



## RESEARCH ARTICLE

# Suicide Probability in University Students: The Role of Parental Rejection-Acceptance, Emotional and Social Loneliness, Psychological Flexibility

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## ABSTRACT

The present study aimed to examine the predictive role of demographic characteristics (gender, age, employment status, university type), socio-cultural factors (family structure), and psychological aspects (parental acceptance-rejection, emotional and social loneliness, and psychological flexibility) on suicide probability among university students. A total of 400 university students (222 female, 178 male) aged 18-29 participated in the research. A correlational research model was used. The data were obtained using by the Suicide Probability Scale (PSS), the Parental Rejection-Acceptance Scale (PRAS), the Psychological Resilience Scale (PRS), the Social and Emotional Loneliness Scale (SESL) and the Demographic Information Form (DIF). Hierarchical regression analysis was utilized to analyze the data. The results revealed that gender, maternal neglect, paternal warmth, paternal neglect, paternal rejection, value-driven behaviors, present awareness, defusion, and social loneliness predict the probability of suicide. Among these variables, value-driven behaviors emerged as the strongest predictor, emphasizing the significance of living in accordance with personal values in reducing the probability of suicide. These findings emphasize the importance of addressing both psychological and socio-cultural variables in suicide prevention strategies for university students. The results highlight the need for tailored interventions that foster social connections, enhance psychological resilience, and emphasize the protective role of paternal involvement.

Suicide is a deliberate act of ending one's life; however, it is shaped by the interplay of individual, societal, and cultural factors. Understanding this complex phenomenon is crucial for developing effective prevention strategies. Particularly during emerging adulthood, individuals face social, academic, and psychological pressures that can increase the likelihood of suicidal behaviors. In this context, university students represent a unique risk group due to the transitional nature of this period, identity formation processes, and challenges specific to this stage of life. Suicide is one of the leading causes of death among young people worldwide. In the context of Turkey, research on this subject remains limited, highlighting the need for further studies. Factors such as social loneliness and cognitive flexibility have not been adequately explored in relation to

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suicide risk. This research aims to address this gap, investigate the impact of these factors, and provide a foundation for developing preventive strategies.

## Suicide

Suicide is regarded as a multifaceted phenomenon, shaped by the interplay of psychological, social, economic, and cultural influences. It was defined as a deliberate act of self-harm with clear evidence that the individual intended to die (Turecki & Brent, 2016; Turecki et al., 2019). As indicated in the Suicide Wordview Report in 2019 prepared by World Health Organization (WHO, 2021), the global lifetime prevalence of suicidal thoughts was 9.2%, with a rate of suicide attempts at 2.7%. Additionally, the same report indicated that completed suicide rates in Africa (12%), Europe (12.9%), and Southeast Asia (13.4%) are above the global average. The rate was higher among men, at 13.7 per 100,000, compared to 7.5 per 100,000 among women. In the same year, suicide emerged as the second leading cause of death among individuals aged 15-29 worldwide. These statistics highlight that suicide is a significant global issue, particularly for individuals within the 15-29 age group.

Suicide is the result of an intricate interplay between biological, genetic, psychological, social, environmental, and situational factors (Junior et al., 2020). It is regarded as a behavior that emerges from the interplay of various factors, including social and cultural characteristics, traumatic experiences, difficulties encountered in early childhood, psychiatric history, and genetic susceptibility (Large et al., 2021). This may be perceived as a solution by the individual, who frequently feels unable to cope with the demands of life (Arensman et al., 2020). As an act that results in the termination of a person's life, suicide can give rise to severe consequences, causing profound sadness and trauma to both the individual and those around them (Knipe et al., 2022).

The concept of 'suicide risk' is used to describe the possibility of an individual engaging in suicidal behaviour (Clarke, 2017). The probability of suicidal behavior is increased by the presence of suicidal thoughts or a history of previous suicide attempts (Large, 2018). A study examining the relationship between suicidal thoughts and suicidal behavior found that suicidal behavior showed a stronger association than suicidal thoughts alone, although the difference was not statistically significant. This finding, in contrast to previous studies, highlights the significant predictive power of suicidal thoughts in relation to suicide (Large et al., 2021).

Suicidal behavior typically progresses through several stages, beginning with suicidal ideation (SI), followed by suicide attempts, and ultimately culminating in completed suicide (Li et al., 2016). Prior research has demonstrated a robust correlation between suicide attempts and suicidal ideation (Musci et al., 2016). Suicidal ideation (SI) is defined as the intention to take one's own life and is a robust predictor of future suicidal behavior. The results of Nock et al.'s study (2013) showed that 33.4% of individuals exhibiting suicidal ideation go on to develop suicide plans, with 33.9% of those individuals ultimately attempting suicide. It is therefore imperative to identify individuals exhibiting suicidal ideation in order to prevent youth suicide. The identification of factors that predict suicidal thoughts in adolescents can facilitate the development of strategies for the prevention of further suicide attempts and the reduction of youth suicide rates.

The risk of suicide is subject to variation based on several factors, including geographical location, age, gender, economic status and marital status (WHO, 2021). The data from the Turkish Statistical Institute (TÜİK) revealed that in 2018, there were 304 suicides among individuals aged 15-19, 363 suicides among those aged 20-24, and 344 among those aged 25-29. In other words, the total number of suicides among individuals aged 19-29 in Turkey in 2018 was 872. These figures yielded that individual aged between 18 and 29 years old represent a significant risk group in terms of suicide. Also in a study by Eskin (2017) involving 3,031 young individuals, over one-third of the participants admitted to having contemplated suicide at least once in their lives, and 8.4 out of every 100 reported having attempted suicide at least once. The period of emerging adulthood was characterized by a tendency to explore a range of life domains, including relationships, career

development and worldviews (Arnett, 2000). During the university years, individuals encounter various challenges, including academic difficulties, examination stress, financial problems, difficulties in adapting to the university environment, issues in relationships, personal development, and psychological stress (Rickwood et al., 2005). In a study conducted by Benton et al. (2003), it was found that university students sought counselling primarily due to relationship issues, stress, anxiety, depression, eating disorders, and suicidal thoughts. A further study has indicated that university students are more likely than the general population to experience suicidal thoughts and behaviors, both over the course of their lifetime and in the past 12 months (Mortier et al., 2018). Considering this, it is crucial to investigate the risk and protective factors that may influence the suicide probability of university students, with a view to enhancing public mental health.

A study examining the relationship between suicide probability and gender revealed that the suicide rates among female university students are higher than those of male students (Wu et al., 2021). However, another study indicated that males are more likely to engage in serious and lethal suicide attempts than females (Freeman et al., 2017). Furthermore, the probability of suicide is influenced by an individual's employment status (Stack, 2021). In a study conducted by Faria et al. (2021), it was demonstrated that the probability of suicide is higher among university students who are unemployed. A comparative study of suicide probabilities in public and private universities in China revealed that students at 'high-level' institutions have a superior learning environment and greater access to resources and services that support their mental health (Wu et al., 2020). Moreover, Hussain and Shova (2023) conducted a systematic review examining the probability of suicide among university students attending public universities. The results indicated a higher probability of suicide among students enrolled in public institutions compared to their counterparts in other settings. Furthermore, the marital status of an individual's parents has been identified as a significant risk factor for suicide probability. A study conducted in Australia with individuals aged 14 to 17 revealed that youth living with a single parent exhibited a higher prevalence of suicidal thoughts (Zubrick et al., 2016). In addition, a study conducted on university students in Bulgaria revealed that students with divorced parents are more likely to experience psychological disorders (Christopoulos, 2018). A further factor that affects the probability of suicide is parental loss. It has been established that individuals who have lost a parent are more likely to experience mental health issues than those who have not (Marcussen et al., 2021). Furthermore, a study conducted in Iran with university students revealed that the presence of a deceased parent is a significant risk factor for suicidal ideation (Nakhostin-Ansari et al., 2022). Finally, the living arrangements of university students also have an impact on their probability of suicide. A study conducted in Korea revealed that individuals living alone exhibit less healthy behaviors. The same study demonstrated that less healthy individuals smoke more and sleep less, which affects their suicidal thoughts (Kim et al., 2020). Similarly, another study conducted with medical students indicated that students living alone have more suicidal thoughts (Torres et al., 2018).

Societies have different cultural structures. Culture in suicide to gain a deeper understanding of its contextual dynamics (Yakar et al., 2017). Turkish culture has a collectivist nature rather than individualistic which strong social ties, family relations and a sense of belonging to the community are prioritized (Göregenli, 1997). These cultural characteristics can have a dual influence on suicidal behavior. On the one hand, the presence of strong social ties and family support can act as a protective factor against suicide by fostering emotional resilience and providing individuals with a robust support network (Eskin, 2018). Secondly, societal, and familial expectations in collectivist cultures may increase the pressure to conform, potentially leading to psychological distress and, in some cases, suicidal ideation (Eskin, 2018).

### **Parental rejection-acceptance**

In relation to the likelihood of suicide, socio-demographic factors can act as both protective and risk factors, while parental relationships, social and emotional relationships and personality traits are also considered protective and risk factors. Parental acceptance and rejection are among these factors. The relationship established with parents can act as a protective factor for the likelihood of suicide as well as a risk factor. Rohner (1975) developed the Parental Acceptance-Rejection Theory (PART) to identify the reasons and consequences of acceptance or rejection by parents and to predict and explain their relationship with children

(Rohner, 1986; Khaleque & Rohner, 2012; Rohner, 2005). According to PART, all individuals around the world have a need to receive positive responses and feel warmth from their parents or significant others. This universal need is independent of various factors such as gender, age, culture, race, and physical characteristics. In a study conducted with 394 university students in Turkey, it was concluded that there was a positive and significant relationship between the probability of suicide and parental rejection (Aslan and Batıgün, 2017). These studies, especially those conducted in Turkey, are very valuable because parental attitudes and behaviors are also basic socialization tools in the transmission of culture and values (Sümer et. al., 2010). For example, Kağıtçıbaşı (2007) argues that in Turkish culture and other similar collectivist cultures, parental discipline and warmth are perceived as complementary dimensions rather than as opposites. Similarly, while overprotective parenting is generally perceived negatively and has adverse effects on children in Western cultures, it is often viewed as positive protection in Turkey and therefore does not lead to negative outcomes for children (Sümer et. al., 2010). However, when this balance is disrupted—such as through excessive discipline without warmth or inconsistent parental behaviors—it can lead to feelings of inadequacy, isolation, and emotional distress in individuals (Barber et. al., 1994). In turn, these feelings may increase the risk of mental health challenges, including suicidal ideation, particularly in environments where seeking help is stigmatized or discouraged by cultural norms (Buri et. al, 1988). On the other hand, a study found that when perceived parental attitudes were supportive during adolescence, individuals were at lower risk for suicidal thoughts and behaviours (Diamond et al., 2022). In a study of high school students aged 13 to 20, students who experienced parental rejection were found to engage in self-harm behaviours (Cipriano et al., 2020). In addition, a study of adolescents found that individuals who experienced parental rejection had higher rates of mental health problems (Wu et al., 2020).

### **Social and emotional loneliness**

Another factor influencing the likelihood of suicide among university students is social and emotional loneliness. Weiss (1973) proposed that there are two types of loneliness: social and emotional, resulting from various relationship problems. Emotional loneliness is defined as the absence of meaningful relationships in which a person has formed deep emotional attachments. Social loneliness, characterised by a lack of a social network, is associated with behavioural problems such as boredom, depression, aimlessness, meaninglessness, self-talk and alcoholism (Weiss, 1973). Studies of loneliness suggest that it has many negative consequences. A meta-analysis conducted by McClelland et al (2020) concluded that loneliness is a stronger predictor of suicidal behaviour than suicidal ideation. In addition, McClelland et al (2023) emphasised that social loneliness influences suicidal ideation in a study of participants aged 18-70. In addition, a study conducted among university students in Hungary found that students who experienced social loneliness were more likely to commit suicide (Chang et al., 2017). The same study identified family support as a factor that minimises social loneliness among university students. In a study on emotional loneliness, research involving 991 participants found that emotional loneliness is a risk factor that increases the likelihood of suicide across all age groups (Gomboc et al., 2022). Furthermore, a study by Siddique et al. (2019) found that women with higher levels of emotional loneliness were more likely to develop suicidal thoughts.

### **Psychological Flexibility**

Psychological flexibility has been identified as a key protective factor in the likelihood of suicide, significantly contributing to an individual's psychological health and well-being (Kashdan & Rottenberg, 2010). Psychological flexibility is defined as the capacity to be wholly engaged in the present moment, as well as the ability to maintain or alter behaviors in accordance with personal beliefs (Hayes et al., 2006). Indeed, a study investigating the relationship between psychological flexibility and suicide risk found that individuals with high psychological flexibility serve as a protective factor against self-harming behaviors (Hyun, 2022). A study revealed that university students experiencing high levels of stress and exhibiting low psychological flexibility employed maladaptive coping strategies, which resulted in increased feelings of loneliness (Indra, 2022). In a further study examining the relationship between psychological flexibility and suicidal behavior among university students, those lacking psychological flexibility exhibited higher levels of suicidal thoughts.

Consequently, the research highlighted the potential efficacy of enhancing psychological flexibility among university students in reducing suicidal ideation (Krafft et al., 2019).

In conclusion, suicide represents a significant public health issue. In this context, this research examines the risk and protective factors associated with the probability of suicide among university students, a population undergoing significant changes and developments in their lives.

### **The present study**

The objective of the present research was to examine the probability of suicide among university students, predicted by demographic characteristics (gender, age, employment status, university types), socio-cultural characteristics (family structure), as well as parental acceptance-rejection, emotional and social loneliness, and psychological flexibility. This study sought to answer the following questions: (1) To what extent do the demographic characteristics of university students (gender, age, employment status, university types) predict the probability of suicide? (2) To what extent do the socio-cultural characteristics of university students (family structure) predict the probability of suicide? (3) To what extent do parental acceptance-rejection, emotional and social loneliness, and psychological flexibility among university students predict the probability of suicide? Despite the existence of literature on the topic of suicide, the absence of research that examines all of the aforementioned variables collectively indicates that this project represents a significant contribution to the field, addressing a previously identified gap in knowledge. Furthermore, the project makes a significant contribution to the field by addressing loneliness through its social and emotional dimensions. The findings of the research serve as a valuable resource for mental health professionals engaged in the care of university students.

## **Method**

### **Research Design**

Correlational research design which is one of the quantitative research methods was used in the current study. The aim of the correlational research model is to ascertain whether the variables are subject to change in conjunction with one another and, if such a relationship exists, to determine the nature of that change (Karasar, 2005). This method was used to investigate the role of various factors, including demographic characteristics (gender, age, employment status, university types), socio-cultural characteristics (family structure), parental acceptance-rejection, emotional and social loneliness, and psychological flexibility on suicide. The dependent variable of the study was the probability of suicide, while the independent variables were identified as follows: demographic characteristics (gender, age, employment status, university types), socio-cultural characteristics (family structure), parental acceptance-rejection, social and emotional loneliness, and psychological flexibility.

### **Participants**

The research population comprises university students aged 18-29, enrolled in a range of faculties at state and foundation universities in Istanbul. According to the Higher Education Information Management System (YBYS), 1,299,390 students are studying in Istanbul in the 2021-2022 academic year. To determine the sample size within the scope of the study, the studies of Yazıcıoğlu and Erdoğan (2004) regarding the universe size and sample amounts to reduce possible sampling errors was taken as basis. In this direction, for  $\alpha = 0.05$ , the  $\pm 0.05$  sampling error in Yazıcıoğlu and Erdoğan's (2004) study was taken as basis. In this context, when 1,299,390 university students are taken as basis; the sample size was determined as 384. The study group comprises 400 university students (222 female, 178 male,  $M_{\text{age}} = 22.86$  years, standard deviation  $(SD)_{\text{age}} = 1.663$ ) who are currently enrolled at universities in Istanbul and have consented to participate in the research. A convenience sampling method was employed in the research, as this enables the sample to be accessed more readily and in a more practical manner due to limitations in financial, temporal, and human resources (Büyüköztürk et al., 2021). The socio-demographic characteristics of the participants are presented in Table 1.



**Table 1.** Demographic characteristics of the participants

Variables	Participants	<i>n</i>	%
Sex	Female	222	55.5
	Male	178	45.5
Employment Status	Yes	130	32.6
	No	270	67.3
University Types	Public	187	46.7
	Private	213	53.2
Parents' Marital Status	Married	204	73.4
	Divorced	91	26.5
Parents' Death Status	Both parents' death	91	22.8
	Both parents live	308	77.1
Living Arrangements	With parents	197	49.3
	With spouse	7	1.8
	With friend	22	5.5
	With relative	12	3.0
	Lonely	76	19.0
	In dorm	86	21.5

### Instruments

**Demographic Information Form** This form, prepared by the researcher, contained 16 questions to assess gender, age, type of university attended, employment status, marital status of parents, whether parents were alive and where they lived.

***Suicide Probability Scale (SPC):*** The SPC, developed by Cull and Gill (1990), consists of 36 items and is used to identify adolescents and adults at risk of suicide. It is a four-point Likert scale with options: 'Never or rarely - 1', 'Sometimes - 2', 'Often - 3' and 'Most of the time or always - 4'. It has four subscales: Hopelessness, Suicidal ideation, Negative self-evaluation and Hostility. The adaptation for clinical samples was carried out by Atlı and Eskin (2007; 2009). The adaptation revealed that the internal consistency coefficient of the total score was 0.89, while the internal consistency coefficients of the subdimensions ranged from 0.70 to 0.89. The reliability of the scale was tested using the split-half method, resulting in a reliability coefficient of 0.81 for the first half and 0.85 for the second half. In this study, the Cronbach alpha internal consistency coefficient for the suicide ideation subscale was found to be 0.953. The Hopelessness subscale, which was developed based on the relationship between feelings of hopelessness and suicidal behaviour, consists of 12 items with a score range from 12 to 48. In this study, the Cronbach alpha internal consistency coefficient for the Hopelessness subscale was found to be 0.816. The Hostility subscale contains a total of 7 items with a score range of 7 to 28. In this study, the Cronbach alpha internal consistency coefficient for the Hostility subscale was found to be 0.859. The Negative Self-Esteem subscale consists of a total of 9 items measuring a person's negative thoughts about themselves, with a score range of 9 to 36. In this study, the Cronbach alpha internal consistency coefficient for the Negative Self-Esteem subscale was found to be 0.890. Overall, the Cronbach alpha internal consistency coefficient of the scale was found to be 0.95.

***The Parental Rejection-Acceptance Scale (PRAS):*** Developed by Rohner et al. (1978), is a tool designed to assess an individual's perception of parental acceptance or rejection. The items in the PRAS are rated on a four-point Likert scale, with the following definitions: 'Almost Always True' is rated 4, 'Sometimes True' is rated 3, 'Rarely True' is rated 2, and 'Never True' is rated 1. The 60-item PRAS is comprised of five subscales, namely the Warmth/Affection subscale (20 items), the Hostility/Aggression subscale (15 items), the Neglect/Indifference subscale (15 items), the Undifferentiated Rejection subscale (10 items), and the Control subscale (13 items). The total score of the scale provides an overall indication of the extent to which an individual perceives acceptance or rejection in their relationship with their mother or father. The PRAS is completed separately for each parent. The assessment of perceived acceptance and rejection in the relationship

with the father is referred to as the "PRAS." The evaluation of perceived acceptance-rejection in the relationship with the father is referred to as "PRAS: Father," while the evaluation for the relationship with the mother is referred to as "PRAS: Mother." The scale should be completed separately for each parent. In this case, the evaluation of perceived acceptance-rejection in the relationship with the mother is referred to as "PRAS: Mother." The adaptation of the short form of the PRAS to the target language was conducted by Dedeler et al. (2017). The internal consistency for the entire scale was reported to be .92 for the mother's form and .96 for the father's form. The test-retest reliability coefficients ranged from 0.40 to 0.83 for the mother's form and from 0.86 to 0.96 for the father's form. Split-half reliability coefficients were found to be .88 for the mother's form and .94 for the father's form. In the present study, the Cronbach alpha internal consistency coefficient for the PRAS Father was determined to be 0.968, and a similar value was also found for the PRAS Mother (0.968).

***The Psychological Flexibility Scale (PFS):*** The PFS, developed by Francis, Dawson, and Golijani-Moghaddam (2016), comprises 28 items and five subscales: values-driven behavior, present awareness, acceptance, self-context, and defusion. Karakuş and Akbay (2020) undertook the Turkish adaptation of the scale. The lowest possible score that can be attained on the scale is 28, while the highest is 196. As the scores obtained from the items of the scale increase, so too does the psychological flexibility of the individuals in question. The Cronbach alpha internal consistency coefficients were found to be 0.84 for value-oriented behaviour, 0.60 for mindfulness, 0.72 for acceptance, 0.73 for contextual self, and 0.59 for differentiation. In the present study, the Cronbach's alpha coefficient for the values-driven behaviors .955, for present awareness .881, for acceptance .924, for self-context .905, for defusion .428 and for PFS was found to be .934.

***The Emotional and Social Loneliness Scale (ESLS):*** The ESLS was developed by DiTommaso and Spinner (1997) based on a multidimensional theory that aligns with Weiss's (1973) differentiation between emotional isolation (emotional loneliness) and social isolation (social loneliness). The scale was adapted to Turkish culture by Akgül (2020). The ESLS comprises 15 items and three subscales. The experience of emotional loneliness is gauged through the subscales pertaining to feelings of loneliness within familial and romantic relationships, whereas the assessment of social loneliness is conducted through the subscale focused on feelings of loneliness within social relationships. The Cronbach alpha internal consistency coefficients for the scale and its subscales were found to be 0.85 for the romantic emotional subscale, 0.76 for the familial emotional subscale, 0.82 for the social loneliness subscale, and 0.83 for the total score. In the present study, the Cronbach alpha internal consistency coefficient for the social loneliness subscale was found to be 0.958. The items comprising the Emotional Loneliness Subscale are divided into two subscales. The Family Subscale comprises items 1, 4, 8, 11 and 12, while the Romantic Subscale includes items 3, 6, 10, 14 and 15. In this study, the Cronbach's alpha coefficient was calculated for the LS over 15 items, yielding a value of .925. For the social loneliness subdimension, this value was .958, for the emotional loneliness subdimension it was .893, for the family subdimension it was .953, and for the romantic subdimension it was .835.

## Data Collection

Prior to the commencement of the data collection phase, the scales to be employed in the project were identified and the researchers responsible for the adaptation studies of the scales were contacted via email to request permission to proceed. Following the granting of permission by the researcher, an application for ethical approval was submitted to the Scientific Research and Ethics Committee of the university where the project was conducted. Once ethical approval had been granted, the survey link, comprising the scales and an informed consent form, was both uploaded to an online platform and printed in hard copy. A substantial proportion of the data (382 participants) was gathered through face-to-face interactions, while 18 individuals participated in the study via online platforms. The link to the research was initially disseminated by the researcher via their personal Instagram account and WhatsApp groups. The researcher requested assistance from social media followers to participate in the study and disseminate the link on their own social media accounts and WhatsApp groups. To collect data in person, the researcher visited the relevant universities, sometimes attending classes and sometimes reaching out to participants in social settings. Data were collected over a three-month period from 15 November 2023 to 15 February 2024. Responding to the research questions takes approximately 20 minutes.

## Data Analysis

The study was designed in accordance with the project's aims and employed statistical analysis methods appropriate to the research questions. The data were analysed using SPSS (Statistical Package for Social Sciences) version 25.0. To ascertain the socio-demographic characteristics of the participants, frequency (n) and percentage (%) values were calculated. Descriptive analyses were conducted on the total scores and subscale scores of the measurement tools employed in the project. The mean (M), standard deviation (SD), minimum (Min), and maximum (Max) values were calculated. The reliability of the measurement tools with respect to the project data was evaluated using Cronbach's alpha. The Cronbach's alpha coefficient was employed as an indicator of internal consistency reliability. The reliability coefficients were classified as follows: A reliability coefficient of  $0.00 \leq \alpha < 0.40$  is indicative of unreliable results, while a coefficient of  $0.40 \leq \alpha < 0.60$  suggests low reliability,  $0.60 \leq \alpha < 0.80$  indicates moderate reliability, and  $0.80 \leq \alpha < 1.00$  denotes high reliability (Kalaycı, 2006). The aforementioned reliability results were presented in accordance with the criteria.

The study data were examined for normal distribution using skewness and kurtosis values. In accordance with the guidelines set forth by Tabachnick and Fidell (2013), skewness and kurtosis values falling between -1.50 and +1.50 are indicative of a normal distribution. The capacity of the independent variables to predict the dependent variable was evaluated through the implementation of a hierarchical regression analysis. One of the fundamental assumptions of regression analysis is the existence of a relationship between the dependent variable and the independent variables. Accordingly, the Pearson Product-Moment Correlation Coefficient (Cohen et al., 2003) was employed to demonstrate the strength and direction of the relationship between the variables. Pearson correlation coefficients are classified into three distinct categories: Correlations of 0.70–1.00 are classified as high, 0.30–0.70 as moderate, and 0.00–0.30 as low (Godfrey, 1980). The results were interpreted with a significance level of 0.05;  $p < 0.05$  indicated a significant difference, while  $p > 0.05$  indicated no significant difference.

## Results

Descriptive analyses of the total scores and sub-dimensions of the measurement tools used to determine the dependent variable (suicide probability) and three independent variables (parental rejection-acceptance, social and emotional loneliness, and psychological flexibility) of this study are given in Table 2.

**Table 2.** Arithmetic Mean, Standard Deviation, Normality Values of Variables

Variables	$\bar{X}$	SS	Min.	Max.	Skewness	Kurtosis	Cronbach Alpha
SP_Sum	70.43	19.93	39	138	1.188	1.277	.953
PARQ_Mother_Sum	80.11	17.79	24	96	-1.331	1.336	.813
Maternal_Warmth	16.11	7.66	9	36	.950	-.086	.955
Maternal_Hostility	20.18	4.46	6	24	-1.364	1.346	.859
Maternal_Neglect	17.22	14.97	19	95	-1.604	1.678	.918
Maternal_Rejection	13.81	3.30	4	16	-1.659	1.824	.895
PARQ_Father_Sum	12.01	18.99	24	96	-1.299	-1.131	.821
Paternal_Warmth	18.56	8.20	9	36	.504	-.820	.958
Paternal_Hostility	19.93	4.99	6	24	-1.376	.982	.900
Paternal_Neglect	15.57	4.67	5	20	-.867	-.429	.899
Paternal_Rejection	13.72	3.48	4	16	-1.528	1.193	.917
SEL_Sum	46.83	24.20	15	105	.666	-.395	.925
Social_Lon.	14.34	9.93	5	35	.883	-.513	.953
Emotional_Lon.	32.49	16.45	10	70	.424	-.705	.893
PF_Sum	129.35	31.80	44	193	-.207	-.190	.934
VD_Behavior	51.29	13.97	10	70	-1.090	.733	.955
Present_Awareness	31.19	10.65	7	49	-.145	-.757	.881
Acceptance	22.05	9.67	5	35	-.062	-1.388	.924
Self_Context	13.14	5.15	3	21	-.315	-.986	.905
Defuison	11.66	3.80	3	21	-.432	-.463	.428

Note: SP: Suicide Probability, PARQ: Parental Acceptance Rejection, SEL: Social Emotional Loneliness, Social Lon = Social Loneliness, Emotional Lon = Emotional Loneliness, PF= Psychological Flexibility, VD: Behavior= Values Driven Behavior



The skewness, kurtosis, means, SDs and Cronbach's alpha among all the variables are presented in Table 2. The results of the Pearson correlation coefficient analysis, which was employed to investigate the relationship between the dependent variable, suicide probability; and the independent variables, namely gender, age, employment status, university type, parental marital status, parental death, living arrangements, parental acceptance-rejection, psychological flexibility, and social and emotional loneliness, was presented in Table 3.

**Table 3.** Intercorrelation between variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. SP	1																					
2. Gender	.111**	1																				
3. Age	-.089	-.023	1																			
4. WS	.009	-.0179**	-.236**	1																		
5. UT	-.086	-.012	-.014	.108*	1																	
6. PMS	.222**	.032	.130*	-.124*	-.053	1																
7. PDS	.219**	.162**	.129**	-.231**	-.128**	.080	1															
8. LA	.053	.026	-.092	-.067	-.155**	.020	.163**	1														
9. MA	-.493**	-.137**	.059	-.026	.030	-.293**	-.050	.012	1													
10. MH	.403**	.075	-.032	.042	.010	.273**	.073	.014	-.708**	1												
11. MN	.429**	.017	-.056	.094	.022	.259**	.034	.000	-.733*	.777*	1											
12. MR	.458**	.093	.060	-.003	.001	.340**	.078	.018	-.747**	.883**	.800	1										
13. PW	-.554**	-.138**	.090	.101*	.035	-.281**	.127*	.024	.380**	-.207**	-.237**	-.243**	1									
14. PH	.537**	.221**	-.123*	-.046	-.026	.159**	.120*	-.022	-.271**	.357**	.282**	.390**	-.627**	1								
15. PN	.524**	.096	-.083	-.085	-.053	.319**	.139**	.067	-.332**	.329**	.398**	.356**	-.771**	.653**	1							
16. PR	.608**	.174**	-.078	-.065	-.043	.217**	.124**	.001	.294**	.353**	.302**	.431**	-.679**	.889**	.735**	1						
17. VDB	-.771**	-.120*	.089	-.040	.094	-.205**	-.263**	-.068	.511**	-.398**	-.429**	-.453**	.415**	-.420**	-.430**	-.460**	1					
18. PA	-.602**	.060	.105*	-.062	-.021	-.165**	-.016	.056	.326**	-.338**	-.299**	-.323**	.324**	-.339**	-.365**	-.385**	.530**	1				
19. AC	-.204**	-.418**	.044	-.083	-.073	.016	.075	.056	-.021	-.043	-.038	-.007	.104*	-.103	-.146**	-.069	.062	.503**	1			
20. SC	-.518**	.256**	.071	-.088	.021	-.080	-.130**	.044	.161**	-.165**	-.158**	.146**	.306**	-.157**	.334**	.237**	.489**	.413**	.624**	1		
21. DE	-.454**	.186**	.026	-.102**	-.044	.025	-.044	-.031	.167**	-.146**	-.121**	-.149**	.185**	-.129**	-.210**	-.199**	.415**	.223**	.319**	.657**	1	
22. SL	.513**	.028	-.184**	.096	.097	.037	.083	.209	-.271**	.212**	.280**	.247**	-.262**	.300**	.250**	.328**	-.478**	-.312**	-.136**	-.351**	-.281	1
23. EL	.581**	.020	-.160**	.051	.004	.204**	.117**	-.007	-.433**	.335**	.359**	.367**	-.374**	.391**	.356**	.440**	-.558**	-.415**	-.149**	-.331**	-.258**	.662

Note: SP suicide probability, WS working status, UT university types, PMS parents' marital status, PDS parents' death status, LA living arrangements, MA maternal warmth, MH maternal hostility, MN maternal neglect, MR maternal rejection, PW paternal warmth, PH paternal hostility, PN paternal neglect, PR paternal rejection, VDB values-driven behaviors, PA present awareness, AC acceptance, SC self-context, DE defusion, SL social loneliness, EL emotional loneliness. Gender was dummy-coded where 1 = female and 2 = male. Marital status was dummy-coded where 1 = single and 2 = married. Parent's Alive/Dead Status was dummy-coded where 1 = parent's alive and 2 = parent's death. \* $p < .05$  \*\* $p < .01$

As illustrated in Table 3, there was a positive correlation between suicide probability and gender ( $r = .111$ ,  $p < .01$ ), parents' marital status ( $r = .222$ ,  $p < .01$ ) and parents' alive or dead status ( $r = .219$ ,  $p < .01$ ). On the other hand, there was no significant correlation was observed between suicide probability and age ( $r = -.089$ ,  $p > .05$ ), working status ( $r = .009$ ,  $p > .05$ ), university types ( $r = -.086$ ,  $p > .05$ ), or living arrangements ( $r = .053$ ,  $p > .05$ ). With regard to maternal and paternal factors, a significant negative correlation was found between suicide probability and maternal warmth ( $r = -.493$ ,  $p < .01$ ). But, there was a significant positive correlations between suicide probability and maternal hostility ( $r = .403$ ,  $p < .01$ ), maternal neglect ( $r = .429$ ,  $p < .01$ ), and maternal rejection ( $r = .458$ ,  $p < .01$ ). Similarly, paternal warmth ( $r = -.554$ ,  $p < .01$ ) was found to have a significant negative correlation with suicide probability. In contrast, paternal hostility ( $r = .537$ ,  $p < .01$ ), paternal neglect ( $r = .524$ ,  $p < .01$ ), and paternal rejection ( $r = .608$ ,  $p < .01$ ) demonstrated significant positive moderate correlations. For psychological flexibility, there was a significant negative correlation between suicide probability and values-driven behaviour ( $r = -.771$ ,  $p < .01$ ), present awareness ( $r = -.602$ ,  $p < .01$ ), while acceptance, self-context, and defusion exhibited significant, negative correlations with suicide probability ( $r = -.204$ ,  $p < .01$ ;  $r = -.518$ ,  $p < .01$ ;  $r = -.454$ ,  $p < .01$ , respectively). Furthermore, social loneliness ( $r = .513$ ,  $p < .01$ ) and emotional loneliness ( $r = .581$ ,  $p < .01$ ) demonstrated significant positive correlations with suicide probability.

The aim of the current study was to investigate whether the probability of suicide among university students predicted by demographic characteristics (gender, age, employment status, university types), socio-cultural characteristics (family structure), parental acceptance or rejection, emotional and social loneliness, and psychological flexibility. To address this question, a hierarchical regression analysis was utilized. The order

of variables in the hierarchical regression analysis was determined in accordance with the theoretical framework proposed by Ryan (2008).

In the first model, the socio-demographic characteristics of university student (gender, age, employment status, university types, and family structure) were entered as predictors. In the second model, maternal factors from the parental acceptance-rejection scale were added, including maternal rejection, maternal warmth, maternal neglect, and maternal hostility. Paternal factors from the parental acceptance-rejection scale, including paternal rejection, paternal warmth, paternal neglect, and paternal hostility were added in the third model. Psychological flexibility was added into the fourth model. Finally, in the fifth model, social and emotional loneliness were added. The results of the specified model were presented in Table 4.

**Table 4.** Hierarchical multiple regression analysis results

Model	Predicting Variables	<i>B</i>	$\beta$	<i>t</i>	<i>p</i>	<i>R</i> <sup>2</sup> <sub>adj</sub>	$\Delta R^2$	<i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>
Model 1	Gender	3.176	.079	1.629	.104	.123	.123	.107	7.819	.000
	Age	-1.528	-	-	.011					
	Working tatus	3.246	.128	2.566	.133					
	University types	-2.249	-.056	-1.165	.245					
	Parents' marital status	10.162	.225	4.689	.000					
	Parents' death status	10.244	.216	4.305	.000					
	Living arrangements	-.053	-.003	-.067	.946					
Model 2	Gender	.979	.024	.588	.577	.320	.198	.301	28.131	.000
	Age	-1.343	-	-	.013					
	Working status	1.644	.039	.854	.394					
	University types	-2.105	-.053	-1.229	.220					
	Parents' marital status	2.184	.062	1.375	.170					
	Parents' death status	9.331	.197	4.421	.000					
	Living arrangements	.235	.015	.340	.734					
	Maternal warmth	-.775	-.298	-4.348	.000					
	Maternal hostility	-.645	-.145	-1.543	.124					
	Maternal neglect	.332	.069	.891	.374					
	Maternal rejection	1.663	.276	2.639	.009					
	Gender	-1.093	-.027	-.724	.470					
	Age	-.399	-.033	-.861	.390					
	Working Status	2.751	.065	1.686	.093					
Model 3	University types	-1.698	-.043	-1.174	.241	.522	.202	.504	40.449	.000
	Parents' marital status	-.020	.000	-.011	.991					
	Parents' death status	7.231	.152	4.041	.000					

Table 4. (Continued)

	Living arrangements	.425	.027	.724	.470						
	Maternal warmth	-.641	-	-	.000						
	Maternal hostility	-.283	.247	3.793	.430						
	Maternal neglect	.581	-.064	-.789	.085						
	Maternal rejection	.165	.121	1.727	.775						
	Paternal warmth	-.493	-.027	-.286	.002						
	Paternal hostility	-.200	-.203	3.076	.534						
	Paternal neglect	-.310	-.050	-.622	.293						
	Paternal rejection	2.600	-.073	1.053	.000						
			.453	4.950							
Model 4	Gender		2.470	.062	2.072	.039	.763	.240	.750	76.543	.000
	Age		-.007	-	-.020	.984					
				.001							
	Working status		.027		.023	.982					
				.001							
	University types		-	-	-1.603	.110					
			1.664	.042							
	Parents' marital status		.724	.016	.560	.576					
	Parents' death status		2.528	.053	1.8966	.059					
	Living arrangements		.389	.024	.928	.354					
	Maternal warmth		-.121	-	-.970	.333					
				.047							
	Maternal hostility		-.431	-	-1.657	.098					
				.097							
	Maternal neglect		.737	.153	3.051	.002					
	Maternal rejection		.083	.014	.201	.841					
	Paternal warmth		-.420	-	-3.667	.000					
				.173							
	Paternal hostility		-.001	.000	-.004	.997					
	Paternal neglect		-.692	-	-3.283	.001					
				.162							
	Paternal rejection		1.502	.262	3.977	.000					
	Values-driven behavior		-.452	-	-7.094	.000					
				.317							
	Present awareness		-.455	-	-6.228	.000					
			.243								
Acceptance		.067	.033	.740	.460						
Self-context		-.422	-	-2.246	.025						
			.109								
Defusion		-.801	-	-4.342	.000						
			.153								
Model 5	Gender		2.496	.062	2.124	.034	.772	.009	.758	7.522	.001
	Age		.167	.014	.510	.610					
	Working status		-.041	-	-.036	.971					
				.001							
	University types		-	-	-2.134	.034					
			2.201	.055							
	Parents' marital status		.779	.017	.607	.544					
	Parents' death status		2.437	.051	1.857	.064					
	Living arrangements		.362	.023	.877	.381					
	Maternal warmth		-.096	-	-.767	.443					
				.037							
	Maternal hostility		-.360	-	-1.400	.162					
				.081							
	Maternal neglect		-.628	.130	2.623	.009					
	Maternal rejection		.098	.016	.242	.809					

Table 4. (Continued)

Paternal warmth	-.413	-	-3.661	.000
		.170		
Paternal hostility	-.016	-	-.072	.943
		.004		
Paternal neglect	-.602	-	-2.884	.004
		.141		
Paternal rejection	1.333	.233	3.548	.000
Values-driven behavior	-.397	-	-6.155	.000
		.278		
Present awareness	-.446	-	-6.210	.000
		.238		
Acceptance	.068	.033	.762	.447
Self-context	-.350	-	-1.880	.061
		.091		
Defusion	-.796	-	-4.388	.000
		.152		
Social Loneliness	.190	.095	2.701	.007
Emotional Loneliness	.043	.036	.945	.345

\* $p < .05$

## Discussion and Conclusion

The aim of the study was to examine the probability of suicide among university students was predicted by demographic characteristics (gender, age, employment status, university types), socio-cultural characteristics (family structure), as well as parental acceptance-rejection, emotional and social loneliness, and psychological flexibility. The findings indicated a statistically significant positive correlation between suicide probability and gender, with females exhibiting a higher risk of suicide. However, gender does not predict the probability of suicide among university students. In contrast with the findings of this study, research conducted by Zhai et al. (2015) demonstrated that suicide ideation scores were significantly higher among female university students. Similarly, Özel et al. (2015) found that the probability of suicide was higher among female university students. In a study involving 366 university students, Pereira and Cardoso (2015) also found that female university students exhibited higher suicide probability levels compared to male students. There may be several potential explanations for why female university students have significantly higher suicide probability scores compared to their male counterparts. Firstly, when we look at Turkish culture, in a study conducted by Deniz et al. (1995) in Batman province, it was found that women are more likely to commit suicide than men. This situation is common in Turkey because of the patriarchal system. In patriarchal societies, women are regarded as second-class citizens, often deprived of educational and economic opportunities (Deniz et. al., 1995). Keeping girls away from education, early marriages without official registration, marriages between relatives, polygamy and traditions such as bride exchange increase the risk of women attempting suicide. (Deniz et. al., 1995). Secondly, a study conducted by Karbeyaz et al. (2016) identified the imposition of family and societal pressures as a key factor influencing the suicide probability of female university students. Specifically, societal pressures, coupled with women's inability to work and their lower socio-economic status, serve to increase their suicide probability (Van Bergen et al., 2021). Furthermore, the literature identifies relationship stress among female university students as a risk factor for suicide probability (Seeman et al., 2017).

No significant correlation was identified between suicide probability and age in the current study. This finding aligns with the restricted age range of university students included in the sample, as well as the absence of an older comparison group, which limits the ability to explore age-related differences comprehensively. While previous studies, such as those by Özel et al. (2015), McKean et al. (2018), and Choi et al. (2017), have identified variations in suicide probability across broader age ranges, these findings cannot be directly compared with the present study due to its focus on university students within a narrower age bracket.

The probability of suicide was not found to be significantly associated with the employment status of university students. Furthermore, employment status does not predict the probability of suicide among university

students. In a longitudinal study conducted by Kposowa et al. (2019), a positive and statistically significant relationship was identified between unemployment and suicide. Moreover, in the study conducted by Ekici et al. (2001), 508 cases of suicide in Istanbul between 1996-1997 were examined and it was determined that the highest suicide rate was among the unemployed. In addition, Bayrak (2018) found a positive significant relationship between unemployment and suicide in his longitudinal study in Turkey. In his study, Korkmazer (2020) found that university students' anxiety regarding their career expectations, concerns about the future, and the associated worry about having or not having a job significantly impact their mental health. These findings can be explained by several factors. The situation highlighted in the study by Aytaç and Dursun (2009) also carries profound meaning in a cultural context. In collectivist cultures like Turkey, individuals' contributions to society and their employment status are seen as significant components of their identity (Dumludag et al., 2016). In this regard, unemployment can be considered not only an economic issue but also a factor that affects an individual's social dignity and self-worth. In countries with high unemployment rates, such as Turkey, the societal pressures placed on unemployed individuals can lead to chronic stress, hopelessness, and an increased vulnerability to mental health issues, including depression and suicidal ideation (Tunalı & Özkaya, 2016).

No significant correlation was identified between the probability of suicide and the type of university attended. Furthermore, the type of university does not appear to be a predictor of the probability of suicide. In a study conducted by Urme et al. (2022), it was concluded that suicide rates were higher among students attending public universities. The same study identified academic stress, lack of social support and financial crisis as factors affecting the probability of suicide among students. It is possible that university students at public institutions may have lower socio-economic levels in comparison to those at private institutions. Berkelmans et al. (2021) found that individuals with socio-economic disadvantages had a higher probability of suicide. In the study by Tektaş and Pala (2014), the hopelessness levels of students from state and private universities were examined, revealing that students at state universities had higher hopelessness scores. This finding is believed to stem from the lower income status of state university students compared to their peers at foundation universities, leading to heightened concerns about their future (Tektaş & Pala, 2014). Also, in a study conducted by Arıkan et al. (2020) with students from Dumlupınar University, it was found that male students exhibited more risky behaviors (such as smoking and drug use), while female students showed a higher likelihood of suicide. Further research is needed to fully understand the impact of university type on the probability of suicide among university students.

The findings indicated a statistically significant positive correlation between suicide probability and parents' marital status of university students, with parental divorce exhibiting a higher risk of suicide. However, parents' marital status does not predict the probability of suicide among university students. Contrary to the findings of this study, Bilsen (2018) found that negative family environments are associated with an increased probability of suicide among adolescents. For example, children of parents experiencing marital issues or divorce have been observed to exhibit elevated levels of suicidal risk compared to children of non-divorced parents (Chen et al., 2020). Furthermore, studies examining the factors associated with the probability of suicide among university students have identified that students with divorced parents are more likely to engage in suicidal behaviors (Zhai et al., 2015). From a cultural perspective, these findings can be further contextualized within societies where traditional family structures are highly valued, such as Turkey and many other collectivist cultures. In these settings, the family is often seen as a cornerstone of societal stability, and parental divorce may be perceived as a significant disruption to this norm (Chadda & Deb, 2013). The stigma surrounding divorce in such cultures may lead children of divorced parents to feel alienated, judged, or unsupported by their extended social networks (Yip et al., 2015). This lack of perceived social support can amplify feelings of loneliness and despair, contributing to an increased risk of suicide.

Additionally, societal attitudes toward divorce in Turkey can further exacerbate the psychological distress experienced by university students. Divorce is often stigmatized, and children of divorced parents may face judgment or pity from their communities (Wallerstein, 1991). A significant positive correlation exists between the probability of suicide and the status of parental survival among university students. The loss of a parent is



a significant risk factor for suicide. In a study conducted by Peng et al. (2022), it was found that individuals who experienced parental loss between the ages of 7 and 12 later exhibited symptoms of depression and developed suicidal thoughts. Furthermore, individuals who lost a parent at an early age demonstrated a reduction in interest in pursuing higher education or exhibited withdrawal behaviours from the university environment (Feigelman et al., 2017). Similarly, in a study by Karakar (2012), some participants aged 18 and older, who had experienced parental loss within the past 10 years and attended primary or secondary school in Northern Cyprus, exhibited lower academic performance, reduced grades, less participation in classes, and decreased interest in social activities. Additionally, another study observed that individuals who had lost a parent exhibited an increase in suicidal thoughts at the age of 19 (Asgari & Naghavi, 2020). Also, a study by Aktepe et al. (2006) concluded that adolescents who had experienced the loss of a parent were more likely to attempt suicide. The loss of parents has been observed to affect university students in a number of ways. It is noteworthy that a study by Elbel (2023) found that the loss of primary social support networks is associated with increased stress and anxiety levels. Individuals who have lost their parents frequently exhibit a deficiency in robust social support networks (Elbel, 2023). The disruption of family structure may result in the weakening of support systems, which can, in turn, lead to an increase in stress and anxiety levels among individuals. Moreover, another study revealed that university students who had lost a parent exhibited markedly lower levels of self-compassion compared to those with living parents (Çelik & Tanacioğlu, 2024). This finding indicates that the presence of at least one deceased parent among university students is significantly associated with an increased probability of suicidal behavior. The link between parental loss and suicide probability is an anticipated outcome in the existing literature.

No significant relationship was identified between the probability of suicide and the living arrangements of university students, nor was any impact on suicide risk observed. In a study conducted by Peltzer et al. (2017), it was found that among 4,675 university students in Asia, those who resided with their families were more likely to engage in suicidal behavior than those who lived separately. Furthermore, students who were not residing in dormitories reported a higher prevalence of suicidal thoughts than those who were (DiBello et al., 2019). This may be attributed to the restricted availability of alcohol and drugs in dormitories (DiBello et al., 2019) and the enhanced accessibility of mental health services for on-campus students (Chen et al., 2020). However, Lester (2014) observed that students residing on campus exhibited higher rates of depression and suicidal ideation compared to those living with parents or in off-campus accommodations. The conflicting results may be attributed to various factors, including low autonomy and negative coping strategies among students residing with their families during the pandemic (Hall & Zygmunt, 2021), as well as issues such as family conflicts or a lack of support (Peltzer et al., 2017). Loneliness and social isolation may also contribute to elevated depression and suicide risk among campus residents (Chen, 2022). Additionally, conflicts with roommates have been shown to negatively impact lifestyle and academic performance (Nourafkan et al., 2020).

A significant relationship was identified between suicide probability and parental acceptance-rejection subdimensions. A negative correlation was identified between suicide risk and maternal and paternal warmth, while a positive correlation was observed between suicide risk and maternal and paternal hostility, neglect, and rejection. In university students, paternal warmth was found to have a protective effect against suicide risk, whereas paternal and maternal neglect and paternal rejection were identified as risk factors. According to PRAT the need to feel warmth is universal across humanity, independent of culture, race, physical traits, social status, language, or geography (Rohner, 2005). One of the theory's key hypotheses is that parental behaviors leading to acceptance or rejection can vary culturally (Rohner, 2005). Comparative studies conducted in the United States and Turkey reveal that parental rejection is more prevalent in Turkey (Kavak, 2013). The socio-cultural systems model proposed by PARTheory explains that the behaviors of parents from different socio-cultural levels tend to focus on rejection (Rohner, 2005). This finding aligns with research in Turkey showing that mothers from lower socio-cultural backgrounds are more likely to display rejecting behaviors toward both their sons and daughters (Toran, 2005). Also the extant literature confirms that individuals facing parental rejection are at an elevated risk for suicide and mental health issues, whereas those who feel accepted exhibit

fewer suicidal thoughts (Cawley et al., 2019; Rashid et al., 2018). The father-child relationship is of particular importance, as children often model social and emotional behaviours on parents. Negative paternal attitudes have been linked to an elevated risk of mental health issues, with rejection identified as a factor associated with an increased probability of suicide (Masarik & Conger, 2017; Zheng et al., 2023). These findings support the protective role of parental affection against suicide risk among young adults.

Research findings indicated a negative correlation between suicide probability and psychological flexibility dimensions, including values-driven behavior, present-moment awareness, self-as-context, and defusion. These factors have been demonstrated to significantly reduce suicide probability, as evidenced by regression analyses. Among these, values-driven behavior stands out as the strongest predictor possibility of suicide. Swettenham and Whitehead (2022) found that individuals struggling with distressing thoughts and emotions related to self-injury were able to overcome these experiences more quickly through the psychological flexibility dimension of values-driven behavior. Also, the study conducted by Fonseca et al. (2020) concluded that engaging in values-based actions may shield individuals from the adverse effects of major life events, particularly in relation to depressive symptoms. Additionally, Collis and Winters (2018) emphasized the significance of the psychological flexibility dimension utilized in acceptance and commitment therapy, highlighting that values-driven behavior practices play a crucial role in reducing stress levels in individuals. Those with inflexible personalities are more susceptible to suicidal ideation because of their inability to effectively cope with stress and negative emotions (Krafft et al., 2019). Numerous studies have demonstrated a correlation between low psychological flexibility and an increased risk of self-harm, as well as a range of mental health issues, including depression, anxiety, and substance abuse (Chou et al., 2018; Levin et al., 2014). Psychological flexibility acts as a buffer, enhancing resilience against stress and depressive symptoms, thereby constituting a crucial protective factor (Doorley et al., 2020; Hirsch et al., 2019). The extant research confirms that a higher level of psychological flexibility is predictive of a lower incidence of suicidal thoughts and serves as a protective factor (McCracken et al., 2018; Guo et al., 2022; Türk et al., 2024).

A positive correlation exists between suicide probability and both social and emotional loneliness; however, only social loneliness significantly predicts suicide probability. According to Yaşar (2007), the experience of loneliness carries significantly different meanings across various regions. In Mediterranean cultures, where interpersonal distance is minimal and relationships are close, loneliness often implies being abandoned or isolated. In contrast, in Western societies, loneliness is associated with individualization and self-reliance. Social loneliness, as defined by Weiss (1974), refers to the lack or absence of social connections with others. Consequently, while social loneliness may not have negative implications in Western cultures, it can lead to adverse outcomes in Mediterranean and Eastern cultures (Ulutaş & Gökçen, 2019). Gomboc et al. (2022) identified that young adults (18-29 years old) exhibited the highest rates of suicidal thoughts, with emotional loneliness identified as a risk factor in this age group and social loneliness affecting older adults. In this study, social loneliness was identified as a significant factor influencing suicide probability among university students. This is likely due to the prevalence of superficial social media interactions, which may intensify feelings of isolation (Uyaroğlu et al., 2022). The formation of new social networks during university life can intensify social loneliness (Zahedi et al., 2022). Furthermore, those lacking meaning or purpose tend to experience social loneliness more deeply (Özdoğan, 2021). These findings are consistent with existing research, which highlights social loneliness as a predictor of suicide risk in university students.

### Implications

In light of the findings of this research, it is crucial to recognize the complex nature of correlations among multitude of factors that contribute to the probability of suicide among university students. The findings underscore the pivotal influence of parental acceptance-rejection dynamics, emotional and social loneliness, and psychological flexibility on students' mental health outcomes. It is therefore incumbent upon educational institutions and mental health professionals to give priority to the development and implementation of targeted intervention program designed to address these specific factors.

It is recommended that educational programs place an emphasis on the enhancement of psychological

flexibility, as this has been identified as a key protective factor against suicidal thoughts and behaviors. The findings of this study highlight that values-driven behavior is the most significant predictor of suicide probability among university students. This underscores the importance of aligning one's actions with personal values as a protective mechanism against suicidal thoughts and behaviors. Future research should delve deeper into understanding how values-driven behavior operates across diverse populations and cultural contexts to mitigate suicide risk. Additionally, researchers should explore intervention designs that specifically target the enhancement of values-driven behavior, such as incorporating this dimension into therapeutic frameworks like Acceptance and Commitment Therapy (ACT). Longitudinal studies examining the long-term effects of fostering values-driven behavior on mental health outcomes could provide valuable insights. Training sessions that teach coping strategies, stress management, and emotional regulation can equip students with the tools to more effectively navigate the challenges of university life. Moreover, educational institutions should foster awareness of the detrimental effects of emotional and social loneliness, particularly in the context of social media interactions, which can exacerbate feelings of isolation. The implementation of peer support programmes may facilitate the fostering of meaningful connections and the reduction of feelings of loneliness amongst students.

Furthermore, the impact of parental relationships on students' mental health highlights the importance of implementing supportive family engagement strategies. It may be beneficial for universities to consider the establishment of workshops for parents, with the objective of educating them about the impact of their acceptance or rejection on their children's emotional well-being. Such initiatives have the potential to foster healthier family dynamics, which in turn could lead to improved mental health outcomes for students.

### Limitations

It is important to consider the limitations of this research, which are inherent to the nature of the study. Firstly, it is important to consider the limitations of the sample. The research was conducted exclusively with university students aged between 18 and 29, enrolled at universities in Istanbul. This considerably restricts the applicability of the findings to individuals from disparate demographic groups or geographic regions. It is therefore recommended that the results of this study be compared with those of research conducted in different cities. Furthermore, one significant limitation is the absence of a clinical sample, which restricts the ability to generalize findings to individuals with clinically significant levels of distress or suicidal ideation. Additionally, the cross-sectional design precludes establishing strong causal inferences, highlighting the need for future research employing longitudinal or experimental designs to explore the directionality and causality of relationships.

Furthermore, extending the age range would facilitate an investigation of the suicide probability across diverse age groups. This would enhance comprehension of age-related alterations and discrepancies in suicide probability. However, it is noteworthy that the study was constrained by limited access to participants in the 18-19 age group, with the majority of the sample comprising individuals around 23 years old. This may impede an adequate representation of age-related experiences.

Additionally, the probability of suicide could be examined in the context of other influential variables, such as meaning or meaninglessness in life, positive or negative childhood experiences, and overall life satisfaction. Incorporating these variables into future studies could provide a more nuanced understanding of suicide risk factors.

Importantly, values-driven behavior was identified as the strongest predictor of suicide probability in this study. Future research could delve deeper into this variable by exploring its role across different cultural, socioeconomic, and clinical contexts. Experimental interventions, such as Acceptance and Commitment Therapy (ACT), targeting values-driven behavior could also be designed to evaluate its direct impact on suicide risk reduction. These steps would enhance the generalizability and practical applicability of the findings,

contributing to more effective prevention strategies.

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## References

- Afifi, T.O.; Boman, J.; Fleisher, W.; Sareen, J. The relationship between child abuse, parental divorce, and lifetime mental disorders and suicidality in a nationally representative adult sample. *Child Abuse Neglect* 2009, 33, 139–147. DOI: [10.1016/j.chiabu.2008.12.009](https://doi.org/10.1016/j.chiabu.2008.12.009)
- Akgül, H. (2020). Yetişkinler İçin Sosyal ve Duygusal Yalnızlık Ölçeği'nin (SELSA-S) Türk Kültürüne Uyarlaması: Geçerlilik ve Güvenirlik Çalışması, *Yalova Üniversitesi Sosyal Bilimler Dergisi*, 10(21), 54-69.
- Aktepe, E., Kandil, S., Göker, Z., Sarp, K., Topbaş, M., & Özkorumak, E. (2006). İntihar girişiminde bulunan çocuk ve ergenlerde sosyodemografik ve psikiyatrik özelliklerin değerlendirilmesi. *TAF Preventive Medicine Bulletin*, 5(6). DOI: [https://doi.org/10.1501/Kriz\\_0000000295](https://doi.org/10.1501/Kriz_0000000295)
- Arensman, E., Scott, V., De Leo, D., & Pirkis, J. (2020). Suicide and suicide prevention from a global perspective. *Crisis*. DOI: <https://doi.org/10.1027/0227-5910/a000664>
- Arıkan, İ., Yavuz, B., Yiğit, D., & Ece, E. (2017). Üniversite öğrencilerinde riskli davranışlarla ilişkili faktörlerin incelenmesi: Bir devlet üniversitesi örneği. *Çağdaş Tıp Dergisi*, 7(4), 348-354. DOI: <https://doi.org/10.16899/gopctd.290382>
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55 (5), 469-480. DOI: <https://doi.org/10.1037/0003-066X.55.5.469>
- Asgari, Z., & Naghavi, A. (2020). The experience of adolescents' post-traumatic growth after sudden loss of father. *Journal of Loss and Trauma*, 25(2), 173–187. DOI: <https://doi.org/10.1080/15325024.2019.1664723>
- Aslan, B. (2014). *Ebeveyn kabul reddi ve intihar olasılığı: yaşam amaçları ve yalnızlık açısından bir değerlendirme* (Master's thesis, Sosyal Bilimler Enstitüsü).
- Aslan, B., & Batıgün, A. D. (2017). Ebeveyn kabul/reddi ile intihar olasılığı arasındaki ilişkide yaşam amaçlarının aracı rolü. *Türk Psikoloji Dergisi*, 32(79), 67.
- Atlı, Z. (2007). İntihar olasılığı ölçeği (İÖÖ)'nin klinik örneklemdeki geçerlik ve güvenirlik Çalışması (Yayımlanmamış yüksek lisans tezi). Adnan Menderes Üniversitesi Sağlık Bilimleri Enstitüsü, Aydın)
- Atlı, Z., Eskin, M. ve Dereboy, Ç. (2009). İntihar olasılığı ölçeğinin (İÖÖ) klinik örneklemde geçerlik ve güvenirliği. *Klinik Psikiyatri*, 12, 111-124.
- Aytaç, S. S., & Dursun, S. (2009). Üniversite öğrencileri arasında işsizlik kaygısı. *Bursa Uludağ Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 28(1), 71-84.

- Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development*, 65(4), 1120-1136.
- Bayrak, S. (2017). İşsizliğin intihar üzerindeki etkileri: Türkiye İçin bir nedensellik analizi. *Sakarya Üniversitesi Çalışma Ekonomisi ve Endüstri İlişkileri Bölümü, Sosyal Siyaset Konferansları Dergisi*, 73(2), 125-141.
- Benton, S. A., Robertson, J. M., Tseng, W., Newton, F. B., & Benton, S. L. (2003). Changes in counseling center client problems across 13 years. *Professional Psychology: Research and Practice*, 34(1), 66-72. doi:10.1037/0735-7028.34.1.66. DOI: <https://doi.org/10.1037/0735-7028.34.1.66>
- Berkelmans, G., van der Mei, R., Bhulai, S., & Gilissen, R. (2021). Identifying socio-demographic risk factors for suicide using data on an individual level. *BMC Public Health*, 21, 1-8. DOI: [10.1186/s12889-021-11743-3](https://doi.org/10.1186/s12889-021-11743-3)
- Berman, A. L. (2018). Risk factors proximate to suicide and suicide risk assessment in the context of denied suicide ideation. *Suicide and Life-Threatening Behavior*, 48(3), 340-352. DOI: [10.1111/sltb.12351](https://doi.org/10.1111/sltb.12351)
- Bilsen, J. (2018). Suicide and youth: risk factors. *Frontiers in Psychiatry*, 9, 540. DOI: <https://doi.org/10.3389/fpsy.2018.00540>
- Buri, J. R., Louiselle, P. A., Misukanis, T. M., & Mueller, R. A. (1988). Effects of parental authoritarianism and authoritativeness on self-esteem. *Personality and Social Psychology Bulletin*, 14(2), 271-282. DOI: <https://doi.org/10.1177/0146167288142006>
- Büyüköztürk, Ş., Kılıç-Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2016). Bilimsel Araştırma Yöntemleri. *Pegem Akademi, Ankara*. DOI: [10.14527/9789944919289](https://doi.org/10.14527/9789944919289)
- Cawley, R., Pontin, E. E., Touhey, J., Sheehy, K., & Taylor, P. J. (2019). What is the relationship between rejection and self-harm or suicidality in adulthood?. *Journal of affective disorders*, 242, 123-134. DOI: <https://doi.org/10.1016/j.jad.2018.08.082>
- Chadda, R. K., & Deb, K. S. (2013). Indian family systems, collectivistic society and psychotherapy. *Indian journal of psychiatry*, 55(Suppl 2), S299-S309 DOI: 10.4103/0019-5545.105555
- Chang, E. C., Chang, O. D., Martos, T., Sallay, V., Lee, J., Stam, K. R., ... & Yu, T. (2017). Family support as a moderator of the relationship between loneliness and suicide risk in college students: Having a supportive family matters! *The Family Journal*, 25(3), 257-263. DOI: <https://doi.org/10.1177/1066480717711102>
- Chen, J., Zheng, X., Li, C., Xiong, Q., Yu, Q., Shi, S., & Hu, Y. (2020). The association between parental marriage satisfaction and adolescent suicidal ideation: The moderating effect of breastfeeding duration. *Children and Youth Services Review*, 118, 105459. DOI: <https://doi.org/10.1016/j.childyouth.2020.105459>
- Chen, L. Y. A., Wu, C. Y., Lee, M. B., & Yang, L. T. (2020). Suicide and associated psychosocial correlates among university students in Taiwan: A mixed-methods study. *Journal of the Formosan Medical Association*, 119(5), 957-967. DOI: [10.1016/j.jfma.2020.01.012](https://doi.org/10.1016/j.jfma.2020.01.012)
- Chen, W. L. (2022). Living arrangements and health-related lifestyle among Taiwanese college students. *Journal of American College Health*, 70(7), 1981-1989. DOI: [10.1080/07448481.2020.1841770](https://doi.org/10.1080/07448481.2020.1841770)
- Choi, S. B., Lee, W., Yoon, J. H., Won, J. U., & Kim, D. W. (2017). Risk factors of suicide attempt among people with suicidal ideation in South Korea: a cross-sectional study. *BMC public health*, 17, 1-11 DOI: [10.1186/s12889-017-4491-5](https://doi.org/10.1186/s12889-017-4491-5)



- Chou, W. P., Yen, C. F., & Liu, T. L. (2018). Predicting effects of psychological inflexibility/experiential avoidance and stress coping strategies for internet addiction, significant depression, and suicidality in college students: a prospective study. *International journal of environmental research and public health*, 15(4), 788. DOI: [10.3390/ijerph15040788](https://doi.org/10.3390/ijerph15040788)
- Christopoulos, A. L. (2018). Relationships between parents' marital status and university students' mental health, views of mothers and views of fathers: A study in Bulgaria. In *Divorce and the Next Generation* (pp. 179-190). Routledge. [10.1300/J087v34n03\\_11](https://doi.org/10.1300/J087v34n03_11)
- Cipriano, A., Claes, L., Gandhi, A., Cella, S., & Cotrufo, P. (2020). Does anger expression mediate the relationship between parental rejection and direct and indirect forms of non-suicidal self-injury? *Journal of Child and Family Studies*, 29, 3575-3585. DOI: <https://doi.org/10.1007/s10826-020-01844-9>
- Clarke, R. V. (2017). *Suicide: Closing the exits*. Routledge.
- Collis, R., & Winters, E. (2018). Applications of acceptance and commitment training in positive psychology. In *Positive psychology coaching in practice* (pp. 85-99). Routledge. DOI: [10.4324/9781315716169](https://doi.org/10.4324/9781315716169)
- Cohen, S., Underwood, L. G., & Gottlieb, B. H. (2003) (eds.). *Social support measurement and intervention*. New York: Oxford University Press.
- Cull, J. G. ve Gill, W. S. (1988). *Suicide Probability Scale (SPS) Manual*. LA: Western Psychological Services.
- Çelik, B. N., & Tanacioğlu Aydın, B. (2024). Comparison of university students who experienced the death of a parent and those who did not in terms of self-compassion and difficulty in emotion regulation. *Death Studies*, 1-9. DOI: [10.1080/07481187.2024.2361771](https://doi.org/10.1080/07481187.2024.2361771)
- Dedeler, M., Akün, E. ve Batıgün, A. D. (2017). Yetişkin ebeveyn kabul-red ölçeği-kısa form'un uyarlama çalışması. *Dusunen Adam*, 30(3), 181-193. DOI: 10.5350/DAJPN2017300302
- Deniz, İ., Ersöz, A. G., İldeş, N., & Türkarlan, N. (1995). 1995-2000 yılları resmi kayıtlarından batman'da gerçekleşen intihar ve intihar girişimleri üzerine bir inceleme. *Sosyal Politika Çalışmaları Dergisi*, 4(4).
- de Goede, M., & Spruijt, E. (1996). Effects of parental divorce and youth unemployment on adolescent health. *Patient Education and Counseling*, 29(3), 269-276. [https://doi.org/10.1016/S0738-3991\(96\)00924-X](https://doi.org/10.1016/S0738-3991(96)00924-X)
- Diamond, G., Kodish, T., Ewing, E. S. K., Hunt, Q. A., & Russon, J. M. (2022). Family processes: Risk, protective and treatment factors for youth at risk for suicide. *Aggression and Violent Behavior*, 64, 101586. <https://doi.org/10.1016/j.avb.2021.101586>.
- DiBello, A. M., Benz, M. B., Miller, M. B., Merrill, J. E., & Carey, K. B. (2018). Examining residence status as a risk factor for health risk behaviors among college students. *Journal of American College Health*, 66(3), 187-193. DOI: [10.1080/07448481.2017.1406945](https://doi.org/10.1080/07448481.2017.1406945)
- DiTommaso, E., & Spinner, B. (1997). Social and emotional loneliness: A re-examination of Weiss' typology of loneliness. *Personality and individual differences*, 22(3), 417-427. DOI: [https://doi.org/10.1016/S0191-8869\(96\)00204-8](https://doi.org/10.1016/S0191-8869(96)00204-8)
- Doorley, J. D., Goodman, F. R., Kelso, K. C., & Kashdan, T. B. (2020). Psychological flexibility: What we know, what we do not know, and what we think we know. *Social and Personality Psychology Compass*, 14(12), 1-11. DOI: <https://doi.org/10.1111/spc3.12566>
- Dumludag, D., Gokdemir, O., & Giray, S. (2016). Income comparison, collectivism and life satisfaction in Turkey. *Quality & Quantity*, 50, 955-980. DOI: <https://doi.org/10.1007/s11135-015-0185-1>
- Eisenberg, D., Gollust, S. E., Goldberstein, E., ve Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety and suicidality among university students. *American Journal of Orthopsychiatry*, 77(4), 534-542. DOI: 10.1037/0002-9432.77.4.534

- Ekici, G., Savaş, A. H., & Çıtak, S. (2001). İntihar riskini arttıran psikososyal etmenler (sosyal güvence yokluğu, göç ve diğer stresörler). *Anadolu Psikiyatri Dergisi*, 2(4), 204-212.
- Elbel, C. (2023). *College Students' Psychosocial Functioning 2 to 5 Years After Death of a Parent* (Doctoral dissertation, Walden University).
- Eskin, M. (2017). Gençler arasında intihar düşüncesi, girişimi ve tutumları. *Türk Psikoloji Dergisi*, 32(80), 93-115.
- Eskin, M. (2018). Suicide and culture. *BAU Journal-Health and Wellbeing*, 1(1), 5. DOI: <https://doi.org/10.54729/2789-8288.1014>
- Faria, M., Santos, M. R., Sargento, P., & Branco, M. (2020). The role of social support in suicidal ideation: A comparison of employed vs. unemployed people. *Journal of Mental Health*, 29(1), 52-59. DOI: [10.1080/09638237.2018.1487538](https://doi.org/10.1080/09638237.2018.1487538)
- Feigelman, W., Rosen, Z., Joiner, T., Silva, C., & Mueller, A. S. (2017). Examining longer-term effects of parental death in adolescents and young adults: Evidence from the national longitudinal survey of adolescent to adult health. *Death studies*, 41(3), 133-143. DOI: [10.1080/07481187.2016.1226990](https://doi.org/10.1080/07481187.2016.1226990)
- Fonseca, S., Trindade, I. A., Mendes, A. L., & Ferreira, C. (2020). The buffer role of psychological flexibility against the impact of major life events on depression symptoms. *Clinical Psychologist*, 24(1), 82-90. DOI: <https://doi.org/10.1111/cp.12194>
- Francis, A. W., Dawson, D. L., & Golijani-Moghaddam, N. (2016). The development and validation of the Comprehensive assessment of Acceptance and Commitment Therapy processes (CompACT). *Journal of contextual behavioral science*, 5(3), 134-145. DOI: <https://doi.org/10.1016/j.jcbs.2016.05.003>
- Freeman, A., Mergl, R., Kohls, E., Székely, A., Gusmao, R., Arensman, E., ... & Rummel-Kluge, C. (2017). A cross-national study on gender differences in suicide intent. *BMC psychiatry*, 17, 1-11. DOI: [10.1186/s12888-017-1398-8](https://doi.org/10.1186/s12888-017-1398-8)
- Gomboc, V., Krohne, N., Lavrič, M., Podlogar, T., Poštuvan, V., Zadravec Šedivy, N., & De Leo, D. (2022). Emotional and social loneliness as predictors of suicidal ideation in different age groups. *Community mental health journal*, 1-10. DOI: [10.1007/s10597-021-00823-8](https://doi.org/10.1007/s10597-021-00823-8)
- Godfrey, K. R. (1980). Correlation methods. *Automatica*, 16(5), 527-534. DOI: [https://doi.org/10.1016/0005-1098\(80\)90076-X](https://doi.org/10.1016/0005-1098(80)90076-X)
- Göregenli, M. (1997). Individualist-collectivist tendencies in a Turkish sample. *Journal of Cross-Cultural Psychology*, 28(6), 787-794. DOI: [10.1177/0022022197286009](https://doi.org/10.1177/0022022197286009)
- Guo, J., Huang, X., Zheng, A., Chen, W., Lei, Z., Tang, C., ... & Li, X. (2022). The influence of self-esteem and psychological flexibility on medical college students' mental health: a cross-sectional study. *Frontiers in psychiatry*, 13, 836956. DOI: [10.3389/fpsy.2022.836956](https://doi.org/10.3389/fpsy.2022.836956)
- Hall, S. S., & Zygmunt, E. (2021). "I hate it here": Mental health changes of college students living with parents during the COVID-19 quarantine. *Emerging Adulthood*, 9(5), 449-461. DOI: <https://doi.org/10.1177/21676968211000494>
- Hayes SC, Luoma JB, Bond FW, Masuda A, Lillis J (2006) Acceptance and commitment therapy: Model, processes and outcomes. *Behav Res Ther*, 44, 1-25. DOI: [10.1016/j.brat.2005.06.006](https://doi.org/10.1016/j.brat.2005.06.006)
- Hirsch, J. K., Rabon, J. K., Reynolds, E. E., Barton, A. L., & Chang, E. C. (2019). Perceived stress and suicidal behaviors in college students: Conditional indirect effects of depressive symptoms and mental health stigma. *Stigma and Health*, 4(1), 98. DOI: <https://doi.org/10.1037/sah0000125>

- Hussain, R., & Shova, T. Y. (2023). Increasing Rate of Suicide among the University Students of Bangladesh: A Sociological Investigation. *ASR: CMU Journal of Social Sciences and Humanities*, 10(2), 01. DOI: [10.12982/CMUJASR.2024.001](https://doi.org/10.12982/CMUJASR.2024.001)
- Hyun, C. P. M. H. (2022). Moderating effect of psychological flexibility in the relationship between neuroticism and self-harm. *Korean Journal of Clinical Psychology*, 41(1), 24-31. DOI: [10.15842/kjcp.2022.41.1.003](https://doi.org/10.15842/kjcp.2022.41.1.003)
- Indra, G. H., Radyani, A. M., ve Oriza, I. I. D. (2022). The Relationship Between Stress and Well-being: The Mediating Roles of Students' Psychological Flexibility and Loneliness During the Coronavirus Pandemic. *Psychological Research on Urban Society*, 4(2), 1. DOI: [10.7454/proust.v4i2.100](https://doi.org/10.7454/proust.v4i2.100)
- Junior, A. R. C., de Guadalupe Correa, J. F. D., Lemos, T., Teixeira, E. P., & de Souza, M. D. L. (2020). Risk factors for suicide: systematic review. *Saudi Journal for Health Sciences*, 9(3), 183-193. DOI: [10.4103/sjhs.sjhs\\_83\\_20](https://doi.org/10.4103/sjhs.sjhs_83_20)
- Kağıtçıbaşı, Ç. (2007). *Family, self and human development across cultures: Theory and applications* (genişletilmiş 2. baskı). Hillsdale, NJ: Lawrence Erlbaum
- Karakar, D. (2012). Investigation of bereavement period effects after loss of parents on children and adolescents losing their parents. *International Online Journal of Primary Education*, 1(1), 37-57.
- Karasar, N. (2005). *Bilimsel Araştırma Yöntemi: Kavramlar İlkeler Teknikler*. Ankara: Nobel Yayıncılık.
- Karakuş, S. ve Akbay, S. E. (2020). Psikolojik esneklik ölçeği: Uyarlama, geçerlik ve güvenilirlik çalışması. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 16(1), 32-43. <https://doi.org/10.17860/mersinefd.669825>
- Karbeyaz, K., Toygar, M., & Çelikel, A. (2016). Completed suicide among University student in Eskisehir, Turkey. *Journal of forensic and legal medicine*, 44, 111-115. DOI: [10.1016/j.jflm.2016.09.010](https://doi.org/10.1016/j.jflm.2016.09.010)
- Kalaycı, Ş. (2006). *SPSS uygulamalı çok değişkenli istatistik teknikleri*. İstanbul: Asil Yayınları.
- Kashdan, T. B., Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review*, 30, 865–878. DOI: <https://doi.org/10.1016/j.cpr.2010.03.001>
- Kavak, G. (2013). *Üniversite öğrencilerinde ebeveyn kabulü ile psikolojik uyum arasındaki ilişkinin incelenmesi* (Master's thesis, Eğitim Bilimleri Enstitüsü). DOI: 10.5350/DAJPN2014270305
- Kim, N., Kim, H., & Kwon, S. (2020). Factors associated with different numbers of health behaviors by living arrangements. *BMC Public Health*, 20, 1-11. DOI: [10.1186/s12889-020-09242-y](https://doi.org/10.1186/s12889-020-09242-y)
- Kim, S. M., Oh, J. W., Son, N. H., & Lee, S. (2022). Association between employment status and suicidal ideation among Korean employees. DOI: [10.21203/rs.3.rs-1535691/v1](https://doi.org/10.21203/rs.3.rs-1535691/v1)
- Knipe, D., Padmanathan, P., Newton-Howes, G., Chan, L. F., & Kapur, N. (2022). Suicide and self-harm. *The Lancet*, 399(10338), 1903-1916. DOI: [10.1016/S0140-6736\(22\)00173-8](https://doi.org/10.1016/S0140-6736(22)00173-8)
- Korkmazer, F. (2020). Üniversite öğrencilerinin işsizlik kaygısı algılarının incelenmesi. *Business Economics and Management Research Journal*, 3(2), 141-152.
- Kposowa, A. J., Aly Ezzat, D., & Breault, K. (2019). New findings on gender: the effects of employment status on suicide. *International journal of women's health*, 569-575. DOI: [10.2147/IJWH.S216504](https://doi.org/10.2147/IJWH.S216504)
- Krafft, J., Ferrell, J., Levin, M. E., & Twohig, M. P. (2018). Psychological inflexibility and stigma: A meta-analytic review. *Journal of Contextual Behavioral Science*, 7, 15-28. DOI: <https://doi.org/10.1016/j.jcbs.2017.11.002>
- Krafft, J., Hicks, E. T., Mack, S. A., & Levin, M. E. (2019). Psychological inflexibility predicts suicidality over time in college students. *Suicide and Life-Threatening Behavior*, 49(5), 1488-1496. DOI: [10.1111/sltb.12533](https://doi.org/10.1111/sltb.12533)

- Large, M. M. (2018). The role of prediction in suicide prevention. *Dialogues in clinical neuroscience*, 20(3), 197-205.
- Large, M., Corderoy, A., & McHugh, C. (2021). Is suicidal behaviour a stronger predictor of later suicide than suicidal ideation? A systematic review and meta-analysis. *Australian & New Zealand Journal of Psychiatry*, 55(3), 254-267. DOI: [10.31887/DCNS.2018.20.3/mlarge](https://doi.org/10.31887/DCNS.2018.20.3/mlarge)
- Lester, D. (2014). College student stressors, depression, and suicidal ideation. *Psychological reports*, 114(1), 293-296. DOI: <https://doi.org/10.2466/12.02.PR0.114k10w7>
- Li, D., Bao, Z., Li, X., & Wang, Y. (2016). Perceived school climate and Chinese adolescents' suicidal ideation and suicide attempts: The mediating role of sleep quality. *Journal of School Health*, 86(2), 75–83. DOI: <http://dx.doi.org/10.1111/josh.12354>.
- Marcussen, J., Hounsgaard, L., O'Connor, M., Möller, S., Wilson, R., & Thuen, F. (2021). Parental death in young adults with divorced compared to non-divorced parents: The effect on prolonged grief and mental health. *Death Studies*, 45(6), 437-450. DOI: [10.1080/07481187.2019.1648337](https://doi.org/10.1080/07481187.2019.1648337)
- Masarik, A. S., & Conger, R. D. (2017). Stress and child development: A review of the Family Stress Model. *Current opinion in psychology*, 13, 85-90. DOI: <https://doi.org/10.1016/j.copsyc.2016.05.008>
- McClelland, H., Evans, J. J., & O'Connor, R. C. (2023). The association of family, social and romantic loneliness in relation to suicidal ideation and self-injurious behaviours. *Journal of psychiatric research*, 158, 330-340. DOI: [10.1016/j.jpsychires.2022.12.022](https://doi.org/10.1016/j.jpsychires.2022.12.022)
- McCracken, L. M., Patel, S., & Scott, W. (2018). The role of psychological flexibility in relation to suicidal thinking in chronic pain. *European Journal of Pain*, 22(10), 1774-1781. DOI: [10.1002/ejp.1273](https://doi.org/10.1002/ejp.1273)
- McKean, A. J., Pabbati, C. P., Geske, J. R., & Bostwick, J. M. (2018). Rethinking lethality in youth suicide attempts: first suicide attempt outcomes in youth ages 10 to 24. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(10), 786-791. DOI: [10.1016/j.jaac.2018.04.021](https://doi.org/10.1016/j.jaac.2018.04.021)
- Musci, R. J., Hart, S. R., Ballard, E. D., Newcomer, A., Van Eck, K., Ialongo, N., & Wilcox, H. (2016). Trajectories of suicidal ideation from sixth through tenth grades in predicting suicide attempts in young adulthood in an urban African American cohort. *Suicide and Life-Threatening Behavior*, 46(3), 255–265. <http://dx.doi.org/10.1111/sltb.12191>.
- Naseem, S., & Munaf, S. (2017). Suicidal ideation, depression, anxiety, stress, and life satisfaction of medical, engineering, and social sciences students. *Journal of Ayub Medical College Abbottabad*, 29(3), 422-427
- Nock, M. K., Green, J. G., Hwang, I., McLaughlin, K. A., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2013). Prevalence, correlates, and treatment of lifetime suicidal behavior among adolescents: Results from the National Comorbidity Survey Replication Adolescent Supplement. *JAMA Psychiatry*, 70(3), 300–310. <http://dx.doi.org/10.1001/2013.jamapsychiatry.55>.
- Nourafkan, N. J., Jumah, B., Asif, R., & DEHGHANMONGABADI, A. (2020). Conflicts between Students Living on-Campus Dormitories: The Case of Dormitories at Eastern Mediterranean University Campus. *SEISENSE Journal of Management*, 3(4), 31-43
- Özdoğan, A. Ç. (2021). Subjective Well-Being and Social-Emotional Loneliness of University Students: The Mediating Effect of the Meaning of Life. *Journal of Pedagogical Research*, 5(1), 18-30. DOI: <http://dx.doi.org/10.33902/JPR.2021066865>
- Özel, Y., Türkleş, S., & Erdoğan, S. (2015). Suicide probability in university students. *Progress in Health Sciences*, 5(2), 7-15.

- Peltzer, K., Yi, S., & Pengpid, S. (2017). Suicidal behaviors and associated factors among university students in six countries in the Association of Southeast Asian Nations (ASEAN). *Asian journal of psychiatry*, 26, 32-38. DOI: [10.1016/j.ajp.2017.01.019](https://doi.org/10.1016/j.ajp.2017.01.019)
- Peng, A., Qiu, X., Ji, S., Hu, D., Dong, B., Song, T., ... & Chen, L. (2022). The impact of childhood parental loss on risk for depression and anxiety in adulthood: A community-based study in Southwest China. *Journal of affective disorders*, 298, 104-109. DOI: [10.1016/j.jad.2021.10.093](https://doi.org/10.1016/j.jad.2021.10.093)
- Pereira, A., & Cardoso, F. (2015). Suicidal ideation in university students: Prevalence and association with school and gender. *Paidéia (Ribeirão Preto)*, 25, 299-306. DOI: [10.1590/1982-43272562201503](https://doi.org/10.1590/1982-43272562201503)
- Rickwood, D., Deane, F. P., Wilson, C. J., ve Ciarrochi, J. (2005). Young people's help seeking mental health problems. *Australian e-Journal for the Advancement of Mental Health*, 4(3), 218-251. doi:10.5172/jamh.4.3.218
- Rohner, R. P. (1975). They love me, they love me not: A worldwide study of the effects of parental acceptance and rejection. New Haven, CT: HRAF Press
- Rohner, R. P. (1986). The warmth dimension: foundations of parental acceptance-rejection theory. Newbury Park, CA: Sage Publications, Inc.
- Rohner, R. P. (2004). The parental "acceptance-rejection syndrome": universal correlates of perceived rejection. *American Psychologist*, 59(8), 830-840.
- Rohner, R. P. (2005). Glossary of significant concepts in parental acceptance-rejection theory (PARTheory). Retrieved May, 20, 2005
- Rohner, R. P., Khaleque, A. ve Cournoyer, D. E. (2012). Introduction to parental acceptance-rejection theory, methods, evidence, and implications, November, 2012.
- Ryan, T. P. (2008). *Modern regression methods* (Vol. 655). John Wiley & Sons
- Seeman, N., Reilly, D. K., & Fogler, S. (2017). Suicide Risk Factors in US College Students: Perceptions Differ in Men and Women. *Suicidology Online*, 8.
- Siddique, M. P., & Hanif, R. (2019). Experience of loneliness and suicidal ideation among young adults: The moderating role of gender. *Journal of Islamic International Medical College (JIIMC)*, 14(3), 126-130.
- Stack, S. (2021). Contributing factors to suicide: Political, social, cultural and economic. *Preventive medicine*, 152, 106498. DOI: [10.1016/j.ypmed.2021.106498](https://doi.org/10.1016/j.ypmed.2021.106498)
- Swettenham, L., & Whitehead, A. (2022). Acting on injury: increasing psychological flexibility and adherence to rehabilitation. *Case Studies in Sport and Exercise Psychology*, 6(1), 94-101. DOI: [10.1123/cssep.2021-0021](https://doi.org/10.1123/cssep.2021-0021)
- Tabachnick, B. ve Fidell, L. S. (2015). Çok değişkenli istatistiklerin kullanımı (M. Baloğlu, Çev. Ed.). Ankara: Nobel Yayıncılık
- Tektaş, N., & Pala, S. K. T. (2014). Devlet ve vakıf meslek yüksekokulu öğrencilerinin umutsuzluk düzeylerinin karşılaştırılması ve umutsuzluk düzeylerini etkileyen faktörlerin belirlenmesi. *Türkiye Sosyal Araştırmalar Dergisi*, 182(182), 169-186.
- Torres, A. R., Campos, L. M., Lima, M. C. P., & Ramos-Cerqueira, A. T. A. (2018). Suicidal ideation among medical students: prevalence and predictors. *The Journal of nervous and mental disease*, 206(3), 160-168. DOI: [10.1097/NMD.0000000000000734](https://doi.org/10.1097/NMD.0000000000000734)
- Tugnoli, S., Casetta, I., Caracciolo, S., & Salviato, J. (2022). Parental bonding, depression, and suicidal ideation in medical students. *Frontiers in Psychology*, 13, 877306. DOI: [10.3389/fpsyg.2022.877306](https://doi.org/10.3389/fpsyg.2022.877306)
- Tunalı, H., & Özkaya, S. (2016). Türkiye'de işsizlik-intihar ilişkisinin analizi. *Kırklareli Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 5(2), 56-70.



- Turecki G, Brent D. Suicide and suicidal behaviour. *Lancet* (2016) 387:1227– 39. DOI: 10.1016/S0140-6736(15)00234-2
- Turecki, G., Brent, D. A., Gunnell, D., O'Connor, R. C., Oquendo, M. A., Pirkis, J., & Stanley, B. H. (2019). Suicide and suicide risk. *Nature reviews Disease primers*, 5(1), 74. DOI: [10.1038/s41572-019-0121-0](https://doi.org/10.1038/s41572-019-0121-0)
- Türk, N., Arslan, G., Kaya, A., Güç, E., & Turan, M. E. (2024). Psychological maltreatment, meaning-centered coping, psychological flexibility, and suicide cognitions: A moderated mediation model. *Child Abuse & Neglect*, 152, 106735. DOI: [10.1016/j.chiabu.2024.106735](https://doi.org/10.1016/j.chiabu.2024.106735)
- Türkiye İstatistik Kurumu. (2018). Yaş grubu ve cinsiyete göre intiharlar. Erişim adresi: [http://www.tuik.gov.tr/PreTablo.do?alt\\_id=1060](http://www.tuik.gov.tr/PreTablo.do?alt_id=1060)
- Ulutaş, E., & Gökçen, A. (2019). Toplum Tipleri ve Yalnızlık Halleri. *OPUS International Journal of Society Researches*, 10(17), 1809-1835. DOI: <https://doi.org/10.26466/opus.519612>
- Urme, S. A., Islam, M. S., Begum, H., & Chowdhury, N. R. A. (2022). Risk factors of suicide among public university students of Bangladesh: A qualitative exploration. *Heliyon*, 8(6). DOI: [10.1016/j.heliyon.2022.e09659](https://doi.org/10.1016/j.heliyon.2022.e09659)
- Uyaroğlu, A. K., Ergin, E., Tosun, A. S., & Erdem, Ö. (2022). A cross-sectional study of social media addiction and social and emotional loneliness in university students in Turkey. *Perspectives in Psychiatric Care*, 58(4), 2263-2271. DOI: [10.1111/ppc.13056](https://doi.org/10.1111/ppc.13056)
- Yakar, M., Temurçin, K., & Kervankiran, I. (2017). Suicide in Turkey: its changes and regional differences. *Bulletin of Geography. Socio-economic Series*, (35), 123-143. DOI: <https://doi.org/10.1515/bog-2017-0009>
- Yaşar, M. R. (2007). Yalnızlık. *Fırat Üniversitesi Sosyal Bilimler Dergisi*, 17(1), 237-260.
- Yazıcıoğlu, Y., & Erdoğan, S. (2004). SPSS applied scientific research methods. *Ankara: Detay Publishing*.
- Yip, P. S., Yousuf, S., Chan, C. H., Yung, T., & Wu, K. C. C. (2015). The roles of culture and gender in the relationship between divorce and suicide risk: A meta-analysis. *Social Science & Medicine*, 128, 87-94. DOI: <https://doi.org/10.1016/j.socscimed.2014.12.034>
- Zahedi, H., Sahebihagh, M. H., & Sarbakhsh, P. (2022). The magnitude of loneliness and associated risk factors among university students: a cross-sectional study. *Iranian journal of psychiatry*, 17(4), 411. DOI: [10.18502/ijps.v17i4.10690](https://doi.org/10.18502/ijps.v17i4.10690)
- Zhai, H., Bai, B., Chen, L., Han, D., Wang, L., Qiao, Z., ... & Yang, Y. (2015). Correlation between family environment and suicidal ideation in university students in China. *International journal of environmental research and public health*, 12(2), 1412-1424. DOI: [10.3390/ijerph120201412](https://doi.org/10.3390/ijerph120201412)
- Zheng, M., Guo, X., Chen, Z., Deng, J., & Hu, M. (2023). Association between interpersonal relations and anxiety, depression symptoms, and suicidal ideation among middle school students. *Frontiers in public health*, 11, 1053341. DOI: [10.3389/fpubh.2023.1053341](https://doi.org/10.3389/fpubh.2023.1053341)
- Zubrick, S. R., Hafekost, J., Johnson, S. E., Lawrence, D., Saw, S., Sawyer, M., ... & Buckingham, W. J. (2016). Suicidal behaviours: prevalence estimates from the second Australian Child and Adolescent Survey of Mental Health and Wellbeing. *Australian & New Zealand Journal of Psychiatry*, 50(9), 899-910. DOI: [10.1177/0004867415622563](https://doi.org/10.1177/0004867415622563)
- Wallerstein, J. S. (1991). The long-term effects of divorce on children: A review. *Journal of the American Academy of Child & Adolescent Psychiatry*, 30(3), 349-360. DOI: <https://doi.org/10.1097/00004583-199105000-00001>
- Weiss, R. S. (1973). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others* (pp.17-26. Englewood Cliffs, NJ: Prentice Hall.

- World Health Organization. (2021). *Suicide in the world: global health estimates* (No. WHO/MSD/MER/19.3). World Health Organization
- Wu, D., Yu, L., Yang, T., Cottrell, R., Peng, S., Guo, W., & Jiang, S. (2020). The impacts of uncertainty stress on mental disorders of Chinese college students: evidence from a nationwide study. *Frontiers in psychology, 11*, 243. DOI: [10.3389/fpsyg.2020.00243](https://doi.org/10.3389/fpsyg.2020.00243)
- Wu, R., Zhu, H., Wang, Z. J., & Jiang, C. L. (2021). A large sample survey of suicide risk among university students in China. *BMC psychiatry, 21*(1), 1-9. DOI: [10.1186/s12888-021-03480-z](https://doi.org/10.1186/s12888-021-03480-z)