affective Disorders*, 147(1-3), 437–440. <https://doi.org/10.1016/j.jad.2012.08.046>
- Primananda, M., & Keliat, B. A. (2019). Risk and protective factors of suicidal ideation in adolescents. *Comprehensive Child and Adolescent Nursing*, 42, 179-188. <https://doi.org/10.1080/24694193.2019.1578439>
- Prinstein M. J. (2008). Introduction to the special section on suicide and nonsuicidal self-injury: A review of unique challenges and important directions for self-injury science. *Journal of Consulting and Clinical Psychology*, 76(1), 1–8. <https://doi.org/10.1037/0022-006X.76.1.1>
- Pritchard, C., & Amanullah, S. (2007). An analysis of suicide and undetermined deaths in 17 predominantly Islamic countries contrasted with the UK. *Psychological Medicine*, 37(3), 421–430. <https://doi.org/10.1017/S0033291706009159>
- Puzia, M. E., Kraines, M. A., Liu, R. T., & Kleiman, E. M. (2014). Early life stressors and suicidal ideation: Mediation by interpersonal risk factors. *Personality and Individual Differences*, 56, 68–72. <https://doi.org/10.1016/j.paid.2013.08.027>
- Qin P. & Nordentoft M. (2005). Suicide risk in relation to psychiatric hospitalization: Evidence based on longitudinal registers. *Archives of General Psychiatry*, 62(4), 427–432. <https://doi.org/10.1001/archpsyc.62.4.427>
- Qin, W., Xu, L., Jing, Y., Han, W., & Hu, F. (2022). Relative deprivation, depression and quality of life among adults in Shandong province, China: A conditional

process analysis based on social support. *Journal of Affective Disorders*, 312, 136–143. <https://doi.org/10.1016/j.jad.2022.06.019>

R. D. Yockey (2016). *SPSS Demystified: A Simple Guide and Reference* (2nd ed). Taylor&Francis.

Raifman, J., Ettman, C. K., Dean, L. T., Abdalla, S. M., Skinner, A., Barry, C. L., & Galea, S. (2022). Economic precarity, loneliness, and suicidal ideation during the COVID-19 pandemic. *PloS One*, 17(11), e0275973. <https://doi.org/10.1371/journal.pone.0275973>

Ranta, M., Dietrich, J., & Salmela-Aro, K. (2014). Career and romantic relationship goals and concerns during emerging adulthood. *Emerging Adulthood*, 2(1), 17-26. <https://doi.org/10.1177/2167696813515852>

Rao, D. (2015). An autopsy study of death due to suicidal hanging – 264 cases. *Egyptian Journal of Forensic Sciences*, 6(3), 248-254. <https://doi.org/10.1016/j.ejfs.2015.01.004>

Richardson, C. (2011). *Relative deprivation theory in terrorism: A study of higher education and unemployment as predictors of terrorism*. Unpublished manuscript. Politics Department, New York University. Retrieved from: https://as.nyu.edu/content/dam/nyu-as/politics/documents/Clare_Richardson_terrorism.pdf

Rimmer, E. S., Tracy J. C., Sarah L. H., Jenessa C. S. & Charles, W. (2023) Does social support moderate the relationship between gender minority stress and suicide within a sample of transgender and gender diverse people? *Journal of Gay & Lesbian Mental Health*, 27(3), 284-303, <https://doi.org/10.1080/19359705.2021.1997855>

Ronneberg, C. R., Miller, E. A., Dugan, E., & Porell, F. (2016). The protective effects of religiosity on depression: A 2-year prospective study. *The Gerontologist*, 56(3), 421–431. <https://doi.org/10.1093/geront/gnu073>

Rotenstein L.S., Ramos M.A., & Torre M., (2016). Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: A systematic review and meta-analysis. *Journal of the American Medical Association*, 16(21), 2214–36. <https://doi.org/10.1001/jama.2016.17324>

- Rudd, D. M., Berman, A. L., Joiner, T. E., Nock, M. K., Silverman, M. D., Mandrusiak, M., Van Orden, K., and Witte, T. (2011). Warning signs for suicide: Theory, research, and clinical practice. *Suicide and Life Threatening Behavior*, *36*, 255- 262. <https://doi.org/10.1521/suli.2006.36.3.255>
- Runeson, B., Odeberg, J., Pettersson, A., Edbom, T., Jildevik Adamsson, I., & Waern, M. (2017). Instruments for the assessment of suicide risk: A systematic review evaluating the certainty of the evidence. *Plos One*, *12*(7). <https://doi.org/10.1371/journal.pone.0180292>
- Sabancı, T. (2015). *Expressions of hope and aspiration among young people receiving rehabilitation services in Kampala, Uganda* [Doctoral dissertation, Makerere University]. UA Campus Repository. <https://repositorio.iscte-iul.pt/bitstream/10071/10351/1/Tumel%20Sabanci.pdf>
- Safa, M., Boroujerdi, F. G., Talischi, F., & Masjedi, M. R. (2014). Relationship of coping styles with suicidal behavior in hospitalized asthma and chronic obstructive pulmonary disease patients: Substance abusers versus non-substance abusers. *Tanaffos*, *13*(3), 23–30.
- Saiz, J., Ayllón-Alonso, E., Sánchez-Iglesias, I., Chopra, D., & Mills, P. J. (2021). Religiosity and suicide: A large-scale international and individual analysis considering the effects of different religious beliefs. *Journal of Religion and Health*, *60*(4), 2503–2526. <https://doi.org/10.1007/s10943-020-01137-x>
- Saleebey, D. (2006). *The strengths perspective in social work practice*. Pearson/Allyn & Bacon.
- Saveanu, R. V., & Nemeroff, C. B. (2012). Etiology of depression: genetic and environmental factors. *The Psychiatric Clinics of North America*, *35*(1), 51–71. <https://doi.org/10.1016/j.psc.2011.12.001>
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research*, *8*(2), 23–74.
- Schotte, D. E., & Clum, G. A. (1987). Problem-solving skills in suicidal psychiatric patients. *Journal of Consulting and Clinical Psychology*, *55*(1), 49–54. <https://doi.org/10.1037//0022-006x.55.1.49>

- Schumacker, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling* (3rd ed.). Routledge.
- Schwartz, S. J., Zamboanga, B. L., Luyckx, K., Meca, A., & Ritchie, R. A. (2013). Identity in emerging adulthood: Reviewing the field and looking forward. *Emerging Adulthood, 1*(2), 96-113. <https://doi.org/10.1177/2167696813479781>
- Schwartz-Lifshitz, M., Zalsman, G., Giner, L., & Oquendo, M. A. (2012). Can we really prevent suicide? *Current Psychiatry Reports, 14*(6), 624-633. <https://doi.org/10.1007/s11920-012-0318-3>
- Schwarzer, R., & Schulz, U. (2003). Stressful life events. In A. M. Nezu, C. M. Nezu, & P. A. Geller (Eds.), *Handbook of psychology: Health psychology*, pp. 27-49). John Wiley & Sons, Inc.
- Shah, A., & Chandia, M. (2010). The relationship between suicide and Islam: A cross-national study. *Journal of Injury & Violence Research, 2*(2), 93-97. <https://doi.org/10.5249/jivr.v2i2.60>
- Shah, A., & Chatterjee, S. (2008). Is there a relationship between elderly suicide rates and educational attainment? A cross-national study. *Aging & Mental Health, 12*(6), 795-799. <https://doi.org/10.1080/13607860802427986>
- Shah, A., Bhat, R., McKenzie, S., & Koen, C. (2007). Elderly suicide rates: Cross-national comparisons and association with sex and elderly age-bands. *Medicine, Science, and the Law, 47*(3), 244-252. <https://doi.org/10.1258/rsmmsl.47.3.244>
- Sharma, T., Guski, L. S., Freund, N., & Götzsche, P. C. (2016). Suicidality and aggression during antidepressant treatment: Systematic review and meta-analyses based on clinical study reports. *British Medical Journal, 352*. <https://doi.org/10.1136/bmj.i65>
- Shaw, R. J., Cullen, B., Graham, N., Lyall, D. M., Mackay, D., Okolie, C., Pearsall, R., Ward, J., John, A., & Smith, D. J. (2021). Living alone, loneliness and lack of emotional support as predictors of suicide and self-harm: A nine-year follow up of the UK Biobank cohort. *Journal of Affective Disorders, 279*, 316-323. <https://doi.org/10.1016/j.jad.2020.10.026>

- Sheehan, L. L., Corrigan, P. W., & Al-Khouja, M. A. (2016). Stakeholder perspectives on the stigma of suicide attempt survivors. *Crisis*, 38(2), 73-81. <https://doi.org/10.1027/0227-5910/a000413>
- Sher L. (2012). Protective factors. In: Shrivastava A., Kimbrell M., & Lester D. (Eds.). *Suicide from a global perspective: Psychosocial approaches* (pp. 57 -65). Nova Science Publishers.
- Sher L. (2019). Resilience as a focus of suicide research and prevention. *Acta Psychiatrica Scandinavica*, 140(2), 169–180. <https://doi.org/10.1111/acps.13059>
- Shneidman, E. S. (1993). *Suicide as psychache: A clinical approach to self-destructive behavior*. Jason Aronson.
- Shoib, S., Armiya'u, A. Y., Nahidi, M., Arif, N., & Saeed, F. (2022). Suicide in Muslim world and way forward. *Health Science Reports*, 5(4). <https://doi.org/10.1002/hsr2.665>
- Silva, C., Ribeiro, J. D., & Joiner, T. E. (2015). Mental disorders and thwarted belongingness, perceived burdensomeness, and acquired capability for suicide. *Psychiatry Research*, 226(1), 316–327. <https://doi.org/10.1016/j.psychres.2015.01.008>
- Simon, R. I. (2014). Passive suicidal ideation: Still a high-risk clinical scenario. *Current Psychiatry*, 13(3), 13-15.
- Smith L., Baluch S., Bernabei S., Robohm J. & Sheehy J. (2003). Applying a social justice framework to college counseling center practice. *Journal of College Counseling*, 6(1), 3–13. <https://doi.org/10.1002/j.2161-1882.2003.tb00222.x>
- Smith, A. R., Ribeiro, J. D., Mikolajewski, A., Taylor, J., Joiner, T. E., & Iacono, W. G. (2012). An examination of environmental and genetic contributions to the determinants of suicidal behavior among male twins. *Psychiatry Research*, 197(1-2), 60–65. <https://doi.org/10.1016/j.psychres.2012.01.010>
- Spitzer, E. G., Crosby, E. S., & Witte, T. K. (2023). Looking through a filtered lens: Negative social comparison on social media and suicidal ideation among young adults. *Psychology of Popular Media*, 12(1), 69-76. <https://doi.org/10.1037/ppm0000380>

- Stephenson, H., Pena-Shaff, J., & Quirk, P. (2006). Predictors of college student suicidal ideation: Gender differences. *College Student Journal, 40*, 109-117.
- Stone D.M., Holland K.M, & Bartholow B. (2017). Preventing suicide: A technical package of policies, programs, and practices. <https://www.cdc.gov/suicide/pdf/suicideTechnicalPackage.pdf>.
- Stratta, P., Capanna, C., Riccardi, I., Carmassi, C., Piccinni, A., Dell'Osso, L., & Rossi, A. (2012). Suicidal intention and negative spiritual coping one year after the earthquake of L'Aquila (Italy). *Journal of Affective Disorders, 136*(3), 1227–1231. <https://doi.org/10.1016/j.jad.2011.10.006>
- Stravynski, A., & Boyer, R. (2001). Loneliness in relation to suicide ideation and parasuicide: A population-wide study. *Suicide & Life-Threatening Behavior, 31*(1), 32–40. <https://doi.org/10.1521/suli.31.1.32.21312>
- Stroppa, A., & Moreira-Almeida, A. (2013). Religiosity, mood symptoms, and quality of life in bipolar disorder. *Bipolar Disorders, 15*(4), 385–393. <https://doi.org/10.1111/bdi.12069>
- Sudak, H., Maxim, K., & Carpenter, M. (2008). Suicide and stigma: a review of the literature and personal reflections. *Academic Psychiatry, 32*(2), 136–142. <https://doi.org/10.1176/appi.ap.32.2.136>
- Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and with what effect? *Current Directions in Psychological Science, 11*(5), 159–163. <https://doi.org/10.1111/1467-8721.00191>
- Sun, G., Zhao, J., Tian, S., Zhang, L., & Jia, C. (2020). Psychological strain and suicidal ideation in athletes: The multiple mediating effects of hopelessness and depression. *International Journal of Environmental Research and Public Health, 17*(21), 80-87. <https://doi.org/10.3390/ijerph17218087>
- Sun, L. & Zhang, J. (2016). Psychological strains and suicidal intent: An empirical study to relate the 2 psychopathological variables. *The Journal of Nervous and Mental Disease, 204*(11), 855-860. <https://doi.org/10.1097/NMD.0000000000000529>
- Sun, L., & Zhang, J. (2015). Coping skill as a moderator between negative life events and suicide among young people in rural China. *Journal of Clinical Psychology, 71*(3), 258–266. <https://doi.org/10.1002/jclp.22140>

- Suokas, J., Suominen, K., Isometsa, E., Ostamo, A., Lonnqvist, J., 2001. Long-term risk factors for suicide mortality after attempted suicide—findings of a 14-year follow-up study. *Acta Psychiatrica Scandinavica*, 104, 117–121. <https://doi.org/10.1034/j.1600-0447.2001.00243.x>
- Szanto, K., Mulsant, B. H., Houck, P., Dew, M. A., & Reynolds, C. F. (2003). Occurrence and course of suicidality during short-term treatment of late-life depression. *Archives of General Psychiatry*, 60, 610–617. <https://doi.org/10.1001/archpsyc.60.6.610>
- Taku, K., & Arai, H. (2023). Roles of values in the risk factors of passive suicide ideation among young adults in the US and Japan. *Frontiers in Psychology*, 14, (1239103). <https://doi.org/10.3389/fpsyg.2023.1239103>
- Tamar, M., Bildik, T., Kosem, F. S., Kesikci, H., Tatar, A., Yaman, B., Erermifl, S. & Ozbaran, B. (2006). The characteristics of separation individuation in Turkish high school students. *Adolescence*, 41(161), 177–184.
- The World Bank (2023). *Poverty & equality brief: Europe & Central Asia, Türkiye*, April 2023. https://databankfiles.worldbank.org/public/ddpext_download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/current/Global_POVEQ_TUR.pdf
- Tondo, L., Albert, M. J., & Baldessarini, R. J. (2006). Suicide rates in relation to health care access in the United States: An ecological study. *The Journal of Clinical Psychiatry*, 67(4), 517–523. <https://doi.org/10.4088/jcp.v67n0402>
- Tonkuş, M.B., Çalışkan, B.B. & Alagöz, E. (2022). The relationship between suicide and hopelessness in young adults aged 18-30: A systematic review. *Journal of Psychiatric Nursing*, 13(3), 253-262. <https://doi.org/10.14744/phd.2022.76993>
- Toprak, S., Cetin, I., Guven, T., Can, G., & Demircan, C. (2011). Self-harm, suicidal ideation and suicide attempts among college students. *Psychiatry Research*, 187 (1-2), 140–144. <https://doi.org/10.1016/j.psychres.2010.09.009>
- Tóth, M. D., Ádám, S., Birkás, E., Székely, A., Stauder, A., & Purebl, G. (2014). Gender differences in deliberate self-poisoning in Hungary: Analyzing the effect of precipitating factors and their relation to depression. *Crisis*, 35(3), 145–153. <https://doi.org/10.1027/0227-5910/a000245>

- Trible, H. B. (2015). *Emerging adulthood: Defining the life stage and its developmental tasks* [Master's thesis, James Madison University]. Scholarly Commons.
<https://commons.lib.jmu.edu/cgi/viewcontent.cgi?article=1007&context=edspec201019>
- Türkiye İstatistik Kurumu [TÜİK]. (2023). *İntihar İstatistikleri* [Suicide statistics].
<https://data.tuik.gov.tr/Search/Search?text=intihar&dil=1>
- Türkiye İstatistik Kurumu [TÜİK]. (2021). *İstatistiklerle Türkiye 2021* [Turkey in Statistics 2021].
www.tuik.gov.tr/media/announcements/istatistiklerle_turkiye_2021.pdf
- Tüzün Z. (1997). *Life events, depression, social support systems, reasons for living, and suicide probability among university students* [Master's thesis, Middle East Technical University]. OpenMetu.
<https://open.metu.edu.tr/handle/11511/1294>
- Twohig, M. P. & Crosby, J. M. (2008). Values clarification. In W. T. O'Donohue and J. E. Fisher (Eds.), *Cognitive behavior therapy: Applying empirically supported practice techniques in your practice* (2nd Ed.) (pp. 583-588). John Wiley & Sons
- Ulusoy, M., & Demir, N. (2005). Suicidal ideation in Turkish adolescents. *Social Behavior and Personality: An International Journal*, 33(6), 541-552.
<https://doi.org/10.2224/sbp.2005.33.6.541>
- Ural, T & Özbirecikli, M. (2006). Is ethical judgement influenced by social desirability in responding? An analyse on Turkish accountants. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 15(1), 393-410.
- Van Harmelen, A. L., Schmaal, L., & Blumberg, H. P. (2019). Journal of affective disorders special issue on suicide-related research: hopeful progress but much research urgently needed. *Journal of Affective Disorders*, 251, 39-41.
<https://doi.org/10.1016/j.jad.2019.03.054>
- Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner, T. E. (2012). Thwarted belongingness and perceived burdensomeness: Construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological Assessment*, 24(1), 197-215.
<https://doi.org/10.1037/a0025358>

- Van Orden, K. A., Lynam, M. E., Hollar, D., & Joiner, T. E. (2006). Perceived burdensomeness as an indicator of suicidal symptoms. *Cognitive Therapy and Research*, *30*, 457-467. <https://doi.org/10.1007/s10608-006-9057-2>
- Van Orden, K. A., Tu, X., Messing, S., Stone, D. M., Rowe, J., McIntosh, W. L., Podgorski, C., & Conwell, Y. (2016, March 30-April 2). *The senior connection: a randomized trial of peer companionship to reduce suicide risk in older adults*. [Paper presentation]. 49th Annual Meeting of the American Association for Suicidology, Chicago, IL, United States.
- Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner, T. E. (2010). The interpersonal theory of suicide. *Psychological Review*, *117*(2), 575–600. <https://doi.org/10.1037/a0018697>
- Van Orden, K. A., Witte, T. K., Gordon, K. H., Bender, T. W., & Joiner, T. E. (2008). Suicidal desire and the capability for suicide: Tests of the interpersonal – psychological theory of suicidal behavior among adults. *Journal of Consulting and Clinical Psychology*, *76*(1), 72 –83. <https://doi.org/10.1037/0022-006X.76.1.72>
- Vélez-Grau, C., Magan, I. M., & Gwadz, M. (2023). The burden of not belonging: a qualitative study of the applicability of the interpersonal theory of suicide constructs of belongingness and burdensomeness to ethnocultural minoritized youth. *Behavior Therapy*, *54*(5), 777–793. <https://doi.org/10.1016/j.beth.2023.02.004>
- Wagner, Barry M.; Aiken, Christine; Mullaley, P. Michelle; Tobin, James J. (2000). Parents' reactions to adolescents' suicide attempts. *Journal Of The American Academy Of Child & Adolescent Psychiatry*, *39*(4), 429–436. <https://doi.org/10.1097/00004583-200004000-00011>
- Wang, G., & Wu, L. (2021). Social determinants on suicidal thoughts among young adults. *International Journal of Environmental Research and Public Health*, *18*(16), 8788. <https://doi.org/10.3390/ijerph18168788>
- Wang, J., Mann, F., & Lloyd-Evans, B. (2018). Associations between loneliness and perceived social support and outcomes of mental health problems: A systematic review. *BMC Psychiatry* *18* (156). <https://doi.org/10.1186/s12888-018-1736-5>
- Wang, M. C., Richard Lightsey, O., Pietruszka, T., Uruk, A. C., & Wells, A. G. (2007). Purpose in life and reasons for living as mediators of the relationship

between stress, coping, and suicidal behavior. *The Journal of Positive Psychology*, 2(3), 195-204. <https://doi.org/10.1080/17439760701228920>

Ward, C., & Kennedy, A. (1999). The measurement of sociocultural adaptation. *International Journal of Intercultural Relations*, 23(4), 659-677. [https://doi.org/10.1016/S0147-1767\(99\)00014-0](https://doi.org/10.1016/S0147-1767(99)00014-0)

Wei, Y. X., Wang, X. T., Zhang, J., Yao, Z. Y., Liu, B. P., & Jia, C. X. (2020). Psychometric properties of the psychological strain scales (PSS) in suicide attempters and community controls of rural China. *Journal of Affective Disorders*, 266, 753–759. <https://doi.org/10.1016/j.jad.2020.01.105>

Wesley, R., & Booker, J. A. (2021). Social support and psychological adjustment among college adults. *Journal of Social and Clinical Psychology*, 40(1), 69–95. <https://doi.org/10.1521/jscp.2021.40.1.69>

Westefeld, J. S., Homaifar, B., Spotts, J., Furr, S., Range, L., & Werth, J. L. (2005). Perceptions concerning college student suicide: Data from four universities. *Suicide and Life-Threatening Behavior*, 35(6), 640–645. <https://doi.org/10.1521/suli.2005.35.6.640>

Wicherts J. M. & Dolan, C. V. (2010). Measurement invariance in confirmatory factor analysis: an illustration using iq test performance of minorities. *Educational Measurement: Issues and Practice*, 29(3), 39-47. <https://doi.org/10.1111/j.1745-3992.2010.00182.x>

Williams, J. H. (2001). *Suicide and attempted suicide: Understanding the cry of pain*. Penguin.

Witte, T. K., Holm-Denoma, J. M., Zuromski, K. L., Gauthier, J. M., & Ruscio, J. (2017). Individuals at high risk for suicide are categorically distinct from those at low risk. *Psychological Assessment*, 29(4), 382–393. <https://doi.org/10.1037/pas0000349>

Wolfe, K. L., Nakonezny, P. A., Owen, V. J., Rial, K. V., Moorehead, A. P., Kennard, B. D., & Emslie, G. J. (2019). Hopelessness as a predictor of suicide ideation in depressed male and female adolescent youth. *Suicide & Life-Threatening Behavior*, 49(1), 253–263. <https://doi.org/10.1111/sltb.12428>

Wolff, J.C., Davis, S., Liu, R.T., Cha, C.B., Cheek, S.M., Nestor, B.A., & Spirito, A. (2018). Trajectories of suicidal ideation among adolescents following

psychiatric hospitalization. *Journal of Abnormal Child Psychology*, 46(2), 355–363. <https://doi.org/10.1007/s10802-017-0293-6>

Woods-Jaeger, B. A., Nobles, R. H., Warren, L., & Larimer, M. E. (2016). The relationship between emotion regulation, social support, and alcohol-related problems among racially diverse adolescents. *Journal of Child & Adolescent Substance Abuse*, 25(3), 245–251. <https://doi.org/10.1080/1067828X.2015.1012611>

World Health Organization (2021). *Fact Sheet: Suicide*. <https://www.who.int/news-room/fact-sheets/detail/suicide>.

World Health Organization (2021, June 16). *Suicide worldwide in 2019: Global health estimates*. <https://www.who.int/publications/i/item/9789240026643>

Wright, A. N. (2012). *Value development in emerging adulthood: the influence of family*. [Doctoral dissertation, University of North Texas]. UNT Digital Library. https://digital.library.unt.edu/ark:/67531/metadc149689/m2/1/high_res_d/dissertation.pdf

Wu, A., Wang, J. Y., & Jia, C. X. (2015). Religion and completed suicide: A meta-analysis. *Plos One*, 10(6), e0131715. <https://doi.org/10.1371/journal.pone.0131715>

Yapıcı, A. (2007). *Ruh sağlığı ve din: psiko-sosyal uyum ve dindarlık*. Karahan Kitabevi.

Yavuzaslan, A, Barişçil, A. & Fekete-Farkas, M. (2016). Stress and future career aspirations among university students in Turkey. *International Journal of Social Sciences and Humanity Studies*, 8(1), 233-250.

Yetim, U. (2002). Türk üniversite öğrencileri ve akademisyenlerinde bireycilik/toplulukçuluk, benlik saygısı ve ustalık duygusunun yaşam doyumu üzerine etkisi [The impacts of individualism/collectivism, self-esteem, and feeling of mastery on life satisfaction among the Turkish university students and academicians]. *Social Indicators Research*, 61, 297-317. <https://doi.org/10.1023/A:1021911504113>

Yılmaz, Ö. , Boz, H. & Arslan, A. (2017). Depresyon anksiyete stres ölçeğinin(DASS-21) Türkçe kısa formunun geçerlilik-güvenilirlik çalışması [The validity and

reliability of depression stress and anxiety scale (DASS-21) Turkish short form]. *Finans Ekonomi ve Sosyal Araştırmalar Dergisi*, 2(2), 78-91.

- You, S., Van Orden, K. A., & Conner, K. R. (2011). Social connections and suicidal thoughts and behavior. *Psychology of Addictive Behaviors*, 25(1), 180–184. <https://doi.org/10.1037/a0020936>
- Young, T.I., Iglewicz, A., Glorioso, D., Lanouette, N., Seay, K., Ilapakurti, M., & Zisook, S. (2012). Suicide bereavement and complicated grief. *Dialogues in Clinical Neuroscience*, 14(2), 177–186. <https://doi.org/10.31887/DCNS.2012.14.2/iyoung>
- Zhang, J., Conwell, Y., Zhou, L. & Jiang, C. (2004). Culture, risk factors and suicide in rural China: A psychological autopsy case control study. *Acta Psychiatrica Scandinavica*, 110(6), 430–437. <https://doi.org/10.1111/j.1600-0447.2004.00388.x>
- Zhang, J., Wieczorek, W., Conwell, Y., Tu, X.M, Wu, B.Y. & Xiao S. (2010). Characteristics of young rural Chinese suicides: A psychological autopsy study. *Psychological Medicine*, 40(4):581–589. <https://doi.org/10.1017/s0033291709990808>
- Zhang J. (2016). From psychological strain to disconnectedness. *Crisis*, 37(3), 169–175. <https://doi.org/10.1027/0227-5910/a000420>
- Zhang J. & Zhao S. (2013). Effects of value strains on psychopathology of Chinese rural youths. *Asian Journal of Psychiatry*, 6(6), 510–514. <https://doi.org/10.1016/j.ajp.2013.06.007>
- Zhang J., Liu, Y. & Sun, L. (2016a). Life satisfaction and degree of suicide intent: A test of the strain theory of suicide. *Comprehensive Psychiatry*, 74, 1-8. <https://doi.org/10.1016/j.comppsy.2016.12.002>
- Zhang J., Lu J., Zhao S., Lamis D.A., Li N., Kong Y., Jia C., Zhou L. & Ma, Z. (2014). Developing the psychological strain scales (PSS): Reliability, validity, and preliminary hypothesis tests. *Social Indicators Research*, 115(1), 337-361. <https://doi.org/10.1007/s11205-012-0222-6>
- Zhang, J. & Lester, D. (2008). Psychological tensions found in suicide notes: A test for the strain theory of suicide. *Archives of Suicide Research*, 12(1), 67-73. <https://doi.org/10.1080/13811110701800962>

- Zhang, J. & Zhao, S. (2013). Effects of value strains on psychopathology of Chinese rural youths. *Asian Journal of Psychiatry*, 6(6), 510-514. <https://doi.org/10.1016/j.ajp.2013.06.007>
- Zhang, J. & Zhao, Z. (2017). Psychological strain and suicidal ideation among Chinese young people. *International Journal of Asian Social Science*, 7(6), 497-504.
- Zhang, J. (2016b). From psychological strain to disconnectedness. *Crisis*, 37(3), 169–175. <https://doi.org/10.1027/0227-5910/a000420>
- Zhang, J. (2019). The strain theory of suicide. *Journal of Pacific Rim Psychology*, 13, e27. <https://doi.org/10.1017/prp.2019.19>
- Zhang, J., & Lester, D. (2008). Psychological tensions found in suicide notes: a test for the strain theory of suicide. *Archives of Suicide Research*, 12(1), 67–73. <https://doi.org/10.1080/13811110701800962>
- Zhang, J., & Lv, J. (2014). Psychological strains and depression in Chinese rural populations. *Psychology, Health & Medicine*, 19(3), 365–373. <https://doi.org/10.1080/13548506.2013.808752>
- Zhang, J., & Lyu, J. (2014). Reliability, validity, and preliminary hypothesis tests for the English version of the Psychological Strain Scales (PSS). *Journal of Affective Disorders*, 164, 69–75. <https://doi.org/10.1016/j.jad.2014.04.011>
- Zhang, J., & Tao, M. (2013). Relative deprivation and psychopathology of Chinese college students. *Journal of Affective Disorders*, 150(3), 903–907. <https://doi.org/10.1016/j.jad.2013.05.013>
- Zhang, J., Dong, N., Delprino, R., & Zhou, L. (2009). Psychological strains found from in-depth interviews with 105 Chinese rural youth suicides. *Archives of Suicide Research*, 13(2), 185–194. <https://doi.org/10.1080/13811110902835155>
- Zhang, J., Huen, J. M. Y., Lew, B., Chistopolskaya, K., Talib, M. A., Siau, C. S., & Leung, A. N. M. (2020). Depression, anxiety, and stress as a function of psychological strains: towards an etiological theory of mood disorders and psychopathologies. *Journal of Affective Disorders*, 271, 279–285. <https://doi.org/10.1016/j.jad.2020.03.076>

- Zhang, J., Jing, J., Wu, X., Sun, W., & Wang, C. (2011). A sociological analysis of the decline in the suicide rate in China. *Social Sciences in China*, 5, 97-113.
- Zhang, J., Lester, D., Haines, J., Williams, C. L., Zhou, R., Qi, Q., Li, T., Liu, L., & Ma, W. (2020). Identifying psychological strains in suicide notes. *Omega*, 82(1), 120–127. <https://doi.org/10.1177/0030222818811466>
- Zhang, J., Liu, Y. & Hennessy, D. (2016). Effects of psychological strains on chinese college students depression and suicidal ideation. *Journal of Forensic Psychology*, 1(2), 106. <https://doi.org/10.4172/2475-319X.1000106>
- Zhang, J., Liu, Y., & Sun, L. (2017). Psychological strain and suicidal ideation: A comparison between Chinese and US college students. *Psychiatry Research*, 255, 256–262. <https://doi.org/10.1016/j.psychres.2017.05.046>
- Zhang, J., Tan, J. & Lester, D. (2013). Psychological strains found in the suicides of 72 celebrities. *Journal of Affective Disorders*, 149 (1–3), 230-234. <https://doi.org/10.1016/j.jad.2013.01.031>
- Zhang, J., Wang W., Yiu Huen, J. M., Lyu, J. & Lew, B. (2020). Towards higher psychometric properties: Testing the psychological strain scales with larger samples. *Archives of Suicide Research*, 26(2), 1-15. <https://doi.org/10.1080/13811118.2020.1847707>
- Zhang, J., Wieczorek, W. F., Conwell, Y., & Tu, X. M. (2011). Psychological strains and youth suicide in rural China. *Social Science & Medicine (1982)*, 72(12), 2003–2010. <https://doi.org/10.1016/j.socscimed.2011.03.048>
- Zhang, J., Wieczorek, W., Conwell, Y., Tu, X. M., Wu, B. Y., Xiao, S., & Jia, C. (2010). Characteristics of young rural Chinese suicides: A psychological autopsy study. *Psychological Medicine*, 40(4), 581–589. <https://doi.org/10.1017/S0033291709990808>
- Zhang, J., Dong, N., Delprino, R. & Zhou, L. (2009). Psychological strains found from in-depth interviews with 105 chinese rural youth suicides. *Archives of Suicide Research*, 13(2), 185-194. <https://doi.org/10.1080/13811110902835155>
- Zhao, J., Yang, X., Xiao, R., Zhang, X., Aguilera, D., & Zhao, J. (2012). Belief system, meaningfulness, and psychopathology associated with suicidality

among Chinese college students: A cross-sectional survey. *BMC Public Health*, 12, Article 668. <https://doi.org/10.1186/1471-2458-12-668>

Zhao, S., & Peng, L. (2021). Feeling matters: Perceived social support moderates the relationship between personal relative deprivation and depressive symptoms. *BMC Psychiatry*, 21(1), Article 345. <https://doi.org/10.1186/s12888-021-03334-8>

Zhao, S., Yan, W., Tao, L., & Zhang, J. (2023). The association between relative deprivation, depression, and youth suicide: Evidence from a psychological autopsy study. *Omega-Journal of Death and Dying*. Advance online publication. <https://doi.org/10.1177/00302228231190595>

Zhao, S., Zhang, J., Liu, Y., Ji, H. & Lew, B. (2020). The association between psychological strains and life satisfaction: Evidence from medical staff in China. *Journal of Affective Disorders*, 260, 105–110. <https://doi.org/10.1016/j.jad.2019.09.006>

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30–41. <https://doi.org/10.1207/s15327752jpa52012>

APPENDICES

A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
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20 HAZİRAN 2022

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Doç. Dr. Zeynep Hatipoğlu SÜMER
Danışmanlığımı yürüttüğünüz Berkan DEMİR'in "Klinik Olmayan Beliren Yetişkin Örnekleminde İntihar Düşüncelerine Yatkınlık ve Psikolojik Sağlamlık: İki Faktörlü İntihar Kuramı Modelinin Düzenleyici Aracılık Yoluyla Test Edilmesi" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay 0334-ODTÜİAEK-2022 protokol numarası ile onaylanmıştır.

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Mine MISIRLISOY
Başkan

Doç. Dr. İ.Semih AKÇOMAK
Üye

Dr. Öğretim Üyesi Serife SEVİNÇ
Üye

Dr. Öğretim Üyesi Süreyya ÖZCAN KABASAKAL
Üye

Dr. Öğretim Üyesi Müge GÜNDÜZ
Üye

Dr. Öğretim Üyesi Murat Perit ÇAKIR
Üye

Dr. Öğretim Üyesi A. Emre TURGUT
Üye

B. DEMOGRAPHIC INFORMATION FORM

KİŞİSEL BİLGİ FORMU

Cinsiyetinizi nasıl tanımlarsınız? (Kadın, erkek, cinsiyetsiz/non-binary, interseks, trans kadın, trans erkek vb):

Yaşınız:

6 Şubat 2023 tarihinde meydana gelen Kahramanmaraş merkezli depremleri yaşadınız mı?

() Evet () Hayır

6 Şubat 2023 tarihinde meydana gelen Kahramanmaraş merkezli depremlerden dolayı yaşadığınız şehri değiştirmek durumunda kaldınız mı?

() Evet () Hayır

Şu an hangi şehirde yaşıyorsunuz?:.....

Öğrenim durumunuz (Lütfen en son mezun olduğunuz eğitim kademesini işaretleyiniz):

() İlkokul () Ortaokul () Lise () Üniversite (lisans/önlisans) () Lisansüstü (yüksek lisans/doktora)

Mesleğiniz nedir?:.....

Şu anda size gelir sağlayan herhangi bir işte çalışıyor musunuz? () Evet () Hayır

Şu an herhangi bir psikolojik yardım alıyor musunuz? (örneğin; terapi, ilaç tedavisi)

() Evet () Hayır

Çevrenizle kıyasladığınızda maddi durumunuzu nasıl değerlendirirsiniz?

() Alt () Alt-Orta () Orta () Üst-Orta () Üst

Herhangi bir dine inanıyor musunuz? () Evet () Hayır

Dini inancınızın ne derecede güçlü olduğunu düşünüyorsunuz? (Herhangi bir dine inanmıyorsanız bu soruyu boş bırakabilirsiniz).

1 2 3 4 5 6 7 8 9 10

Hiç güçlü değildir

Çok güçlüdür

İnancınızın gerektirdiği dini etkinlikleri (örneğin; ibadet etmek) ne sıklıkta yerine getirirsiniz? (Herhangi bir dine inanmıyorsanız bu soruyu boş bırakabilirsiniz).

() Hiçbir zaman () Yılda bir kez () Ayda bir kez () Haftada bir kez () Her gün

C. SAMPLE ITEMS OF THE PSYCHOLOGICAL STRAIN SCALE

Psikolojik Gerilim Ölçeđi Örnek Soruları

1. Hayatın bana ne anlam ifade ettiđi konusunda çođu zaman kafam karışıktır.
2. Birbiriyle çelişen bazı görüşler karşısında hep zorluk yaşarım.
3. Keşke şu anki yaşam koşullarımı deđiştirebilseydim ama yapamıyorum.
4. Etrafımdaki diđer insanlara kıyasla ben yoksul biriyim.
5. Yaptıđım işte zorlandıđımda genellikle pes ederim.
6. Bir sorunum olduđunda her zaman yalnız kalır ve başkalarından uzak dururum.

**D. SAMPLE ITEMS OF THE INTERPERSONAL NEEDS
QUESTIONNAIRE**

Kiřilerarası İhtiyaçlar Ölçeđi Örnek Soruları

1. Bugünlerde, hayatımdaki insanların ben olmasam daha iyi olacaklarını düşünüyorum.
2. Bugünlerde, ölümümün insanları rahatlatacađını düşünüyorum.
3. Bugünlerde, kendimi bir aileye, bir gruba ya da bir yere ait hissediyorum.
4. Bugünlerde, sosyal ortamlarda kendimi bir yabancıymıř gibi hissediyorum.

**E. SAMPLE ITEMS OF THE MULTIDIMENSIONAL SCALE OF
PERCEIVED SOCIAL SUPPORT**

Çok Boyutlu Algılanan Sosyal Destek Ölçeği Örnek Soruları

1. Ailem (örneğin; annem, babam, eşim, çocuklarım, kardeşlerim) bana yardımcı olmaya çalışır.
2. İşler kötü gittiğinde arkadaşlarıma güvenebilirim.
3. Ailem ve arkadaşlarım dışında olan ve duygularıma önem veren bir insan (örneğin; flört, nişanlı, sözlü, akraba, komşu, doktor) var.

**F. SAMPLE ITEMS OF THE SUICIDE PROBABILITY
SCALE/SUICIDAL THOUGHTS SUBSCALE**

İntihar Olasılıđı Ölçeđi/İntihar Düşünceleri Altboyutu Örnek Soruları

1. Başkalarını cezalandırmak için intiharı düşünüyorum.
2. Öürsem kimsenin beni özlemeyeceđini sanıyorum.
3. Hiçbir şeyin düzeleceđine inanmıyorum.

**G. SAMPLE ITEMS OF THE DEPRESSION, ANXIETY, STRESS-21
SCALE/DEPRESSION SUBSCALE**

Depresyon, Anksiyete Stres Ölçeđi/Depresyon Altboyutu Örnek Soruları

1. Hiçbir beklentimin olmadığı hissine kapıldım.
2. Birey olarak değersiz olduğumu hissettim.
3. Kendimi perişan ve hüzünlü hissettim.

H. INFORMED CONSENT FORM

Gönüllü Katılım Formu

Değerli katılımcı,

Bu çalışmanın amacı, beliren yetişkinlik dönemindeki (18-29 yaş) kişileri duygu ve düşünce açısından ikileme bırakan durumlar (psikolojik gerilimler), algılanan sosyal destek, kişilerarası ihtiyaçlar ve olumsuz düşünceler arasındaki ilişkinin incelenmesidir. Bu çalışma kapsamında zihinsel ve duygusal olarak neler hissettiğinize yönelik sorular sorulacaktır. Soruların cevaplanması ortalama 15 dakika sürmektedir.

Bu çalışmayı yürüten araştırmacılar olarak herhangi bir ruh sağlığı hizmeti sağlamamaktayız. Ankette sizden kişisel bir bilgi istenmeyecektir. Dolayısıyla, anket soruları aracılığıyla kendinize zarar verme düşüncenizin mevcut olduğunu belirtmeniz durumunda sizinle bağlantıya geçilemeyecektir. Eğer kendinize zarar vermeye yönelik düşünceleriniz mevcutsa size yardımcı olacak kişilere/kurumlara ulaşabilirsiniz. Size yardımcı olabilecek kişi/kurumlardan bazıları şunlardır: Aile ve Sosyal Politikalar Bakanlığı (ALO 183), hastanelerin psikiyatri bölümleri ve üniversite bünyelerinde bulunan Rehberlik ve Psikolojik Danışma Uygulama ve Araştırma Merkezleri.

Katkılarınız için teşekkür ederim.

Çalışma sonuçlarından haberdar olmak için ya da çalışma ile ilgili daha fazla bilgi almak için "berkan.demir@metu.edu.tr" adresi yoluyla iletişime geçebilirsiniz.

ARAŞTIRMAYA GÖNÜLLÜ KATILIM FORMU

Bu çalışmada, ODTÜ Eğitim Bilimleri Bölümü Rehberlik ve Psikolojik Danışmanlık programı öğrencilerinden Berkan Demir tarafından, Prof. Dr. Zeynep Hatipoğlu Sümer danışmanlığında yürütülen doktora tez çalışması kapsamında veri toplanacaktır. Bu form sizi araştırma koşulları hakkında bilgilendirmek için hazırlanmıştır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Araştırma, çalışma kapsamında kullanılmak üzere geliştirilen anketlerden oluşmaktadır. Beliren yetişkinlik dönemindeki bireyler (18-29 yaş arası bireyler) katılımcı olarak davet edilecek, katılmak isteyenler yaklaşık 15 dakika sürecek anketi dolduracaklardır.

Katılımınızla ilgili bilmeniz gerekenler:

Bu çalışmaya katılmak tamamen gönüllülük esasına dayalıdır. Herhangi bir yaptırıma veya cezaya maruz kalmadan çalışmaya katılmayı reddedebilir veya çalışmayı bırakabilirsiniz.

Araştırmaya katılanlardan toplanan veriler tamamen gizli tutulacak, veriler ve kimlik bilgileri herhangi bir şekilde eşleştirilmeyecektir. Katılımcıların isimleri bağımsız bir listede toplanacaktır. Ayrıca toplanan verilere sadece araştırmacılar ulaşabilecektir. Bu araştırmanın sonuçları bilimsel ve profesyonel yayınlarda veya eğitim amaçlı kullanılabilir, fakat katılımcıların kimliği gizli tutulacaktır.

Yukarıdaki bilgileri okudum ve bu çalışmaya tamamen gönüllü olarak katılıyorum.

I. TURKISH SUMMARY/TÜRKÇE ÖZET

PSİKOLOJİK GERİLİMLERİN İNTİHAR DÜŞÜNCELERİNE ETKİSİ: KİŞİLERARASI İHTİYAÇLARIN ARACI ROLÜ

1. GİRİŞ

İntihar, dünya genelinde önde gelen (17. sıra) ölüm nedenlerinden biri olup yılda yaklaşık bir milyon kişinin ölümünden sorumludur. Savaşlar, trafik kazaları ve AIDS gibi ölüm sebeplerinden daha fazla yıllık ölüme yol açmaktadır (Dünya Sağlık Örgütü [DSÖ], 2021). Dünya genelindeki tamamlanmış intiharların sayısı, 2000-2021 yılları arasında %36 oranında belirgin bir artış göstermiştir (DSÖ, 2021). İntihar düşüncelerine sahip olmanın ya da tamamlanmış intiharların gençlerin iyi oluşları için ciddi bir tehdit oluşturduğu, aile, okul, toplum gibi sistemleri etkileyerek geniş kapsamlı olumsuz sonuçlara yol açtığı belirtilmektedir (Ertl vd., 2020). İntihar kavramına ilişkin gerçekleştirilen araştırma sayısı giderek artmaktadır (Franklin vd., 2017) ancak dünya genelindeki tamamlanmış intiharlar son yıllarda ciddi bir artış göstermektedir (Martinez-Alas vd., 2020). Tüm bu istatistikler, bu küresel sağlık sorununun ciddiyetine işaret etmektedir.

İntihar, her gelişim dönemi için küresel bir endişe kaynağı olmakla birlikte, özellikle belirli gelişim dönemleri için daha önemli bir sorun haline gelmektedir. Yıl bazındaki tamamlanmış intihar sayıları, diğer tüm gelişim grupları için görece istikrarlı bir örüntü sergilemesine rağmen gençler arasındaki ölümler, 1950'li yıllardan bu yana %300'den fazla bir artış göstermiştir (King vd., 2011). Genel nüfus için her bir tamamlanmış intihara karşılık 25 intihar girişimi meydana gelirken bu sayı gençler

için ciddi bir artış göstermekte ve her tamamlanan intihara karşılık yaklaşık 100-200 intihar girişimi meydana gelmektedir (Hastalık Kontrol Merkezi [HKM], 2021). Bu istatistikler, özellikle gençler arasındaki intihar eğilimi ile ilgili endişe verici bir tablo ortaya koymaktadır. Bu çalışmadaki hedef grup, hem küresel (ör. DSÖ) hem de yerel (ör. TÜİK) kaynaklardan elde edilen istatistiki bilgiler göz önünde bulundurularak seçilmiştir.

İntihar kavramı üzerinde çalışırken, bununla ilgili terminolojiyi de dikkate almak önemlidir. İntihar "ölen kişinin kendini öldürme amacıyla eylemde bulunduğu yaralanma, zehirlenme veya boğulma sonucunda meydana gelen ölüm" olarak tanımlanmaktadır (O'Carroll vd., 1991, s.244). İntihar kavramının daha net anlaşılmasını sağlamak için Klonsky ve May (2015) tarafından 'düşünceden eyleme çerçevesi' (ideation-to-action framework) önerilmiş ve birçok güncel intihar kuramı da bu çerçeveye temelinde kurulmuştur. Bu çerçeveye göre intihar, düşünce, plan, girişim ve tamamlanmış intiharlar olmak üzere dört süreçten oluşur. İntihar düşüncesi geliştiren çoğu birey her zaman intihar girişimde bulunmaz (Klonsky vd., 2021). Bu nedenle, ölümlü sonuçlanan intihar davranışları ile ölümlü sonuçlanmayan intihar davranışlarını ayrı değerlendirmek yöntemsel açıdan da uygun görünmektedir. İntihar düşünceleri üzerinde çalışmak, alandaki yöntemsel problemleri (ör. tamamlanmış intiharlardaki düşük sayı, örneklem büyüklüğü ile ilgili problemler, etik kaygılar) ele almanın bir yolu olarak görülmektedir (Fernandes vd., 2018; Goldsmith vd., 2022). Dolayısıyla, ilgili alanyazın ve kuramsal açıklamalar dikkate alındığında, bu çalışmanın bağımlı değişkeni 'intihar düşünceleri' olarak belirlenmiş, intihar girişimleri ve tamamlanmış intiharlar bu çalışma kapsamına dahil edilmemiştir.

Bu çalışmada İntihar Gerilim Teorisi (İGT) ve Kişilerarası-Psikolojik İntihar Kuramı (KPIK) teorik çerçeveleri kullanılmıştır. İGT, dört toplumsal kaynak ya da yaşam olayından (değer, istek, yoksunluk, baş etme) beslenen psikolojik gerilim durumlarının intihar düşüncelerine yol açtığını savunmaktadır (Zhang, 2019). Psikolojik gerilim, intihar düşüncesinin hemen öncesinde ortaya çıkan ve bireylerde umutsuzluk, hayal kırıklığı ve öfke oluşturan, bireyleri zıt yönlerde iten veya çeken, en az iki uçtan oluşan bir gerginlik ve çatışma durumudur (Zhang, 2016b). KPIK ise,

düşük sosyal entegrasyonun (engellenmiş ait olma) ve bireyin varlığının başkalarına yük olduğuna dair çarpıtılmış algının (algılanan başkalarına yük olma) intihar düşüncelerinin ortaya çıkması için gerekli iki koşul olduğunu vurgulamaktadır (Joiner, 2015). KPİK ile İGT arasındaki en temel fark, İGT'nin intihar düşüncelerini yordayan sosyal/toplumsal faktörlere yaptığı vurguya karşılık KPİK'nin psikolojik unsurlara yaptığı vurgu ve İGT'nin psikolojik risk faktörlerinin oluşumunu toplumsal temelli olan yapılar olan psikolojik gerilimlere bağlamasıdır (Zhang, 2016).

İGT'ye göre toplumsal faktörler ve yaşam olayları tarafından şekillenen ve intihar düşüncelerine yol açan dört tür (değer, istek, yoksunluk, baş etme) psikolojik gerilim kaynağı mevcuttur (Zhang, 2016a). Değer gerilimi (DG), kişi değer, inanç veya prensipleri arasında bir karmaşa yaşadığında; istek gerilimi (İG), kişinin ulaşmak istediği bireysel hedeflere ulaşma yolunda önemli zorluklar ve engeller yaşayacağına yönelik bir inanca sahip olduğunda; yoksunluk gerilimi (YG), kişi kendini aynı koşullara sahip diğer bireylerle kıyaslayıp kendisinin daha az tatmin edici bir hayata sahip olduğuna yönelik bir algı geliştirdiğinde; baş etme gerilimi (BG) ise, bireyin belirli bir olumsuz yaşam olayına karşı (ör. para kaybı, statü kaybı, değer verilen bir kişinin kaybı, boşanma, işsizlik) etkili baş etme becerilerine sınırlı düzeyde sahip olduğu durumlarda ortaya çıkar (Zhang, 2016b).

Mevcut çalışmanın ilk aracı değişkeni olan algılanan başkalarına yük olma (ABYO), bireyin varlığının diğerlerine yük olduğuna ilişkin çarpıtılmış algı olarak tanımlanmakta ve kendinden nefret etme (self-hatred) duygusuyla karakterize edilmektedir (Joiner, 2005). Van Orden vd. (2010), algılanan başkalarına yük olma kavramının gelişmesine yol açan işsizlik, evsizlik, sosyal dışlanmışlık ve tutukluluk durumu gibi bazı toplumsal/sosyal faktörler olduğunu belirtmektedir. Çoğunlukla toplumsal kaynaklı olduğu düşünülen bir diğer faktör olan baş etme becerilerindeki aksaklıkların da ABYO algısını güçlendirdiği ortaya konulmuştur (Hovet vd., 2022). Dolayısıyla, özünde psikolojik bir risk faktörü olarak görülen ABYO'nun çeşitli toplumsal risk faktörlerine bağlı olarak ortaya çıktığını varsaymak makul gözükmemektedir.

Çalışmanın ikinci aracı değişkeni olan engellenmiş ait olma (EAO), bireyin temel ihtiyacı olan ait olmada yaşadığı engellemeler olarak tanımlanabilir (Joiner, 2005). Birçok çalışma yüksek sosyal destek algısının intihar düşünceleriyle negatif ilişkili (Arenson, 2021), ait olma ihtiyacındaki aksaklıkların da intihar düşünceleriyle pozitif ilişkili (Fisher vd., 2015) olduğunu ortaya koymuştur. Yakın geçmişte Espinosa-Salido vd. (2021) tarafından gerçekleştirilen bir meta-analiz çalışmasında psikolojik, sosyal ve çevresel stres faktörlerinden intihar düşüncelerine giden yolda ABYO ve EAO kavramlarının aracı rol üstlendiği bulgusuna ulaşılmıştır. Buradan hareketle, bu çalışma kapsamında KPIK'ye ait bu iki kavram, psikolojik gerilimlere bağlı olarak ortaya çıkan aracı değişkenler olarak belirlenmiştir.

Cinsiyet, intihar araştırmalarına sıklıkla konu olan bir diğer faktördür. “İntiharda cinsiyet paradoksu” (Canetto ve Sakinofsky, 1998) olarak açıklanan bu durum, erkeklerin ölümlü sonuçlanan intihar davranışlarına/tamamlanmış intiharlara daha yatkın olmasına ve bu davranışlar için daha yüksek risk altında olmasına karşın kadınların ölümlü sonuçlanmayan intihar davranışlarını (ör., intihar düşüncesi, intihar girişimi) daha sık gösterme eğilimi olarak açıklanabilir (Freeman vd., 2017; Miranda-Mendizabal vd., 2019). Beliren ve genç yetişkinlik dönemlerindeki tamamlanmış intiharlar sayısı, erkekler arasında 2-4 kat daha fazla olmakla birlikte intihar düşünceleri ve girişimleri kadınlar arasında 3-9 kat daha fazladır (Eaton vd., 2012). Genel popülasyonda ise dünya çapında tamamlanmış intiharlarda erkek kadın oranı 1.7:1 olarak belirtilmekte, yani erkeklerin kadınlardan 1.7 kat daha fazla tamamlanmış intihar gerçekleştirdiği bilinmektedir (DSÖ, 2021). Dolayısıyla, intihar davranışlarını cinsiyet farklılıkları bağlamında incelemek de ayrıca önem arz etmektedir.

İntihar davranışlarıyla ilişkili olduğu bilinen birçok faktör vardır. Var olan derleme ve meta-analiz çalışmaları çoğunlukla duygu durum bozuklukları (ör., depresyon), kaygı bozuklukları ve genel psikolojik zorlukların, tamamlanmış intiharların en büyük yordayıcısı olduğunu ortaya koymuştur (Cai vd., 2021; Nordentoft, 2011). Dolayısıyla, psikiyatrik tedavilerin intiharı önlemede önemli bir rol oynadığı yönünde bir sonuca varılabilir. Fakat, intiharın karmaşık doğası düşünüldüğünde, ruhsal rahatsızlıklar tedavi edildiğinde intiharı önlemenin de mümkün olduğuna ilişkin temel

düşünce genellikle gerçekçi değildir (Large, 2018). Örneğin, çeşitli meta-analiz çalışmaları antidepresanların (Lu vd., 2014; Sharma vd., 2016), antipsikotiklerin (Kishi vd., 2016) ve elektrokonvülsif terapinin intiharı önlemede anlamlı düzeyde etkisinin olmadığını ortaya koymuştur. Bu durum, ilaç tedavilerinin ya da psikiyatrik tedavinin önleme konusunda seçenekler arasında olmaması gerektiğine, bu tedavi yöntemlerinin sağladığı avantajların her zaman elverişli olmayabileceğine işaret etmektedir (Large, 2018). Bu nedenle, psikiyatrik durumlar dışında kalan daha uzak (distal) risk faktörlerini de bütüncül bir perspektifle dikkate almak önemlidir. Bu çalışmada ise, hem psikiyatrik durumlar (ör., depresyon) hem de bunların dışında kalan çeşitli uzak faktörler (DG, İG, YG, BG, ABYO, EAO) hipotez edilen modele dahil edilerek intihar düşüncelerine yatkınlıkla olan ilişkilerinin araştırılması amaçlanmıştır.

Çeşitli psikolojik risk faktörlerinin yanı sıra, sosyal, bağlamsal ve kişilerarası faktörlerin de intihar düşüncelerine yatkınlıkta önemli rol oynadığı bilinmektedir (King & Merchant, 2008). Cheng vd. (2008) tarafından yapılan bir çalışmada intihar girişiminde bulunan bireylerin üçte birinin herhangi bir psikiyatrik rahatsızlığı olmadığı bulgusuna ulaşılmıştır. Ayrıca, Emiral vd. (2022) tarafından Türkiye’de yakın tarihte yapılan bir araştırmaya göre, medeni durum, eğitim düzeyi ve gelir düzeyi gibi sosyodemografik değişkenler tamamlanmış intiharlarla ilişkili bulunmuştur. Dolayısıyla, psikiyatrik rahatsızlıkların intihar için öncül koşullardan biri olduğu görüşü, intihar alanyazınında baskın nitelikte olsa da (Button, 2018) birçok çalışma intihar düşüncelerinin oluşmasında psikiyatrik rahatsızlıkların herhangi bir rolü olmayabileceğini ortaya koymuştur (Cheng vd., 2020; Stone vd., 2018). Bu nedenle, bireyleri intihar düşüncesine sürükleyen ve psikiyatrik rahatsızlıkların dışındaki uzak faktörleri incelemek önemli hale gelmektedir. Bu çalışmanın kuramsal altyapısını oluşturan kuramlar (İGT ve KPİK) ve değişkenler (depresyon hariç), psikiyatrik durumlarla ilişkili olmayan faktörlerin intihar davranışlarını ne düzeyde yordadığını açıklamayı hedeflemektedir.

Bir diğer uzak (distal) faktör olan dindarlık da birçok örneklem ve bağlamda intihar davranışlarıyla ilişkili bulunmuştur (Colucci ve Martin, 2008; Dervic vd., 2004; Wu

vd., 2015). Benzer şekilde, Koeing (2012) tarafından yürütülen ve 1000 çalışmanın dahil edildiği bir meta-analiz çalışmasında dindarlık ile depresyon, umutsuzluk, anksiyete, alkol ve madde kullanımı gibi intiharlarla ilişkili olduğu kanıtlanan birçok faktör arasında ters ilişkiler bulunmuştur. Türkiye’de yürütülen çalışmalarda da düzenli olarak dua etmenin, tanrının varlığını hissetmenin (Yapıcı, 2007) ve pozitif tanrı algısının (Çelebi ve Kaya, 2023) intihar düşünceleriyle negatif ilişkili olduğuna ulaşılmıştır. Bazı çalışmalar da dindarlık ile intihar düşünceleri arasında herhangi bir ilişki olmadığını (Hamdan vd., 2011; Lawrence vd., 2016) hatta dindarlığın intihar düşünceleri ile pozitif ilişkisinin olduğunu ortaya koymuştur (Zhao vd., 2012; Zhang, 2004; Zhang, 2010; Stratta vd., 2012). Birbiriyle çelişiyor görünen bu bulgular, mevcut çalışmanın bir alt amacını, yani dindarlığın intihar düşünceleriyle ilişkili olup olmadığını incelemeyi de şekillendirmiştir.

Algılanan sosyal destek ise, intihar düşüncelerine ve girişimlerine karşı koruyucu etkisi olduğu kanıtlanan bir diğer uzak faktördür (Kleiman vd., 2013; Otten vd., 2022). Bugüne kadar intihar alanında yapılan çalışmaların çoğunlukla risk faktörlerine odaklanması, koruyucu faktörlere ilişkin yapılan çalışmaların sayıca daha az olması, intihar araştırmalarının ilerleyişi açısından bir sınırlılık olarak görülmektedir (Brent, 2011; Prinstein, 2008). Bu sınırlılık göz önünde bulundurularak, algılanan sosyal desteğin hipotez edilen modeldeki dolaylı ilişkilerdeki düzenleyici etkisinin incelenmesi, araştırmanın amaçlarından biri olarak ele alınmıştır.

Özetle, intihar ile ilgili mevcut alanyazın incelendiğinde, birbiriyle etkileşim halinde olan çeşitli unsurların intihar davranışlarının öncüleri olduğu görülmektedir. Özellikle, sosyal ve psikolojik faktörler intihar düşüncelerinin ve davranışlarının ortaya çıkmasında önemli bir rol oynamaktadır. Bu nedenle mevcut çalışmada intihar düşüncelerine yol açan faktörlerin en iyi şekilde açıklanabilmesi için hem psikolojik (ör. KPİK yapıları) hem de toplumsal (ör. İGT yapıları) faktörlerin birlikte var olduğu bütüncül bir perspektifle hareket etmek amaçlanmıştır. İntihar düşüncelerine yönelik risk faktörlerinin ortaya çıkarılması oldukça önemli olmakla birlikte, risk faktörlerine atfedilen yoğun önemin, farkında olmadan da olsa, intihara yönelik problem odaklı bir yaklaşımı pekiştirebileceği ve bireyleri intihar düşüncelerine karşı daha dayanıklı hale

getiren güçlü yönlerinin ve kaynaklarının ortaya çıkarılmasını gözden kaçırmaya sebep olabileceği düşünülmektedir. Bu nedenle, intihar düşüncelerine yönelik koruyucu faktörlerin (ör. algılanan sosyal destek, dindarlık) incelenmesinin intihar alanyazını zenginleştirme açısından büyük önem taşıdığı varsayılmaktadır. Sonuç olarak, intihara ilişkin ortak risk ve koruyucu faktörlerin bir arada incelenmesi, önleme çalışmalarını şekillendirmede daha kapsamlı ve bütüncül bir yaklaşım olarak görülebilir.

1.1. Araştırmanın Amacı

Bu araştırma, psikolojik gerilimler (değer, istek, yoksunluk, baş etme), kişilerarası ihtiyaçlar (algılanan başkalarına yük olma, engellenmiş ait olma) ve intihar düşünceleri arasındaki ilişkiyi tanımlayan bir modelin araştırılmasını amaçlamaktadır. Ayrıca, araştırmanın asıl amacıyla paralel olarak, beliren yetişkinlik dönemindeki kişilerin yaşadıkları psikolojik gerilimleri değerlendirebilmek için Psikolojik Gerilim Ölçeğinin (PGÖ) Türkçe'ye uyarlanması gereksinimi ortaya çıkmıştır. Dolayısıyla, araştırmanın bir diğer amacı PGÖ'yü Türkçe'ye uyarlamak ve psikometrik özelliklerini Türkiye bağlamındaki beliren yetişkin örnekleminde test etmektir. Buna ek olarak, hipotez edilen modeldeki aracılık etkilerinin depresyon ve algılanan sosyal destek tarafından düzenlenip düzenlenmediğinin incelenmesi de amaçlanmaktadır. Araştırmanın altyapısını oluşturan kuramsal yaklaşımlar ise psikolojik gerilim kuramı ve kişilerarası-psikolojik intihar kuramı olarak belirlenmiştir.

1.2. Araştırma Soruları

Model için ön görülen araştırma soruları şunlardır:

Araştırma Sorusu 1. Psikolojik gerilimler (değer, istek, yoksunluk ve başa çıkma), kişilerarası ihtiyaçlar (algılanan başkalarına yük olma ve engellenmiş ait olma) ve intihar düşünceleri arasında nasıl bir ilişki vardır?

Araştırma Sorusu 1.1. Psikolojik gerilimler ile intihar düşünceleri arasında nasıl bir ilişki vardır?

Araştırma Sorusu 1.2. Kişilerarası ihtiyaçlar ile intihar düşünceleri arasında nasıl bir ilişki vardır?

Araştırma Sorusu 1.3. Kişilerarası ihtiyaçlar, psikolojik gerilimler ile kişilerarası ilişkiler arasındaki ilişkiyi dolaylı olarak nasıl etkilemektedir?

Araştırma Sorusu 2. Algılanan sosyal destek ve depresyon, psikolojik gerilimler ile intihar düşünceleri arasındaki dolaylı ilişkiyi düzenlemekte midir?

Araştırma Sorusu 2.1. Algılanan sosyal destek, psikolojik gerilimler ile intihar düşünceleri arasındaki dolaylı ilişkiyi düzenlemekte midir?

Araştırma Sorusu 2.2. Depresyon, psikolojik gerilimler ile intihar düşünceleri arasındaki dolaylı ilişkiyi düzenlemekte midir?

Araştırma Sorusu 3. Hipotez edilen ölçme modeli cinsiyete göre farklılaşmakta mıdır?

1.3. Araştırmanın Önemi

Çalışmanın temel amacı, psikolojik gerilimler, kişilerarası ihtiyaçlar, depresyon, algılanan sosyal destek ve intihar düşünceleri arasındaki ilişkileri incelemektir. Literatürde, çalışmanın alt yapısını oluşturan kuramlar olan kişilerarası-psikolojik intihar kuramı ve intihar gerilim kuramının intihar düşüncelerini yordadığı birçok çalışma tarafından kanıtlanmıştır. Bu çalışmada ise, iki kuramın karşılıklı etkileşiminin intihar düşünceleriyle ilişkili olduğu temel alınarak kurulan model yoluyla intihar düşüncelerini açıklamada daha kapsamlı bir bakış açısı sunulması hedeflenmiştir. Dolayısıyla, bu çalışmadan elde edilecek bulguların intihar davranışları çalışan bilim insanları ya da intihar düşüncesi olan danışanlarla çalışan alan uzmanları ve uygulamacılar için önemli olduğu düşünülmektedir. Buna ek olarak, tüm üniversite psikolojik danışma ve rehberlik uygulama ve araştırma merkezlerinin tarama, önleme (Stephenson vd., 2006; Stewart vd., 2020) ve intihar

güvenlik planı (Moscardini vd., 2020) oluşturmaya ilişkin girişimde bulunmaları gerektiği savunulmaktadır. Bu sebeple, bu çalışmadan elde edilen bulguların (demografik değişkenler, risk faktörleri, koruyucu faktörler vb.) uygulama alanında da katkılarının olacağı düşünülmektedir.

İntihar literatürünün çoğunu risk faktörlerini incelemeyi amaçlayan çalışmaların oluşturduğu, fakat intihar davranışlarının sayısının anlamlı düzeyde düşüş göstermediği düşünüldüğünde (Rudd vd., 2011; Kessler vd., 2020) koruyucu faktörleri ve risk faktörleri bir arada incelemek daha değerli hale gelmektedir. Dolayısıyla, bu sınırlılığı aşmak için modele dahil edilen koruyucu faktör niteliğindeki değişkenlerin hem literatürdeki bu boşluğu doldurabileceği hem de intihar düşüncelerine ilişkin daha bütüncül bir bakış açısı sağlayabileceği düşünülmektedir. Benzer şekilde, çalışma kapsamına dahil edilen değişkenlerin tamamının intihar düşünceleriyle ilişkili olduğu bilinmektedir; ancak intihar düşüncelerine sahip olan bireylerin üçte ikisi intihar girişiminde bulunmamaktadır (Nock vd., 2008). Bu sebeple, ölümcül intihar davranışlarına (intihar teşebbüsü ve tamamlanmış intiharlar) giden yolun karmaşık ve birçok faktörün etkileşiminden oluştuğu söylenebilir. Bu durum ise, intihar düşüncelerine giden yolda potansiyel düzenleyici, aracı ve karıştırıcı (confounding) değişkenlerin incelenmesinin önemini gözler önüne sermektedir. Böylelikle, intihar düşüncelerini açıklamakta daha bütüncül bir bakış açısıyla hareket edilmesinin önünün açılacağı düşünülmektedir.

Giriş bölümünde de değinildiği gibi, intihar düşünce ve davranışları özellikle 15-29 yaş arasındaki beliren ve genç yetişkinler için küresel bir problem olarak görülmektedir. Ölümcül intihar davranışlarına yönelik istatistiklere bakıldığında ise, intihara teşebbüs eden ya da tamamlayan bireylerin büyük bir çoğunluğunun 20'li yaşların ortasında intihar düşüncelerine sahip olduğu görülmektedir (Kessler vd., 1999). Dolayısıyla, gelişimsel dönem açısından erken (ör., beliren yetişkinlik dönemi başı) gerçekleştirilen müdahaleler yoluyla diğer gelişim dönemlerinde ortaya çıkacak ölümcül intihar davranışlarının önüne geçebilir. Bu çalışmadan elde edilecek bulgular, bu gelişim döneminde olan bireyler için geliştirilecek terapötik müdahale, önleme ve krize müdahaleye yönelik programlara katkı sağlayacak niteliktedir.

Psikolojik faktörlerin yanında çeşitli sosyal ve demografik faktörlerin de intihar düşünceleriyle ilişkili olduğu varsayımıyla araştırmaya dahil edilen değişkenler politika yapıcılar tarafından kullanılabilir. Örneğin, Türkiye’de, Sağlık, Aile ve Sosyal Hizmetler ve Milli Eğitim Bakanlıkları’nın sorumluluklarından bir tanesi de her şehir için ayrı intiharı önleme komisyonları kurmak ve bu şehirlerde görev yapan ruh sağlığı çalışanları için intihara ilişkin bilgilendirme yapmaktır. Dolayısıyla, bu çalışmadan elde edilen bulgular, çıkarımlar ve öneriler politika yapıcılar tarafından gerçekleştirilecek çalışmalara fikir verici nitelikte olabilir.

2. YÖNTEM

2.1. Araştırmanın Deseni

Bu çalışmanın temel amacı, psikolojik gerilimler, kişilerarası ihtiyaçlar ve intihar düşünceleri arasındaki ilişkileri ve bu ilişkilerin algılanan sosyal destek ve depresyon tarafından nasıl düzenlendiğini incelemektir. Bu amaç doğrultusunda, bu araştırmanın deseni ilişkisel araştırma deseni olarak belirlenmiştir. İlişkisel araştırma deseni, iki ya da daha fazla değişken arasındaki ilişkileri herhangi bir manipülasyon olmaksızın incelemek olarak tanımlanabilir (Fraenkel vd., 2012).

2.2. Katılımcılar

Bu çalışmanın katılımcılarını, 18-29 yaş arasındaki beliren yetişkinler oluşturmaktadır. Hedef grubun beliren yetişkinlik olarak seçilmesindeki en önemli etken, intihar düşüncelerine yatkınlığın ve intihara bağlı ölümlerin özellikle beliren ve genç yetişkinlik dönemlerinde izlediği endişe verici eğilimdir (HKM, 2021). Veriler çevrimiçi anket yoluyla toplanmıştır. Bu yolla, çalışmanın daha fazla ve çeşitli kişilere ulaşması ve dıřsal geçerlik açısından daha temsil edici olması hedeflenmiştir. Veri toplanırken bağı kalınan tek kriter katılımcıların içerisinde bulunduğu yaş aralığıdır. Ana çalışmanın örneklemini uygun örnekleme metoduyla ulařılan 567 beliren yetişkin oluşturmaktadır. Uygun örnekleme yöntemi, bir araştırma için veri toplanan anda

uygun olan kişilerin araştırmaya katılımı olarak tanımlanabilir (Fraenkel et al., 2012). Geçersiz cevaplar verdiği tespit edilen ve araştırmanın yaş kriterini ihlal eden 53 kişi ise veri seti dışında bırakıldığında, toplam örneklem büyüklüğü 514 beliren yetişkin olarak belirlenmiştir.

Araştırmaya 330 (64.21%) kadın, 184 erkek (35.79%) katılmıştır. Katılımcıların ortalama yaşı 22.79, standart sapması ise 2.56'dır. Katılımcıların çoğunluğu lise mezunu olup (n = 262, 50.97%), bunu üniversite mezunları (n = 239, 46.51%), lisansüstü mezunlar (n = 12, 2.34%) ve ortaokul mezunları (n = 1, 0.2%) takip etmiştir. Dolayısıyla, çalışmada yer alan katılımcıların büyük bir çoğunluğunun görece üst eğitim kademelerinden mezun oldukları söylenebilir. Örnekleme oluşturan beliren yetişkinlerin büyük bir çoğunluğu (n = 423, 82.30%) kendilerine gelir sağlayan herhangi bir işte çalışmadıklarını belirtmişlerdir. Lisans ve lisansüstü mezunu olan grup (n = 251, 48.84%) incelendiğinde, bu gruptaki 75 (29.88%) kişinin kendilerine gelir sağlayan bir işte çalıştığı, geri kalan 176 (70.12%) kişinin ise gelir getiren herhangi bir işte çalışmadığı belirlenmiştir. Katılımcıların 312'si (60.51%) illerde, 201'i (39.18%) ise büyükşehirlerde yaşamaktadır. Örneklemin büyük bir çoğunluğu (n = 476, 92.61%) bir dine inandıklarını rapor etmişlerdir.

2.3. Veri Toplama Araçları

Bu çalışmada, Psikolojik Gerilim Ölçeği, Kişilerarası İlişkiler Ölçeği, Depresyon Anksiyete Stres Ölçeği-21-Kısa Formu/Depresyon alt boyutu, Çok Boyutlu Algılanan Sosyal Destek Ölçeği ve İntihar Olasılığı Ölçeği/İntihar Düşünceleri alt boyutu ve kişisel bilgi formu kullanılmıştır.

Psikolojik Gerilim Ölçeği

Ölçek, Zhang ve Lyu (2014) tarafından geliştirilen ve toplam 40 maddeden oluşan 5'li Likert tipi bir ölçek olup, bireylerde intihar düşüncelerine yatkınlığa zemin hazırlayan psikolojik gerilimleri ölçme amacıyla geliştirilmiştir. Ölçekten alınabilecek en düşük ve en yüksek puanlar sırasıyla 40 ve 200'dür. Ölçekten alınan yüksek puanlar

psikolojik gerilim skorlarının yüksekliğine işaret etmektedir. Ölçeğin psikometrik özellikleri 249 üniversite öğrencisi üzerinde test edilmiştir. Ölçek *değer*, *istek*, *yoksunluk* ve *baş etme* olmak üzere toplam 4 alt boyuttan oluşmaktadır. Her bir alt boyut 10 madde içermektedir. Ölçeğin geçerlik kanıtı için açımlayıcı faktör analizinin (AFA) yanında ölçekten alınan toplam puanlar ile depresyon, anksiyete ve intihar düşünceleri arasındaki korelasyon hesaplanmıştır. Ölçeğin ayırıcı geçerlik kanıtı için ise ölçeğin test edildiği örneklem hem anksiyete hem de depresyon semptomu gösteren ve göstermeyen ikişer gruba ayrılmış, sonuçlar toplam psikolojik gerilim skorunun anksiyete ve depresyon semptomu gösteren gruplarda anlamlı düzeyde yüksek olduğunu göstermiştir. Ölçeğin tüm alt boyutları intihar düşüncelerini anlamlı düzeyde yordamıştır. Ölçeğin alt boyutları için Cronbach alfa güvenirlik katsayıları .80 ve .87 arasında, tüm ölçek için ise .94 olarak bulunmuştur.

Başlangıçta 40 maddeden oluşan ölçeğin Türkçeye uyarlanması bu çalışma kapsamında gerçekleştirilmiştir. Uyarlama çalışmasının sonucunda, orijinal çalışmada olduğu gibi, 5'li Likert şeklinde ölçülen 32 maddeden oluşan 4 boyutlu yapı doğrulanmıştır. Dolayısıyla, ölçeğin Türkçe formundan alınabilecek en düşük puan 32, en yüksek puan ise 160'tır. Geçerlik kanıtı için ise, psikolojik gerilimler ile depresyon, anksiyete, stres, benlik saygısı ve sosyal istenirlik yapıları arasındaki korelasyon incelenmiş ve hipotez edilen şekilde bulunan korelasyonlar ölçeğin geçerlik kanıtı olarak raporlanmıştır. Geçerlik kanıtı için ayrıca doğrulayıcı faktör analizi (DFA) gerçekleştirilmiş ve elde edilen uyum katsayılarının yeterli düzeyde olduğu bulgusuna ulaşılmıştır. Ölçeğin Türkçe formunda Cronbach alfa iç tutarlılık katsayıları *değer* (7 madde), *istek* (9 madde), *yoksunluk* (9 madde) ve *baş etme* (7 madde) alt boyutları için .81, .88, .89 ve .83 olarak bulunmuştur.

Kişilerarası İhtiyaçlar Ölçeği

Ölçek, Bryan (2012) tarafından Kişilerarası-Psikolojik İntihar Kuramının sayıltıları temel alınarak, intihar davranışının etiyolojisini incelemek ve intihar riskini değerlendirmek amacıyla geliştirilmiştir. Ölçek 7'li Likert tipi bir ölçek olup, toplam 10 maddeden oluşmaktadır. Ölçekten alınan yüksek puanlar yüksek düzeyde

kişilerarası ihtiyaç düzeyini ifade eder. Ölçeğin ilk boyutu 5 maddeden oluşan *engellenmiş ait olma* boyutudur. Bu boyuttan alınabilecek en düşük puan 5 ve en yüksek puan ise 35'tir. Yüksek puanlar, temel ait olma ihtiyacında yaşanan yüksek aksaklık düzeyini temsil eder. Ölçeğin ikinci boyutu ise 5 maddeden oluşan *algılanan başkalarına yük olma* boyutudur. Bu boyuttan alınabilecek en düşük ve en yüksek puanlar sırasıyla 5 ve 35'tir. Ölçekten elde edilen yüksek puanlar, kişinin varlığının başkalarına yük olduğuna dair hatalı inancının kuvvetli olduğuna işaret etmektedir. Ölçeğin geçerlik kanıtı için AFA uygulanmış, sonuçlar iki faktörlü yapıyı doğrulamıştır. Güvenirlik kanıtı ise Cronbach alfa iç tutarlık katsayısı hesaplanarak, engellenmiş ait olma alt boyutu için .86 ve algılanan başkalarına yük olma alt boyutu için ise .81 olarak raporlanmıştır.

Ölçeğin Türkçe'ye uyarlama çalışması Eskin vd. (2020) tarafından yapılmıştır. Ölçeğin orijinal versiyonunda raporlanan iki faktörlü yapı doğrulanmıştır. Doğrulan iki faktörlü yapı, toplam varyansın %63.91'ini açıklamıştır. Güvenirlik kanıtı için hesaplanan Cronbach alfa iç tutarlık katsayıları, engellenmiş ait olma boyutu için .77, algılanan başkalarına yük olma boyutu için ise .94 olarak bulunmuştur. Geçerlik kanıtı için ise ölçekten alınan toplam puanlar ile Beck Depresyon Ölçeği, Beck Umutsuzluk Ölçeği, İntihar Olasılığı Ölçeği ve Algılanan Stres Ölçeği kullanılmıştır. Bu çalışmadaki Cronbach alfa katsayıları algılanan başkalarına yük olma alt boyutu için .94, engellenmiş ait olma ihtiyacı için ise .77 olarak bulunmuştur.

İntihar Olasılığı Ölçeği

Cull ve Gill (1988) tarafından intihar riskini ölçmek amacıyla geliştirilen ölçek, 4'lü Likert tipte, toplamda 4 alt boyut ve 36 maddeden oluşmaktadır. Ölçek, *umutsuzluk*, *intihar düşüncesi*, *olumsuz benlik değerlendirmesi* ve *düşmanlık* olmak üzere toplam 4 alt boyuttan oluşmaktadır. Ölçekten alınabilecek en düşük ve en yüksek puanlar sırasıyla 36 ve 144'tür. Ölçekten alınan yüksek puanlar intihar riskinin yüksek olduğuna işaret etmektedir. Ölçeğin güvenirlik kanıtlarından ilki iç tutarlık yöntemiyle sağlanmış olup Cronbach alfa katsayısı tüm ölçek için .93 olarak bulunmuştur. İkinci güvenirlik yöntemi olarak dahil edilen test tekrar-test yönteminde

ise 3 hafta aralıklı iki uygulama arasındaki korelasyon .92 olarak raporlanmıştır. Geçerlik kanıtı için ise ölçekten alınan toplam puanlar ile MMPI'dan geliştirilen İntihar Tehlikesi Ölçeği arasındaki korelasyon hesaplanmış ve .70 olarak bulunmuştur. Bir diğer geçerlik kanıtı için ise ölçekten alınan toplam puanlar herhangi bir psikiyatrik bozukluğu olmayan, bir psikiyatrik bozukluğu olan ve daha önce intihar girişimi olan üç grup ergen arasında karşılaştırılmış ve herhangi bir psikiyatrik bozukluğa sahip olmayan grup anlamlı düzeyde düşük puan almıştır.

Ölçeğin Türkçe'ye uyarlama çalışması Eskin (1993) tarafından, klinik olmayan bir örneklem kullanılarak gerçekleştirilmiştir. Orijinal yapıyla benzer şekilde, 4 faktörlü yapı, üniversite öğrencilerinden oluşan bir örneklem üzerinde doğrulanmıştır. Ölçeğin iç tutarlık katsayısı Cronbach alfa yöntemiyle hesaplanmış ve .85 olarak raporlanmıştır. Bu çalışma kapsamında, İntihar Olasılığı Ölçeği'nin sadece İntihar Düşünceleri alt boyutu kullanılmıştır. Bu boyutun Cronbach alfa katsayısı ise .87 olarak bulunmuştur. Ölçeğin 1993 yılında uyarlanan versiyonunda herhangi bir geçerlik kanıtı sağlanmamış, fakat Tüzün (1997) ve Atlı vd. (2009) tarafından yapılan çalışmalarda geçerlik kanıtları bu ölçeğin hem klinik hem de klinik olmayan örneklemelerde kullanılabilirliğini desteklemiştir. Örneğin, Atlı vd.'nin (2009) sunduğu geçerlik kanıtları arasında doğrulayıcı faktör analizi ve ölçekten alınan toplam puan ile Beck Depresyon Ölçeği, Beck Umutsuzluk Ölçeği ve Rosenberg Benlik Saygısı Ölçeği arasındaki korelasyonlar mevcuttur. Aynı çalışmada İntihar Düşünceleri alt boyutu için bulunan güvenilirlik katsayısı ise .84'tür. Bu çalışmada İntihar Düşünceleri alt boyutunun Cronbach alfa katsayısı .92 olarak bulunmuştur.

Çok Boyutlu Algılanan Sosyal Destek Ölçeği

Bireylerin çeşitli kaynaklardan algıladığı sosyal destek düzeyini ölçmek amacıyla Zimet vd. (1998) tarafından geliştirilen ölçek, 7'li Likert tipte tasarlanan toplam 12 maddeden oluşmaktadır. Ölçekten alınan yüksek puanlar algılanan sosyal destek düzeyinin yüksekliğini temsil etmektedir. Ölçeğin *aile*, *arkadaş* ve *özel bir insan* olmak üzere 3 alt boyutu, her bir alt boyutta 4 maddesi mevcuttur. Dolayısıyla, ölçekten alınabilecek en düşük ve en yüksek puanlar sırasıyla 12 ve 84'tür. Ölçeğin

geçerlik kanıtı için DFA kullanılmıştır. Güvenirlik kanıtı için hesaplanan Cronbach alfa katsayıları, alt boyutlar için .85 ve .88 arasında değişmekte olup, toplam ölçek için ise .91 olarak hesaplanmıştır.

Ölçeğin Türkçe uyarlaması Eker vd. (2001) tarafından gerçekleştirilmiş ve orijinal versiyondaki 3 faktörlü yapı doğrulanmıştır. Ölçeğin geçerlik kanıtı (1) EFA, (2) ölçekten alınan toplam puanlar ile umutsuzluk, yalnızlık ve olumsuz sosyal etkileşim arasındaki korelasyon ve (3) klinik ve klinik olmayan örneklem arasındaki toplam ölçek puanlarının karşılaştırılması yollarıyla sağlanmıştır. Güvenirlik kanıtı için hesaplanan Cronbach alfa katsayıları ölçeğin alt boyutları için .85 ve .92 arasında, toplam ölçek için ise .89 olarak bulunmuştur. Ulaşılan 3 faktörlü yapı toplam varyansın %75'ini açıklamıştır. Bu çalışmada ise aile, arkadaş ve özel bir insan alt boyutlarının Cronbach alfa katsayıları .93, .91 ve .89, toplam ölçek için ise .94 olarak bulunmuştur.

Depresyon, Anksiyete, Stres Ölçeği-21-Kısa Formu

Henry ve Crawford (2005) tarafından geliştirilen ölçek, bireylerin içerisinde bulunduğu olumsuz duygu durumlarını (depresyon, anksiyete ve stres) ölçmek amacıyla geliştirilmiştir. Depresyon, anksiyete ve stres olmak üzere üç alt boyuttan oluşan ölçeğin her bir boyutunda 7 madde bulunmakta olup, toplam madde sayısı 21'dir. Ölçek 4'lü Likert tipte bir ölçek olup katılımcılara son 1 hafta içerisinde ölçekte yer alan belirtileri ne sıklıkta yaşadıklarını belirtmeleri yoluyla ölçüm yapmaktadır. Ölçeğin geçerlik kanıtı DFA ve ölçekten alınan toplam puan ile Olumlu ve Olumsuz Duygu Listesi, Hastane Kaygısı ve Depresyon Ölçeği ve Kişisel Huzursuzluk Ölçeği arasındaki korelasyonların hesaplanması yoluyla elde edilmiş ve istatistiksel olarak anlamlı korelasyonlar bulunmuştur. Ölçekten elde edilen Cronbach alfa değerleri depresyon, anksiyete ve stres alt boyutları için sırasıyla .88, .82, .90, toplam ölçek için ise .93'tür.

Ölçeğin Türkçe uyarlama çalışması Yılmaz vd. (2017) tarafından gerçekleştirilmiştir. Orijinal ölçeğe benzer şekilde 3 boyuttan oluşan 21 maddelik yapı doğrulanmıştır.

Geçerlik kanıtı için DFA, güvenilirlik kanıtı için ise iç tutarlık yöntemi kullanılmıştır. Bu çalışmanın amacı doğrultusunda ölçeğin sadece depresyon alt boyutu kullanılmıştır. Depresyon alt boyutu için bulunan Cronbach alfa değeri .86 olarak bulunmuştur.

Kişisel Bilgi Formu

Çalışma kapsamında kullanılan kişisel bilgi formu, katılımcıların temel demografik özelliklerini daha iyi anlayabilmek amacıyla geliştirilmiştir. Pilot çalışmada kullanılan formda kişilerden cinsiyet, yaş, öğrenim durumu, meslek, herhangi bir işte çalışıp çalışmadığı, algılanan sosyoekonomik durum ve dindarlık düzeyi alanlarında bilgi alınması amaçlanmıştır. Ana çalışmada ise, pilot çalışmaya ek olarak tasarlanan depremi yaşama, deprem sebebiyle yaşanan şehri değiştirip değiştirmeme, yaşanan şehir, psikolojik yardım alınıp alınmadığına ilişkin sorular eklenmiştir.

2.4. Veri Toplama Süreci

Bu çalışmada pilot ve ana çalışma olmak üzere iki ayrı süreçte veri toplanmıştır. Her iki çalışmada da aynı veri toplama süreci yürütülmüştür. Pilot çalışmanın verileri 2022 yılının son altı ayında, ana çalışmanın verileri ise 2023 yılının son 6 ayında toplanmıştır. 6 Şubat 2023 tarihli Kahramanmaraş merkezli depremler iki veri toplama sürecinin arasında meydana geldiği için, ana çalışmaya dahil olan kişilere bu depremleri yaşayıp yaşamadıkları ve deprem dolayısıyla yaşadıkları şehirleri değiştirmek zorunda kalıp kalmadıklarına yönelik sorular yöneltilmiştir.

Katılım gönüllülük esasına dayalı olarak yürütülmüş olup, çevrimiçi anket formlarının ilk sayfalarında yer alan onay formunda gizlilik, anonimlik ve çalışmadan çekilme hakkı gibi konularda bilgilendirilmişlerdir. Katılımcılardan hiçbir kişisel bilgi (ad/soy ad, telefon) talep edilmemiştir. Her iki veri toplama süreci de Orta Doğu Teknik Üniversitesi Uygulamalı Etik Araştırma Merkezinden gerekli izin sağlandıktan sonra başlatılmıştır.

2.5. Veri Analizi

Bu çalışmada psikolojik gerilimler, kişilerarası ihtiyaçlar ve intihar düşünceleri arasındaki ilişkinin belirlenmesi amacıyla tasarlanan kuramsal modelin varsayımlarını kontrol etmek için SPSS 25 (IBM Corp., 2017), Yapısal Eşitlik Modellemesi (YEM) analizi için AMOS 21 (Arbuckle, 2012), cinsiyet değişmezliği analizi ve betimsel analizler için JASP Team (2019), depresyon ve algılanan sosyal desteğin modelde yer alan dolaylı etkiler üzerindeki düzenleyici etkisini incelemek için ise PROCESS (Hayes, 2013) programları kullanılmıştır.

2.6. Çalışmanın Sınırlılıkları

Bu çalışmanın ilk sınırlılığı, intihar düşüncelerinde ve intihar düşünceleriyle ilgili olduğu hipotez edilen diğer çalışma değişkenlerinin sabit olmaması ve zaman içerisinde dalgalanmalara açık olması olarak ele alınabilir. Bir diğer sınırlılık, öz-bildirim ölçekleri kullanılması sebebiyle katılımcıların görece hassas olan konularda kendi düşünce ve duygularını ifade etmeye istekli olmaması olarak görülebilir. Son olarak, hem pilot hem de ana çalışmadaki cinsiyet dağılımı ve eğitim düzeyindeki yığılmalar, çalışma sonuçlarının genellenebilirliğini sınırlayan faktörler olarak değerlendirilebilir.

3. BULGULAR

Psikolojik gerilim kaynakları, kişilerarası ihtiyaçlar, depresyon, algılanan sosyal destek ve intihar düşünceleri arasındaki doğrudan, dolaylı ve düzenleyici ilişkilerin incelenmesinin amaçlandığı bu çalışmada, çalışmaya ait değişkenler arasındaki ikili korelasyonların tamamı istatistiksel açıdan anlamlı sonuçlar ortaya koymuştur. Bununla birlikte, modele dahil edilen değişkenlerin tümü, sonuç değişkeni olan intihar düşünceleriyle hipotez edilen yönde ve anlamlı düzeyde korelasyona sahiptir. Cinsiyetin intihar düşünceleri üzerindeki etkisinin araştırılmasının önemli olması dolayısıyla cinsiyet farklılığına ilişkin çoklu-grup doğrulayıcı faktör analizi kullanılarak ölçüm modeli test edilmiştir. Sonuçlar, ölçüm modelinin cinsiyete göre farklılaşmadığını ortaya koymuştur (Δ CFI ve Δ TLI < .01). Dolayısıyla, hipotez

edilen ölçme modelinin sınanmasına tek gruplu yapısal model testi ile devam edilmiştir.

Test edilmesi amaçlanan modeldeki doğrudan ve dolaylı ilişkileri belirlemek amacıyla YEM analizi uygulanmıştır. Sonuçlar, test edilen modelin yeterli düzeyde uyum sağladığını ortaya koymuştur $X^2(303) = 1016.91, p < .001, X^2/df \text{ ratio} = 3.36, CFI = .94, TLI/NNFI = .92, SRMR = .04, RMSEA = .068$ (90% CI, [.063-.072]). Araştırmanın bağımsız değişkenleri, intihar düşüncelerindeki varyansın %66'sını açıklamıştır. Önerilen modelde yer alan 14 doğrudan yolun 8'i ve 8 dolaylı yoldan 5'i anlamlı bulunmuştur. Doğrudan etkiler incelendiğinde, değer ($\gamma = .31, p < .01$) ve yoksunluk geriliminin ($\gamma = .26, p < .01$) algılanan başkalarına yük olma (aracı değişken) üzerindeki doğrudan etkisinin anlamlı olduğu bulunmuştur. İkinci aracı değişken olan engellenmiş ait olmaya gelen doğrudan etkiler incelendiğinde ise, değer ($\gamma = .23, p < .01$), istek ($\gamma = .29, p < .01$) ve baş etme ($\gamma = .25, p < .01$) gerilimlerinin etkisi anlamlı bulunmuştur. Aracı değişkenler olan başkalarına yük olma ($\beta = .60, p < .01$) ve engellenmiş ait olmanın ($\beta = .21, p < .01$) intihar düşünceleri üzerindeki doğrudan etkisi de anlamlıdır. Psikolojik gerilimlerden ise sadece istek geriliminin ($\gamma = .26, p < .01$) intihar düşünceleri üzerindeki etkisi anlamlı olarak bulunmuştur.

Dolaylı etkiler incelendiğinde değer ($\gamma = .19, p < .01$) ve yoksunluk ($\gamma = .17, p < .01$) gerilimlerinin algılanan başkalarına yük olma aracılığıyla intihar düşünceleri üzerindeki etkileri anlamlı olarak bulunmuştur. Değer ($\gamma = .09, p < .01$), istek ($\gamma = .14, p < .01$) ve baş etme ($\gamma = .11, p < .01$) gerilimlerinin engellenmiş ait olma aracılığıyla intihar düşüncelerine olan etkisi anlamlı olarak bulunurken, bu ilişki yoksunluk gerilimi ($\gamma = .01, p < .01$) için istatistiksel olarak anlamlı değildir. Son olarak ise, değer ($\gamma = .23, p < .01$) ve yoksunluk gerilimi ($\gamma = .16, p < .01$) ve intihar düşünceleri arasındaki ilişki, algılanan başkalarına yük olma ve engellenmiş ait olma değişkenlerinin dolaylı aracılığıyla (birlikte) istatistiksel olarak anlamlı bulunmuştur.

Düzenleyici aracılık etkilerine bakıldığında ise, algılanan sosyal desteğin yalnızca değer ($\beta = -.003, p < .05, CI [-.0058, -.0001]$) ve yoksunluk ($\beta = -.0022, p < .05, CI [-.0042, -.0001]$) gerilimlerinin engellenmiş ait olma aracılığıyla intihar düşüncelerine

olan dolaylı etkisini düzenlediği bulgusuna ulaşılmıştır. Depresyonun ise değer ($\beta = .0128, p < .05, CI [.0063, -.0200]$) ve yoksunluk ($\beta = .0086, p < .05, CI [-.0042, .0136]$) gerilimlerinin algılanan başkalarına yük olma aracılığıyla; değer ($\beta = .0062, p < .05, CI [.0005, .0122]$), istek ($\beta = .0046, p < .05, CI [.0006, .0088]$) ve baş etme ($\beta = .0054, p < .05, CI [.0004, .018]$) gerilimlerinin ise engellenmiş ait olma ile intihar düşüncelerine dolaylı etkisini düzenlediği bulgusuna ulaşılmıştır.

4. TARTIŞMA

4.1. Doğrudan Etkilerin Tartışılması

Test edilen modelde, sadece istek geriliminin intihar düşüncelerine doğrudan anlamlı bir etkisi olduğu bulgusuna ulaşılmıştır. İstek gerilimi, mevcut koşullar ile bireyin sahip olmayı umduğu/beklediği koşullar arasındaki fark açıldığında ortaya çıkar. Dolayısıyla, istek gerilimi öfke ve yenik düşme hissine yol açarak, bireylerin yaşam doyumunu düşürebilir (Zhao vd., 2020). Lyu vd. (2016), psikolojik istek geriliminden elde edilen yüksek puanların tamamlanmış intihar olasılığını 5.70 kat arttırdığı, yoksunluk, değer ve baş etme alanlarında yaşanan gerilimlerin ise bu olasılığı 1.59, 1.15 ve 1 kat arttırdığı bulgusuna ulaşılmıştır. Buna ek olarak, psikolojik gerilimler ile kişilerarası ihtiyaçlar arasındaki ilişkinin incelendiği bir diğer çalışmada, istek geriliminin kişilerarası ihtiyaç boyutlarının her ikisini de yordayan tek boyut olduğu bulunmuştur (Zhang vd., 2020). Dolayısıyla, intihar düşüncelerine yatkınlık söz konusu olduğunda, istek geriliminin diğer psikolojik gerilim kaynaklarına göre daha görünür bir etkiye sahip olduğu söylenebilir. Ayrıca, istek geriliminin kendini gösterdiği alanlar kariyer seçimi, akademik başarı ve eş seçimi olduğu göz önünde bulundurulduğunda (Zhang, 2009), beliren yetişkinlik dönemine ait gelişim görevleriyle paralellik gösterdiği söylenebilir (Trible, 2000).

Değer, yoksunluk ve baş etme gerilimlerinin intihar düşüncelerine istatistiksel olarak anlamsız doğrudan etkisi ise, çalışılan örneklem özellikleri açısından yorumlanabilir. Değer gerilimi, benimsenen değerler, hayat kuralları ve prensipler konusunda çatışma yaşandığında ortaya çıkar (Zhang, 2016a). Örneğin, bireyci veya toplulukçu kültürlere

ait deęerlerden hangilerini benimsemesi gerektięi konusunda karmařa yařayan birey, deęer gerilimi geliřtirebilir (Zhang vd., 2018). Trkiye’de yapılan arařtırmalar, eęitim dzeyi arttıka, kiřilerin bu tercihi daha net yapabildięini ve çoęunlukla bireyci kltrlere ait deęerleri benimsedięini ortaya koymuřtur (Yetim, 2002). Bu alıřmanın rneklemini grece yksek eęitim seviyelerinden mezun olan beliren yetiřkinler oluřturduęu iin, deęer gerilimi konusunda daha az zorluk yařıyor olma olasılıkları mevcuttur. Yoksunluk geriliminin istatistiksel olarak anlamsız bulunan etkisinde rneklemin ok byk bir kısmının algılanan sosyoekonomik durumunun “orta” dzeyde belirtilmesi etkili olmuř olabilir. Zhang’a (2011) gre yoksunluk geriliminin oluřması iin kiřinin kendisini dięer insanlarla kıyaslaması ve kendisiyle aynı kořuldaki insanlara nazaran mutlak yoksulluk ierisinde yařadığına iliřkin algısının geliřmesi gereklidir. Bař etme geriliminin anlamsız etkisinde ise bu becerilerin intihar giriřimi ve tamamlanmıř intiharlar gibi daha ciddi intihar davranıřlarını yordadığıının (Sun ve Zhang, 2016; Zhang, 2009; Zhang vd., 2018) altını izmek nemlidir. rnekleme zelliklerine bakıldıęında ise, klinik olmayan bir rnekleme zerinde alıřıldıęı ve katılımcıların daha ciddi intihar davranıřları bir yana, intihar dřnceleri iin bile olduka dřk puanlar raporladıkları grlmřtr. Dolayısıyla, bu alıřma kapsamında, bař etme gerilimi ile intihar dřnceleri arasındaki ikili korelasyon her ne kadar anlamlı olsa da modele dahil edilen dięer deęiřkenler bu anlamlı ikili korelasyonu dřk intihar dřncelerine sahip olan alıřma grubunda bastırmıř olabilir.

Aracı deęiřkenlerin doęrudan etkisine bakıldıęında ise, her iki aracı deęiřken de intihar dřnceleri zerinde anlamlı bir etkiye sahiptir. Bu bulgu, kiřilerarası ihtiyaların intihar dřncesinin yordayıcı olduęunu gsteren alıřmaların sonularıyla benzerdir. rneęin, algılanan bařkalarına yk olma ve engellenmiř ait olma ihtiyaı birok baęlamda ve birok rnekleme intihar dřnceleriyle iliřkili bulunmuřtur (Becker et al., 2020; Czyn et al., 2015). Fakat, dikkat ekici olan bir nokta, bu alıřma sonucunda elde edilen bulguya gre, algılanan bařkalarına yk olma deęiřkeninin engellenmiř ait olma deęiřkenine kıyasla ok daha gl bir etkisinin olmasıdır. Bu, alanyazında ve kuramla ilgili tartıřmalarda zerinde sıklıkla durulan bir durum olmakla birlikte, engellenmiř ait olma ihtiyaının kuramsal alt yapıya

uygun bir şekilde ölçülmediğini öne süren araştırmacılar da mevcuttur (Ma et al., 2016).

4.2. Dolaylı Etkilerin Tartışılması

Çalışmanın en çarpıcı sonuçlarından biri, değer gerilimi ile intihar düşünceleri arasındaki ilişkinin her iki aracı değişkenin (engellenmiş ait olma ve algılanan başkalarına yük olma) tam aracılık rolüyle açıklanmasıdır. Bu bulgu, sahip olunan değerler açısından çatışma yaşamamanın, başkalarına yük olmaya dair algıya ve temel ait olma ihtiyaçlarında engellere yol açmasına, bu durumun ise kişileri intihar düşüncelerine daha yatkın hale getirdiğine işaret etmektedir. Literatür incelendiğinde, dindarlık düzeyi yüksek olan bireylerin değer çatışmalarını daha yoğun olarak yaşadığına ve bunun sonucunda ruh sağlıklarının olumsuz etkilendiğine ve kendini affetme (self-forgiveness) düzeylerinin azaldığına yönelik bulgular mevcuttur (Hook vd., 2015; Lee vd., 2015). Bir diğer açıklama, beliren yetişkinlik döneminin gelişim görevleri arasında değer, inanç ve prensiplerin oluşturulması (Para, 2008) öncülüne dayanmaktadır. Bu süreçte, diğer akranlarla ortak paylaşılan değerlere sahip olmak, kalıcı sosyal ilişkilerin sağlanması için önemlidir (Arnett, 2000). Öte yandan, toplulukçu kültürlerde yaşayan kişilerin, bireyci kültürlerin etkisiyle ortaya çıkan değerlere aşırı maruz kalması, değer çatışmalarını arttırıp, sahip olunan geleneksel değerler açısından kişiyi kararsız durumda bırakabilir (Akdoğan ve Çimşir, 2022). Her iki durum da değer geriliminin yüksek olduğu durumları takip eden bir sosyal izolasyon haline işaret etmektedir. Sosyal izolasyon durumu ise, düşük sosyal ve sosyokültürel uyumla ilişkilidir (Wesley ve Booker, 2021). Dolayısıyla, kişinin değer çatışmaları sebebiyle temel ait olma ihtiyacının karşılanamadığı durumda da yalnızlık hissi artıp, kişi intihar düşüncelerine daha yatkın hale gelebilir. Buna ek olarak, beliren yetişkinlik dönemindeki bireylerin değerleriyle uyumlu olarak bağımsız karar alması beklenir (Wright, 2012). Bu durum, Türkiye gibi tam anlamıyla Batılı olmayan toplumlarda ise daha farklı ilerler. Örneğin, beliren yetişkinlik dönemindeki bireyin sahip olması beklenen evlilik, eğitim ve sorumluluk gibi kimi değerler hazırda bulunur ve birey tarafından edinilmesi beklenir (Nelson vd., 2004). Dolayısıyla, bu taleplere karşılık veremeyen birey, dışlanmış hissedebilir ve başkalarına yük olduğuna dair bir algı şekillendirebilir. Bu temel algının da intihar düşüncelerine yol açan temel

çarpıtılmış algılardan biri olduğu literatür tarafından açıkça belirtilmekte ve desteklenmektedir.

Bir diğer bulgu, istek geriliminden intihar düşüncelerine giden yolda engellenmiş ait olmanın üstlendiği kısmı aracılık rolüdür. İstek gerilimi, bireylerin mevcut yaşam koşulları/benlik algıları ile sahip olmak istedikleri koşullar/ideal benlik arasındaki farkı ifade eder. Bu durum, bir bakıma, bireylerin gelecekteki yeterlik ve başarı algısının düşüklüğüne işaret eder (Zhang, 2019). İstek (aspiration), intihar düşüncelerine karşı koruyucu etkisi olduğu bilinen umutlar, hayat amaçları ve başarılar ile yakından ilişkilidir (Saleebey, 2006). Dolayısıyla, istek geriliminde çatışma yaşayan bireyler için dünyanın adil bir yer olduğuna ilişkin inancın daha zayıf ve var olunan çevrede gösterilen çabanın istenilen sonuca yol açacağına dair umudun görece düşük olması, kişilerin işlevselliklerinde düşüşe yol açmaktadır (Pearlin ve Schooler, 1978). Buna ek olarak, beliren yetişkinlik dönemindeki kişiler eğitim, kariyer ve başarı ile ilgili yaşam alanlarında gelecek planları yapar (Ranta vd., 2014). Öte yandan, Türkiye’de yaşayan beliren yetişkinler ise, iş bulma konusunda artan zorlukla birlikte gelecek planlarıyla ilgili endişe duymaktadır (Yavuzaslan vd., 2016). Bunun sonucunda hissedilen yetersizlik ve kısıtlanmışlık duyguları da çaresizlik, kaygı ve sosyal anlamdaki kopuşu beraberinde getirmektedir (Zhang, 2016). Bu sebeple, istekler anlamında zorluklarla karşılaşılması, bireyleri sosyal izolasyona iten ve bunun sonucunda da intihar düşüncelerine yatkınlığı besleyen bir faktör olarak görülebilir.

Yoksunluk geriliminin intihar düşünceleri üzerindeki etkisinde algılanan başkalarına yük olmanın tam aracılık etkisi olduğuna dair bulgu, ekonomik anlamda zorluklar yaşayan kişinin başkalarına yük olduğuna dair algıyı beslediğini, bunun sonucunda da intihar düşüncelerine yatkın hale geldiğini ortaya koymaktadır. Van Orden vd. (2010), algılanan başkalarına yük olma kavramını diğerlerine mesuliyet (liability) ile açıklar ve evsizlik ya da işsizlik gibi yoksunluk gerilimiyle ilgili durumların başkalarına yük olma algısının daha yerleşik hale gelmesinde rol oynadığını savunur. Başkalarına yük olma algısı sosyal, ekonomik, duygusal ya da durumsal içerikli olabilir (Opperman vd., 2015). Fakat, Hill vd. (2019) tarafından yapılan bir nitel çalışmada, bu algının en temel bileşeninin maddiyatla ilgili temalar olduğu bulgusuna

ulaşmıştır. Dolayısıyla, yoksunluk geriliminden intihar düşüncelerine giden yolda başkalarına yük olduğuna ilişkin geliştirilen algı ortadan kalktığında bu ilişkinin anlamsız, fakat bu algı var olduğundaki ilişkinin anlamlı hale gelmesi, ekonomik endişelerin başkalarına yük olma ve dolayısıyla intihar düşünceleriyle yakından ilişkili olduğunu göstermektedir.

Çalışma bulgularından bir diğeri, baş etme geriliminin intihar düşünceleri üzerindeki dolaylı etkisinde, engellenmiş ait olmanın tam aracılık rolü üstlenmesidir. Baş etme gerilimi, zorlu yaşam koşullarının (ör., iş kaybı, yas, finansal kayıplar gibi) üstesinden gelmek için kullanılan becerilerdeki sınırlılığı ifade eder (Zhang, 2019). Dolayısıyla, bu bulgu, zorlu yaşam durumlarıyla baş etmekte zorlanan bireylerin çevreden aldıkları ait olma/destek duygusunda da bozulmalar yaşandığında intihar düşüncelerine daha yatkın hale geldiklerine işaret etmektedir. Ergenlikten genç yetişkinlik dönemine geçiş süreci, akademik beklentiler, engeller, rekabetçi atmosfer sebebiyle hissedilen baskı gibi birçok yaşam zorluğunu beraberinde getirmekte ve tüm bunlar, kişilerarası çatışmalara ve sosyal izolasyona sebep olmaktadır (Lamis vd., 2016; Mortier vd., 2017). Öte yandan birey, beliren yetişkinlik döneminin gelişim görevlerinden olan eğitim, yakın ilişkiler kurma, partner ve meslek seçimi gibi alanlarda (Trible, 2000) sorun yaşadığında bunun üstesinden gelebilmek için baş etme becerilerine ihtiyaç duyabilir. Ayrıca, bireylerin baş etme becerilerini kullanmalarını gerektiren durumlarda ihtiyaç duyabileceği sosyal destek algısının yüksek olması, kişinin bu zorlukla daha etkili bir biçimde başa çıkabilmesini sağlar (Perry vd., 2018). Dolayısıyla, baş etme becerilerindeki gerilimin engellenmiş ait olma ihtiyacı üzerinden intihar düşüncelerini tam aracılık yoluyla yordaması, özgün bir bulgu gibi görünmektedir.

4.3. Düzenleyici Aracılık Etkilerinin Tartışılması

Bu çalışma kapsamında, depresyon ve algılanan sosyal desteğin model üzerinden hipotez edilen dolaylı etkileri nasıl düzenlediği üç kategori üzerinden (düşük, orta ve yüksek) incelenmiştir. Bulgulara göre depresyon, mevcut olan sekiz dolaylı etkiden beşini, algılanan sosyal destek ise, sekiz dolaylı etkiden ikisini düzenlemiştir. Bu

dolaylı etkiler, depresyon düzeyi yüksek olan kategori için daha güçlü, algılanan sosyal destek düzeyi yüksek olan kategori için ise daha zayıf olarak bulunmuştur. Bu sebeple, psikolojik gerilimlere bağlı olarak ortaya çıkan intihar düşüncelerinin kişisel ihtiyaçlar yoluyla açıklandığı çalışma modeli göz önünde bulundurulduğunda depresyonun, model içerisindeki dolaylı etkileri, algılanan sosyal desteğe göre daha güçlü bir şekilde düzenlendiği, dolayısıyla çalışmada kullanılan kuramsal altyapı açısından daha ilişkili bir düzenleyici değişken olduğu savunulabilir. Bu bulgu, depresyonun kişilerarası ihtiyaçlar ile intihar düşünceleri arasında aracı rol üstlendiği (Chang vd., 2022) ve göreceli yoksunluk ile intihar düşünceleri arasında düzenleyici rolü olduğuna (Zhao vd., 2013) ilişkin bulgularla paralellik göstermektedir. Buna ek olarak, depresyon, intihar davranışlarıyla ilişkili bulunan en başta gelen ruh sağlığı sorunu olarak görülmektedir (Cai vd., 2021; Rotenstein, 2016) ve aynı zamanda bütün çalışma değişkenleriyle yakın ilişkilidir (Liu vd., 2019; Zhang vd., 2020). Bu doğrultuda, hipotez edilen dolaylı etkilerin yüksek, orta ve düşük depresyon düzeyine göre anlamlı farklılık göstermesi, bu değişkenin intihar düşüncelerine yatkınlıkta kilit bir rol oynadığına yorumlanabilir.

Araştırmanın çarpıcı bulgularından bir diğeri, algılanan sosyal destek düzenleyici rol üstlendiğinde psikolojik gerilimlerin intihar düşünceleri üzerinde ortaya çıkan iki dolaylı etkisi de algılanan başkalarına yük olma üzerinden sağlanmış olması, engellenmiş ait olma ihtiyacı üzerinden giden yollardan hiçbirinin istatistiksel olarak anlamlı olarak bulunmamasıdır. Psikolojik gerilimler sebebiyle ait olma ihtiyacı zedelenmiş bireyler, diğerlerine yabancılaştığına ya da onlardan koptuğuna ilişkin bir algı geliştirebilir ve bunun sonucunda dışlanma duygusuyla baş başa kalabilir. Bu durumda ise, mevcut çevrede var olan sosyal destek kaynaklarını fark etmede güçlük yaşayabilir; zira, engellenmiş ait olma ihtiyacı algıya dayalı bir yapıdır (Joiner, 2005). Barrera (1987) tarafından ortaya atılan kavramsallaştırmaya göre sosyal destek, algılanan ve alınan olmak üzere iki başlıkta incelenmektedir. Ruh sağlığı alanındaki çalışmalarda genellikle algılanan sosyal destek kavramı kullanılmış ve daha ilişkili bir yordayıcı olarak raporlanmıştır (Eagle, 2018). Bu sebeple, kavramın “algılanan” niteliği, temel ait olma ihtiyacı zedelenen bireyler için bu kaynakları fark etmeyi ve bunlardan yararlanmayı engelleyen bir faktör olabilir. Buna ek olarak, algılanan

başkalarına yük olma kavramının tersine, engellenmiş ait olma kavramının ölçümünde kullanılan aracın bu kavramı yeterince ölçmediğine ilişkin bulgular (Bryan vd., 2009; Cero vd., 2015; Ma vd., 2016; Ma vd., 2019) mevcuttur. Dolayısıyla, ölçümle ilgili problemler de bu kavram üzerinden ilerleyen dolaylı etkilerin bağlamsal olarak daha geri planda kalmasıyla sonuçlanmış olabilir.

4.4. Kuram ve Uygulamaya Yönelik Çıkarımlar

Bu çalışma, Psikolojik Gerilim Ölçeğini Türkçe'ye uyarlamak ve ölçeğin psikometrik özelliklerini beliren yetişkinlik örnekleminde test etmek amacıyla gerçekleştirilen ilk çalışmadır. Sonuçlar, ölçeğin 32 maddelik ve dört alt boyuttan oluşan versiyonunun, beliren yetişkin örnekleminde geçerli ve güvenilir olduğunu göstermiştir. Geliştirilen ölçekle elde edilen yapıların intihar düşünceleri, depresyon ve kişilerarası ihtiyaçlar ile orta-yüksek düzeyde anlamlı ilişkiler gösterdiği göz önünde bulundurulduğunda, psikolojik gerilimlerin intihar literatürüne önemli katkılar sağlayabileceği düşünülmektedir. Bunun yanında, psikolojik gerilimler ile kişilerarası ihtiyaçların ortak dahil edildiği yapısal modelin uyum değerlerinin yeterli düzeyde olmasının intihar literatürünü kuramsal anlamda zenginleştirebileceği ön görülmektedir.

Bu çalışmadan elde edilen bulgular uygulamacılar ve alan uzmanları için de önem taşımaktadır. Temel ait olma ve algılanan başkalarına yük olma ihtiyaçlarının (bu çalışmanın aracı değişkenleri) terapötik müdahalelerle (ör., psikoeğitim, bilişsel yeniden yapılandırma) iyileştirilebilir nitelikte olduğuna yönelik bulgular mevcuttur (Allan vd., 2018; Joiner, 2005). Psikolojik gerilimlerin (bu çalışmanın bağımsız değişkenleri) azaltılmasına ya da bu gerilimlerle baş edilmesine ilişkin kullanılan çeşitli teknikler de literatürde mevcuttur (Crosby, 2008; Richardson, 2011; Zhang vd., 2017). Dolayısıyla, bu araştırma kapsamındaki değişkenlerin intihar düşüncelerini yordadığı göz önünde bulundurulduğunda, araştırmada yer alan risk faktörlerine yönelik müdahale programları geliştirilebilir. Ayrıca, intihar riskini belirleme amacıyla yapılan görüşmelerde kullanılan bir teknik olan intihar güvenlik planı (suicide safety plan) (Moscardini vd., 2020) oluşturma aşamasında, bu çalışmada yer alan değişkenlerin danışanlarla gerçekleştirilecek görüşmeler yoluyla sorgulanması

ve belirlenmesi aşaması eklenip, oluşturulan planın etkililiği empirik bir şekilde test edilebilir.

4.5. Gelecek Çalışmalar İçin Öneriler

Ölçekteki toplam madde sayısının 32 olduğu ve az madde sayısından oluşan ölçeklerin yanıtlanma oranı, ekonomikliği ve uygulanabilirliklerindeki kolaylık (Kosta ve Rosa, 2018) dikkate alındığında, gelecek çalışmalarda, kuramsal altyapı da dikkate alınarak, bu ölçeğin kısa formunu geliştirmeye yönelik çabalar değerli olabilir.

Gelecek çalışmalar için sunulabilecek önerilerden bir diğeri, intihar düşünceleri ile çalışmanın gerçekleştirildiği örneklemin dindarlık düzeyi, sosyoekonomik düzey, psikolojik yardım alma durumu ve travmadan (ör. Kahramanmaraş depremi) etkilenme durumu arasındaki ilişkinin sınanmasıdır. Bu kategorilerde yer alan gruplar arası dağılımdaki eşitsizlikler, bu değişkenlerin kontrol edilmesini ve intihar düşünceleri üzerindeki etkisinin incelenmesini sınırlandırmıştır. Dolayısıyla, gelecek çalışmalar, bu demografik özelliklerin intihar düşüncesiyle olan ilişkisini farklı örneklerle test edebilir. Benzer olarak, hem pilot çalışma hem de ana çalışma için yararlanılan örneklem grubu beliren yetişkinler olduğu için, gelecekte gerçekleştirilecek intihar düşüncelerine yatkınlığı açıklamayı hedefleyen çalışmalarda farklı gelişim grupları örneklem olarak seçilebilir.

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PRESENTATIONS

Polat, Ö., Gündüz, A. Ö., Karakaş, B., Sarraf, B. C., Saniç, N., Baytek, E. N., Yankaç, Ö. F., Taşkesen, N., Demir, B., & Barutçu Yıldırım, K. F. (2022 0). *Survey Development: Student Satisfaction in Online Education*. IX th International Eurasian Educational Research Congress, İzmir, Türkiye. <https://www.ejercongress.org/wp-content/uploads/2022/07/BILDIRI-OZETLERI-GUNCEL-06.07.2022.pdf>

Tarhan, S., Çürükvelioğlu-Köksal, E., Genç, E. Demir, B. & Kavalcı, G. (2023). *Deprem sonrası psikososyal destek: Bartın üniversitesi örneği*. 11. Üniversiteler Psikolojik Danışma ve Rehberlik Sempozyumu, Eskişehir, Türkiye. <https://unipdrsempozyumu.anadolu.edu.tr/>

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