

# The Mediating Roles of Resilience and Life Satisfaction in the Relationship between Self-Esteem and Risk-Taking Behavior

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## Keywords

Positive psychology, risk-taking, health psychology, self-esteem

## Abstract

The main purpose of this study is to test the mediation model of the relationship between self-esteem and risk-taking behavior among Turkish university students, and the hypothesis of the study is that there is a negative relationship between these two variables and this relationship is mediated by life satisfaction and psychological resilience. Pearson correlation analysis was performed between the main variables of the study and then indirect effect analyzes and path analysis were implemented. When the indirect effects between the variables were examined, it was seen that the self-liking, sub-dimension of self-esteem has a significant indirect effect on suicide tendency ( $B=-.10$ , 95% CI  $[-.22, -.09]$ ,  $p=.001$ ), eating habits ( $B=-.09$ , 95% CI  $[-.14, -.05]$ ,  $p=.001$ ) and school dropout ( $B=-.07$ , 95% CI  $[-.06, -.02]$ ,  $p=.006$ ) through life satisfaction. Self-liking reduces suicidal tendencies, unhealthy eating habits and school dropouts by increasing students' life satisfaction. When the direct effects between the variables were examined, it was seen that self-liking, a sub-dimension of self-esteem, positively predicted resilience ( $B=.39$ ,  $p<.001$ ) and life satisfaction ( $B=.32$ ,  $p<.001$ ). At the same time, self-liking negatively and strongly predicted suicidal tendency ( $B=-.69$ ,  $p<.001$ ). Additionally, resilience predicted suicidal tendency negatively and significantly ( $B=-.30$ ,  $p<.01$ ). Life satisfaction predicted suicidal tendency ( $B=-.47$ ,  $p<.001$ ), eating habits ( $B=-.29$ ,  $p<.001$ ) and school dropout ( $B=-.12$ ,  $p<.01$ ) significantly and negatively. Our hypothesis was partially supported by the findings of the study. Self-esteem did not predict all risk-taking behaviors in the study. Besides that, resilience and life satisfaction have partial mediator roles in the relationship between self-esteem and risk-taking behavior.

## Benlik-Saygısı ve Risk-Alma Davranışı Arasındaki İlişkide Psikolojik Dayanıklılık ve Yaşam Doyumunun Aracı Rollerini

Bu çalışmanın temel amacı, Türk üniversite öğrencileri arasında benlik saygısı ile risk alma davranışı arasındaki ilişkinin aracılık modelini test etmek olup, çalışmanın hipotezi ise bahsedilen her iki değişken arasında negatif yönlü bir ilişkinin olduğu ve bu ilişkiye yaşam doyumunu ile psikolojik dayanıklılığın aracılık ettiği yönündedir. Araştırmanın ana değişkenleri arasındaki ilişkiyi incelemek amacıyla Pearson korelasyon analizi uygulanmış, ardından dolaylı etki analizleri ve yol analizi yapılmıştır. Değişkenler arasındaki dolaylı etkiler incelendiğinde, benlik saygısının kendini sevme alt boyutunun intihar eğilimi ( $B=-.10$ , 95% CI  $[-.22, -.09]$ ,  $p=.001$ ), yeme alışkanlıkları ( $B=-.09$ , 95% CI  $[-.14, -.05]$ ,  $p=.001$ ) ve okul terki ( $B=-.07$ , 95% CI  $[-.06, -.02]$ ,  $p=.006$ ) üzerinde, yaşam doyumunu aracılığıyla dolaylı bir etkiye sahip olduğu görülmüştür. Kendini sevmenin öğrencilerin yaşam doyumunu artırarak intihar eğilimlerini, sağlıksız beslenme alışkanlıklarını ve okul terklerini azalttığı tespit edilmiştir. Değişkenler arasındaki doğrudan etkiler incelendiğinde, benlik saygısının bir alt boyutu olan kendini sevmenin, psikolojik dayanıklılık ( $B=.39$ ,  $p<.001$ ) ve yaşam doyumunu ( $B=.32$ ,  $p<.001$ ) pozitif yönde yordadığı görülmüştür. Aynı zamanda, kendini sevme intihar eğilimini olumsuz yönde ve güçlü bir şekilde yordamıştır ( $B=-.69$ ,  $p<.001$ ). Ayrıca psikolojik dayanıklılık intihar eğilimini negatif yönde ve anlamlı olarak yordamıştır ( $B=-.30$ ,  $p<.01$ ). Yaşam doyumunu intihar eğilimini ( $B=-.47$ ,  $p<.001$ ), yeme alışkanlıklarını ( $B=-.29$ ,  $p<.001$ ) ve okul terki ( $B=-.12$ ,  $p<.01$ ) anlamlı ve olumsuz yönde yordamıştır. Hipotezimiz çalışmanın bulgularıyla kısmen desteklenmiştir. Benlik saygısının çalışmadaki risk alma davranışlarının tamamını yordamadığı görülmüştür. Bunun yanında, benlik saygısı ile risk alma davranışı arasındaki ilişkide psikolojik dayanıklılık ve yaşam doyumunun kısmi aracı rollerinin olduğu belirlenmiştir.

## Anahtar kelimeler

Pozitif psikoloji, risk alma, sağlık psikolojisi, özsaygı

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Risk is an important part of our daily life and there is no life completely free of risk. Risk is a central aspect of health status because attitudes towards risk could influence the propensity to adopt behaviors that can affect health status (Martin-Fernandez et al., 2018). Risky behaviors can cause or may threaten the well-being, health and life course of individuals. Such behaviors are also factors that may cause undesirable consequences in individual, social or developmental areas (Jessor, 1998). Antisocial behavior, alcohol or cigarette use, suicidal tendencies, school dropout and eating habits can be counted among risky behaviors (Gençtanırım, 2014).

Risk is used to define factors that increase the likelihood of maladaptation (Lee et al. 2013). Risk-taking behavior is evaluated in a wide range such as inappropriate behaviors in traffic, risks in career field, risks in extreme sports, investment decisions taken without adequate thought, or behaviors that directly affect the deterioration of physical health and psychological well-being. Risky behaviors mostly start during adolescence (Gençtanırım, 2014). Risk-taking behavior has been found to be associated with stress in adolescents. Under stressed conditions, adolescents refocus their cognitive resources on emotion regulation and leave inhibitory processes necessary to prevent risky behaviors uncontrolled. As a result, they choose to focus on negative outcomes more frequently (Velki & Milic, 2021).

Risky behaviors can cause the individual to experience various difficulties in young adulthood. Recent studies pointed out that the prevalence of risky behaviors in university students increases every year (Atlam et al., 2017). Therefore, it is very important to investigate the factors associated with risky behavior. With the help of some precautions, for example preventive health studies and psycho-education, we can reduce the risk we may face and make our lives safer. The aim of this study is to investigate the relationship between risk-taking behaviors and self-esteem in Turkish university students.

The increase in adjustment problems can manifest itself as an increase in risk-taking behavior in young people. One of the most important risks in terms of the consequences that adolescents and young people may have in their lives is suicide. For example, 9.7% of Chinese adolescents have attempted suicide in the last 12 months, compared to 24.8% in Tanzania (Zhou et al., 2020). Between 2010 and 2014, a total of 15214 suicide cases were detected in Türkiye. 1870 of all suicide cases were in the 15-19 age group. The ratio of suicide cases in the 15-19 age group to all suicide cases was 12.2% in Türkiye (Kırcı et. al., 2017). In order to protect the health of young people, it is necessary to reduce their risk-taking behavior on the one hand, and to increase their psychological well-being on the other hand.

Risk-taking tendencies could increase in university students who could face life problems such as career choice and economic uncertainty of the future, especially in countries struggling with economic crisis. In Türkiye, university students are usually leaving their families for the first time for school life, and it appears as a period when their psychological identities are formed to a large extent, values become clear. Young people who have low hopes for their future careers and job prospects, and whose psychological well-being is inadequate, may be suicidal or start smoking, drinking alcohol and other substances, have poor eating habits or drop out of school. For example, in a study among Turkish students aged 14-18, the prevalence of smoking was 15.8% and the prevalence of using any addictive substance other than cigarettes was 5% (Metem et al., 2020). In a study among university students, 45.4% of Turkish students smoked cigarettes; 34.9% smoked regularly every day, 64% of young people had tried alcoholic drinks and 17.1% drank alcohol more often than once a week. The rate of lifetime substance use at least once was 10.4% (Ulukoca et al., 2013). In a study conducted by Ayvaşık and Sümer (2010) on Turkish university students, 103 out of 781 students (13.2%) were

found to have "illicit drug experience". These risky behaviors appear as social and psychological problems that we have to deal with.

A new perspective on risk-taking is the positive psychology approach which focuses on person's positive characteristics such as happiness, psychological resilience, self-esteem, and life satisfaction. Instead of looking for weakness and illness in the individual, it is increasingly important to look for strong points and try to strengthen the individual or increase one's happiness. In connection with this issue, one of the ways to reduce the risk-taking behavior of individuals and to protect their health is to strengthen their psychological well-being. Positive psychology predicts that risk-taking behavior will be reduced by highlighting individuals' strengths and increasing their psychological resilience or self-esteem. Therefore, in this study, we conceptualized well-being with positive psychology approach.

In this study, the question of whether the lack of strengths of young university students is related to their risk-taking behavior will be tried to be answered. Positive psychology concepts such as self-esteem, psychological resilience and life satisfaction used in this study are generally interconnected as summarized in the literature review below. An individual with high self-esteem is expected to be psychologically resilient and at the same time be satisfied with his or her life. The primary purpose of this study is to test a mediation model of the relationship between self-esteem and risk-taking behavior among Turkish university students. The mediator variables were life satisfaction and psychological resilience. The hypothesis of this study is that there is a negative relationship between self-esteem and risk-taking behaviors in Turkish university students, and this relationship is mediated by life satisfaction and psychological resilience. Due to the lack of sufficient studies in Türkiye regarding the subject and the tendency of university students to take uncontrolled risks, the need for this study in the field has emerged. In the following paragraphs, the main variables used in this study will be introduced and the relationship between these variables and risk-taking behavior will be briefly touched upon by giving examples from the literature. First of all, self-esteem will be mentioned.

Self-esteem stands out as an important factor in individuals exhibiting risky behavior. Rosenberg (1965) defined self-esteem as the amount and type of personal respect and worthiness in which an individual view him or herself in comparison with others. Researchers have suggested that high self-esteem can be considered a fundamental feature of mental health and a protective factor in individuals' social and health behaviors. On the other hand, it has been emphasized that low self-esteem may play a role in the development of a number of mental disorders and social problems such as depression, hopelessness, increased suicidal tendencies, and high-risk behaviors (Mann et al., 2004; Overholser et al., 1995).

It has been observed that starting and continuing smoking and substance use, which are among risky behaviors, is related to self-esteem (Kokkevi et al., 2007; Saari et al., 2015; Wellman et al., 2016; Wild et al., 2004;). Tunç and Kolburan (2019), as a result of their studies with adolescents, reported that non-smokers have higher self-esteem compared to smokers. Additionally, it was also found that people with high self-esteem were more likely to quit smoking (Freijy & Kothe, 2013). Researchers point out that alcohol consumption, as well as smoking, is related to self-esteem. It was found that high self-esteem predicted lower rates of excessive alcohol consumption in university students (Backer-Fulghum et al., 2012).

Similarly, in most of the studies, a negative relationship is observed between self-esteem and risk-taking behavior, while a positive relationship is observed between self-esteem and health behaviors. In a study examining the risk-taking behavior of Turkish adolescents, it was determined that the relationship between risk-taking and self-esteem was negative and significant (Oktan, 2014). In another study related to Turkish adolescents' health risk behavior, it was found an important relationship between self-esteem and health risk

behaviors. Those whose self-esteem was lower got higher scores for health risk behavior like substance abuse (Geçkil & Dündar, 2011). Moreover, in a study examining risk-taking behaviors of Chinese university students in two different areas, participants with moderate self-esteem had the highest risk preference (Zheng et al., 2013). A systematic review about health risk behaviors and self-esteem among university student detected in most studies an association between higher self-esteem and healthier behavior (Arsandaux et al., 2020). Psychological resilience is discussed below.

Psychological resilience is defined as a dynamic psychosocial process in which individuals exposed to persistent adversities and potentially traumatic events experience positive psychological adaptation over time. Psychological resilience can also be defined as the negative events experienced by individuals, their ability to withstand great dangers, and their level of coping with all these (Masten, 2001). The alternative perspective sees resilience as a personality trait. Resilience as a trait is fixed and stable, referring to a personality trait for negotiating, managing, and adapting to significant sources of stress or trauma (Lee et al., 2013). Resilience is associated with concepts such as depression, anxiety, or post-traumatic stress disorder (PTSD), but not their linear opposite (Graber et al. 2015). It has been reported that personal strength, structural style, social competence, family harmony and social resources constitute the sub-dimensions of psychological resilience (Yakıcı & Traş, 2018).

It is predicted that psychological resilience has a protective effect on psychological health in general and a lowering effect on risk-taking behavior. Presumably for this reason, Graber et al. (2015) report that public health agencies are increasingly interested in adopting a resilience approach alongside a traditional risk-based approach, integrating these into a broader harm prevention framework aimed at modifying individuals' and communities' behavior.

Psychological resilience has generally been researched in the literature in the context of its relationship with stress and self-esteem. Kumpfer (1999) viewed self-esteem as part of "resilience" at the individual level. Neufeld et al. (2020) examined medical student's distress and found that resilience was associated with lower perceived stress. Robbins et al. (2018) analyzed predictors of student resilience in higher education and found that self-esteem and exposure to stressful events were significant predictors of levels of resilience. Specifically, higher self-esteem and an increased experience of stressful events predicted higher resilience. It is possible that self-esteem protects the individual and that the individual develops a coping mechanism in the face of stressful events. Studies have identified a positive relationship between resilience and a range of protective factors. These include life satisfaction and self-esteem (Lee et al., 2013). Research conducted with adolescents also shows that high psychological resilience is associated with high self-esteem (Buckner et al., 2003). It has been found that adolescents with high levels of psychological resilience have a lower tendency to show risky behaviors such as aggression and substance use (Veselska et al., 2009).

Studies investigating psychological resilience and risk-taking behavior have also started to become widespread. In a study investigating the suicide risk of Turkish university students, the students' resilience and self-esteem scores were found to be high, while the probability of suicide was low. In this study, self-esteem and resilience levels were predictors of suicide probability (Malak-Akgün & Aydın, 2022). In another study on adolescents, resilient individuals in comparison with their less resilient peers, are less likely to involve themselves in health endangering behavior (Veselska et al., 2009). Cleverley and Kidd (2011) studied resilience and suicidality among homeless youth and found that resilience was negatively related to suicidal ideation and psychological distress and positively related to self-esteem. Life satisfaction, another important variable, is summarized below.

Life satisfaction is one of the important variables of positive psychology like self-esteem and it is an important indicator of psychological well-being. Life satisfaction represents an evaluative component which is cognitive evaluation of one's life (Pavot & Diener, 2008) or assessments of how satisfied people are with their quality of life (Steptoe, 2019). Life satisfaction is integral to positive and successful functioning in youth. Youths with higher levels of life satisfaction benefit from a range of positive life outcomes, including adaptive psychosocial functioning, better interpersonal and social relationships, fewer behavioral problems, and a host of school-related positive outcomes (Proctor & Linley, 2014).

Research conducted with university students points out that student with high psychological resilience report higher levels of life satisfaction (Alibekiroğlu et al., 2018). Life satisfaction was also found to be associated with the individual's self-esteem. An overall sense of satisfaction with one's own life can lead to higher self-esteem when young people are aware of their strengths and talents. Likewise, lower life satisfaction can elicit less positive self-esteem when people tend to undervalue their capabilities (Szczeniak et al., 2021). Some researchers argue that young people who are dissatisfied with life cannot show the necessary coping skills in the face of stressful life events and turn to risky behaviors. While young people overcome their dissatisfaction and life difficulties, they especially see alcohol, which is considered a means of escape from reality, as the only solution (Kliwer & Murrelle, 2007). There are also studies in the literature suggesting that there is no relationship between life satisfaction and risky behaviors (Music et al., 2013).

Studies trying to explain the relationship between life satisfaction and risk-taking behavior have obtained the following results. A literature review study found a negative relationship between life satisfaction and many risk-taking behaviors, such as victimization, violent behavior, sexual behavior, and unwanted pregnancy (Proctor et al., 2009). In another study investigating life satisfaction and risk-taking behavior in two different cultures, evidence was obtained showing that exposure to alcohol leads to a decrease in life satisfaction in both communities. In another research, no correlation was found between life satisfaction and tobacco or cannabis use (Esposito et al., 2020). A similar result was found in a study by Ayvaşık and Sümer (2010) on Turkish university students, and no significant relationship was observed between drug experience and self-esteem and life satisfaction.

Results of a US study showed that a significant number of high school adolescents were dissatisfied with their lives and engaged in substance abuse behaviors. More importantly, this study identified significant associations between self-reported life satisfaction and substance use behaviors (Zullig et al., 2001). In another study focusing on Turkish university students, the students' risky health behavior scores were found to be high and their life satisfaction scores were found to be moderate (Aktaş et al., 2019). It is observed that there is generally a negative and significant relationship between suicidal tendency and life satisfaction. In a study conducted with high school student adolescents, serious suicidal ideation (last 12 months), suicide planning (last 12 months), suicide attempt (last 12 months), and suicide attempt requiring medical treatment (last 12 months) were associated with low life satisfaction (Valois et al., 2004).

Positive psychology concepts such as self-esteem, psychological resilience and life satisfaction used in this study are generally interconnected. An individual with high self-esteem is expected to be psychologically resilient and at the same time be satisfied with his or her life. The primary purpose of this study is to test a mediation model of the relationship between self-esteem and risk-taking behavior among Turkish university students. The mediator variables were life satisfaction and psychological resilience. The hypothesis of this study is that there is a negative relationship between self-esteem and risk-taking behaviors in Turkish university students, and this relationship is mediated by life satisfaction and psychological resilience. In this research, self-esteem includes two sub-dimensions: self-liking and self-competence, and

risk-taking includes seven domains namely antisocial behaviors, smoking, alcohol use, substance use, suicidal tendency, eating habits, and school dropout. Psychological resilience and life satisfaction variables have no sub-domains in this study.

## Method

### Participants

This is a cross-sectional study and the sample of this research consists of 280 university students studying in different departments of Zonguldak Bülent Ecevit University, Türkiye. Before starting the study, permission was obtained from Zonguldak Bülent Ecevit University Ethics Committee. Participants were reached between September and November of 2022 by convenience sampling method. Following the voluntary participation form, an online self-report questionnaire set consisting of Personal Information Form, Risky Behaviors Scale-University Form, Life Satisfaction Scale, Two-Dimensional Self-Esteem Scale and Brief Psychological Resilience Scale were presented to all participants.

The ages of the participants ranged from 18 to 25, with 232 women (82.9%) and 48 men (17.1%). The demographic characteristics of the participants were presented in Table 1.

Table 1  
*Demographic Characteristics of the Participants*

	N	%
Gender		
Woman	232	82.9
Man	48	17.1
Marital Status		
Single/Not in a relationship	186	66.4
Single/In a relationship	93	33.2
Married	1	0.4
Class		
1st Class	67	23.9
2nd Class	83	29.6
3rd Class	68	24.3
4th Grade	62	22.1
	$\bar{X}$	SD
Age	20.63	1.55

### Measurements

**Personal Information Form:** It was created by the researcher in order to examine the socio-demographic characteristics of the participants, such as age and gender. The quantitative measurement tools used in the study and validated in the Turkish sample were briefly introduced below.

**Risky Behaviors Scale–University Form:** The scale, which was developed by Gençtanırım (2014) to evaluate risky behaviors that endanger the lives of university students biologically, psychologically and socially, includes 60 items in 5-point likert type. It has seven sub-dimensions: antisocial behaviors, smoking, alcohol use, substance use, suicidal tendency, eating habits, and school dropout. As a result of the reliability analysis, the Cronbach's alpha internal consistency reliability coefficient of the scale was calculated between .64 and .91, and the test-retest reliability coefficient was calculated with values ranging between .74 and .98 (Gençtanırım, 2014). In these study, the Cronbach's alpha internal consistency reliability coefficient was found for antisocial behavior .77, smoking .92, alcohol use .91, substance use .78, suicidal tendency .93, eating habits .85, and for school dropout as .68.

**Life Satisfaction Scale:** It was developed by Köse et al. (2022) in order to determine the life satisfaction of individuals based on their living spaces. The scale consists of 8 items in 5-point likert type. There are 2 sub-dimensions in the scale: satisfaction with personal / social life and satisfaction with economic life. As a result of the reliability analysis, the Cronbach's alpha internal consistency reliability coefficient was found to be .86 for the whole scale, .85 for the satisfaction with personal/social life sub-dimension, and .79 for the sub-dimension of satisfaction with the economic life. In this respect, it has been stated that the Life Satisfaction Scale is a valid and reliable measurement tool. In these study, the Cronbach's alpha internal consistency reliability coefficient was found to be .77 for the whole scale.

**Two-Dimensional Self-Esteem Scale:** The scale, which was developed by Tafarodi and Swann (2001) to measure self-esteem in two dimensions. The scale consists of 16 items in 5-point likert type. It includes two sub-dimensions: self-liking and self-competence. The Cronbach's alpha coefficient for the self-competency sub-scale was found to be .83 in males and .82 in females. The Cronbach's alpha coefficient for the self-liking sub-scale was found to be .90 in each gender. The Turkish adaptation of the scale was carried out by Doğan (2011). It was found that the scale exhibited a two-factor structure consistent with its original form. The internal consistency coefficient for the self-liking sub-dimension was .83, and .74 for the self-competence sub-dimension. It was stated that the test-retest reliability coefficient for both sub-dimensions was .72. Accordingly, it has been shown that the Turkish form of the Two-Dimensional Self-Esteem Scale can be used as a valid and reliable measurement tool. In these study, the internal consistency coefficient for the self-liking sub-dimension was .88, and .81 for the self-competence sub-dimension.

**Brief Psychological Resilience Scale:** The scale developed by Smith et al. (2008) to measure individuals' psychological resilience is 5-point Likert-type and consists of 6 items. For the validation of the measure, Smith et al. (2008) used four different samples. The items presented loadings above 0.67 on one single factor in all samples, with Cronbach's alphas ranging from 0.80 to 0.91. The Turkish adaptation of the scale was carried out by Doğan (2015). As a result of the exploratory and confirmatory factor analysis, it was determined that the scale had a single factor structure. As a result of the reliability analysis, the internal consistency coefficient of the scale was found to be .83. Consequently, it was stated that the Brief Resilience Scale is a valid and reliable measurement tool and can be used to measure resilience in university students. In these study, the Cronbach's alpha internal consistency reliability coefficient was found to be .88.

## Procedure

This is a cross-sectional study and the sample of this research consists of 280 university students studying in different departments of Zonguldak Bülent Ecevit University, Türkiye. Before starting the study, permission was obtained from Zonguldak Bülent Ecevit University Ethics Committee with the approval dated 13.09.2022 and numbered 211497. Participants were reached between September and November of 2022 by convenience sampling method. Following the voluntary participation form, an online self-report questionnaire set consisting of Personal Information Form, Risky Behaviors Scale-University Form, Life Satisfaction Scale, Two-Dimensional Self-Esteem Scale and Brief Psychological Resilience Scale was presented to all participants.

Before analyzing the data, the data of 19 participants who did not meet the criteria of being a university student were extracted from the data set of 315 participants. Afterwards, 6 people who filled in the survey set incompletely were excluded from the data set. Outlier analyses were conducted with the data of the remaining 290 participants, and the data of 10 participants were not included in the analysis as they were determined to be outliers. Since the substance use sub-dimension in the risky behaviors scale was not normally distributed, it was excluded from the analysis. After the data cleaning was completed, the variables in the study were examined firstly with descriptive analysis. The relationship between the variables in the research was examined with Pearson correlation analysis with the help of SPSS 26 program and with multiple mediation analysis using AMOS 22 program. The findings of the study were presented in the results section below.

## Results

The aim of this study was to investigate the relationship between risk-taking behaviors and self-esteem in Turkish university students. In order to test the main hypothesis of this study that there is a negative relationship between self-esteem and risk-taking behaviors in Turkish university students and that this relationship is mediated by life satisfaction and psychological resilience, first of all, the relationship between the variables was examined. Afterwards, indirect effect analyzes and path analysis were performed between the variables. No significant correlation was found between the demographic questions like gender, marital status, class used in the study and risk-taking behaviors. As seen in Table 1, a significant portion of the participants in the study were female university students (82.9%), and most of the participants are single and not in a relationship. The mean of the participant's age was found to be 20.63.

Table 2  
*Descriptive Features of the Variables*

Variables	$\bar{X}$	SD	Scores	
			Min	Max
RBS_AB	16.95	4.50	10	31
RBS_AU	13.62	6.68	9	38
RBS_S	16.87	8.73	8	40
RBS_ST	27.54	9.81	12	59
RBS_EH	23.27	6.48	8	40
RBS_SD	7.12	3.20	4	19
LSS_T	23.44	5.13	9	40
SES_SL	27.97	6.18	11	40
SES_SC	25.89	4.94	11	40
BRS_T	17.77	4.79	6	30

Note.  $\bar{X}$ : Mean, SD: Standard Deviation, Min: Minimum, Max: Maximum

RBS: Risk Behavior Scale; Antisocial Behaviors (AB), Alcohol Use (AU), Smoking (S), Suicidal Tendency (ST), Eating Habits (EH), School Dropout (SD).

LSS\_T: Life Satisfaction Scale Total.

SES: Self Esteem Scale; Self-Liking (SL), Self-Competence (SC).

BRS\_T: The Brief Resilience Scale Total.

The descriptive features of the main variables in the study were given in Table 2. Here, it is seen that while suicidal tendencies, risky eating habits and school dropouts of Turkish university students are quite close to the average values of the scale, the average scores of antisocial behaviors, smoking and alcohol use are quite low. This may indicate that risky behavior tendencies such as suicide, unhealthy eating habits and school dropout may emerge as more important life problems among Turkish university students.

Pearson correlation analysis was performed to examine the relationship between the main variables of the study. When Table 3 is examined, it is seen that there is a negative significant relationship between life satisfaction scores and risky behaviors sub-dimensions. Here, the strongest relationship is observed between life satisfaction and suicidal tendencies ( $r = -.46, p < .01$ ). Suicidal tendencies of students decrease as their life satisfaction increases. Also, there is a negative significant correlation between both the self-liking and self-competency sub-component scores of the self-esteem scale and suicidal tendencies, eating habits and school dropout. The strongest link between the variables here was found to be between the self-liking sub-component of self-esteem and suicidal tendencies ( $r = -.65, p < .01$ ). The more students like themselves, the less suicidal they are. In addition, a negative relationship was found between psychological resilience scores and suicidal tendencies ( $r = -.44, p < .01$ ). As students' psychological resilience increases, their suicidal tendencies decrease. These results may indicate that some positive psychology variables used in this study protect Turkish university students against risky behaviors. In other words, while life satisfaction provides protection against all risky behaviors, both components of self-esteem protect young people against suicide, unhealthy eating



and school dropout. In addition to these, psychological resilience is also seen to be a protective psychological variable against only suicide in young university students.

Table 3  
*Correlations between Variables*

Variables	1	2	3	4	5	6	7	8	9
RBS_AB	-								
RBS_AU	.37**	-							
RBS_S	.35**	.54**	-						
RBS_ST	.30**	.30**	.20**	-					
RBS_EH	.36**	.17**	.32**	.35**	-				
RBS_SD	.28**	.25**	.25**	.33**	.28**	-			
LSS_T	-.23**	-.18**	-.20**	-.46**	-.24**	-.18**	-		
SES_SL	-.11	-.09	-.02	-.65**	-.18**	-.14*	.42**	-	
SES_SC	-.06	.05	.08	-.45**	-.16**	-.17**	.30**	.63**	-
BRS_T	-.01	.01	.02	-.44**	-.09	-.03	.18**	.56**	.41**

\*\* $p < 0,01$  \* $p < 0,05$

Note: RBS: Risk Behavior Scale; Antisocial Behaviors (AB), Alcohol Use (AU), Smoking (S), Suicidal Tendency (ST), Eating Habits (EH), School Dropout (SD).

LSS\_T: Life Satisfaction Scale Total.

SES: Self Esteem Scale; Self-Liking (SL), Self-Competence (SC).

BRS\_T: The Brief Resilience Scale Total.

In the mediation analysis carried out to test the model presented in Figure 1, the fit index values were first examined, and as a result it was found that the proposed model fitted the data well ( $\chi^2/df = 1,625$ ,  $GFI = .99$ ,  $NFI = .99$ ,  $TLI = .98$ ,  $CFI = .99$ ,  $RMSEA = .05$ ). When the indirect effects between the variables were examined, it was seen that the self-liking sub-dimension of self-esteem has a significant indirect effect on suicide tendency ( $B = -.10$ , 95% CI  $[-.22, -.09]$ ,  $p = .001$ ), eating habits ( $B = -.09$ , 95% CI  $[-0.14, -.05]$ ,  $p = .001$ ) and school dropout ( $B = -.07$ , 95% CI  $[-.06, -.02]$ ,  $p = .006$ ) through life satisfaction. It has been found that self-liking reduces suicidal tendencies, unhealthy eating habits and school dropouts by increasing Turkish university students' life satisfaction. It was seen that the self-competence sub-dimension of self-esteem did not have a significant indirect effect on any risky health behavior of Turkish university students. In addition, it was also found that self-liking had a significant indirect effect on suicidal tendency through psychological resilience ( $B = -.07$ , 95% CI  $[-.20, -.05]$ ,  $p = .007$ ). It has been observed that self-liking reduces suicidal tendencies by increasing psychological resilience of Turkish university students. The other indirect effects between the variables were not significant (see Table 4).

When the direct effects between the variables were examined, it was seen that self-liking, a sub-dimension of self-esteem, positively predicted resilience ( $B = .39$ ,  $p < .001$ ) and life satisfaction ( $B = .32$ ,  $p < .001$ ). At the same time, self-liking negatively and strongly predicted suicidal tendency ( $B = -.69$ ,  $p < .001$ ). We can say that university students who do not like themselves are much more prone to suicide. Additionally, psychological resilience predicted suicidal tendency ( $B = -.30$ ,  $p < .01$ ) negatively and significantly. On the other hand, it was found that life satisfaction predicted suicidal tendency ( $B = -.47$ ,  $p < .001$ ), eating habits ( $B = -.29$ ,  $p < .001$ ) and school dropout ( $B = -.12$ ,  $p < .01$ ) significantly and negatively (see Figure 1). Suicidal tendencies, poor eating habits and school dropout were significantly lower among Turkish university students with high life satisfaction.

Table 4  
Indirect Effects of the Variables

Indirect Path	B	95% CI		p
		LL	UL	
SES_SC → BRS_T → RBS_ST	-.01	-.09	.01	.171
SES_SC → BRS_T → RBS_EH	-.00	-.04	.00	.301
SES_SC → BRS_T → RBS_SD	.00	-.00	.01	.587
SES_SC → LSS_T → RBS_ST	-.02	-.09	.02	.282
SES_SC → LSS_T → RBS_EH	-.01	-.06	.01	.250
SES_SC → LSS_T → RBS_SD	-.01	-.03	.00	.255
SES_SL → LSS_T → RBS_ST	-.10***	-.22	-.09	.001
SES_SL → LSS_T → RBS_EH	-.09**	-.14	-.05	.001
SES_SL → LSS_T → RBS_SD	-.07**	-.06	-.02	.006
SES_SL → BRS_T → RBS_ST	-.07**	-.20	-.05	.007
SES_SL → BRS_T → RBS_EH	-.03	-.09	.04	.495
SES_SL → BRS_T → RBS_SD	.00	-.02	.03	.883

Note: \*\*\*  $p < .001$ ; \*\*  $p < .010$ ; \*  $p < .050$

SES: Self Esteem Scale; SC: Self-competence, SL: Self-liking.

BRS\_T: The Brief Resilience Scale Total.

LSS\_T: Life Satisfaction Scale Total.

RBS: Risk Behavior Scale; Suicidal Tendency (ST), Eating Habits (EH), School Dropout (SD). (Table citation: Gaskin and Lim, 2018)

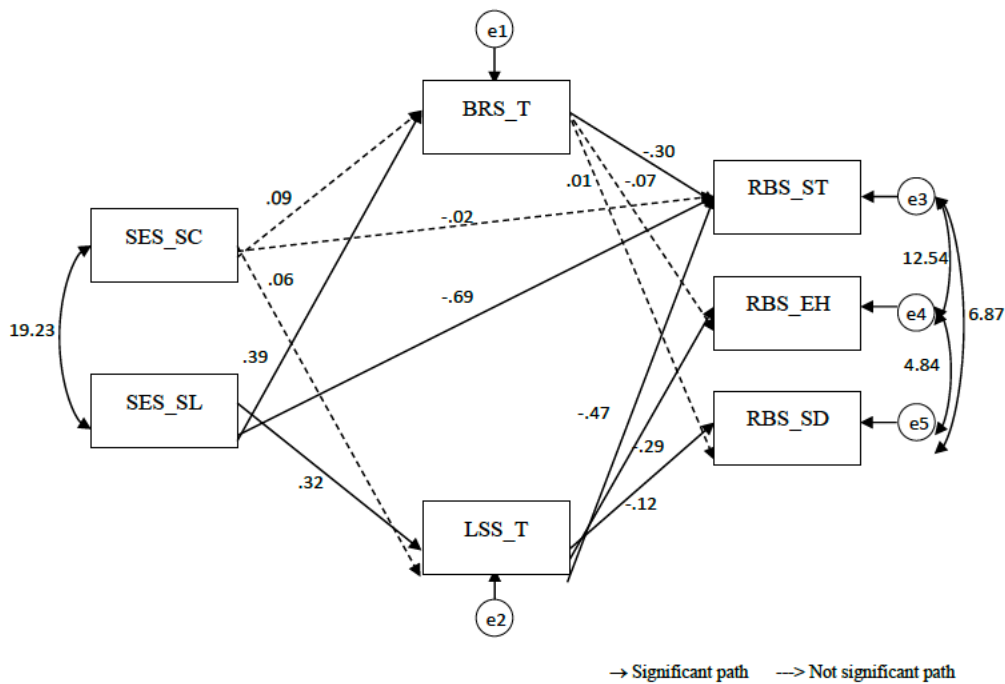


Figure 1. Path Analysis of the Variables

Note: RBS: Risk Behavior Scale; Suicidal Tendency (ST), Eating Habits (EH), School Dropout (SD).

BRS\_T: The Brief Resilience Scale Total.

LSS\_T: Life Satisfaction Scale Total.

SES: Self Esteem Scale; Self-Liking (SL), Self-Competence (SC).

Suicidal tendency was found to be the risky behavior most strongly predicted by the independent variable of self-liking sub-dimension of self-esteem and the mediating variables of psychological resilience and life satisfaction. The other risky behaviors predicted by self-liking sub-dimension of self-esteem are school dropout and risky eating habits. According to the results obtained, the research hypothesis that there is a significant negative relationship between self-esteem and risk-taking behaviors and that this relationship is mediated by life satisfaction and psychological resilience was partially confirmed. Self-liking predicted suicidal tendencies, school dropout and risky eating habits through the mediator variable of life satisfaction, but did not predict other risky behaviors in the study significantly. At the same time, self-liking predicted only suicidal tendency through the mediator variable of psychological resilience significantly. On the other hand, self-competence sub-dimension of the self-esteem did not predict any risky behaviors significantly. In the discussion section below, the findings of the study were compared with the existing literature and some suggestions were offered for further research on the topic.

## Discussion

Risk-taking is an important component of our daily life and has both positive and negative aspects. Adolescence and partly young adulthood is seen as one of the periods in which young people take risks disproportionately and unaccountably. This study is one of the limited number of studies examining the relationship between self-esteem and risk-taking behaviors using positive psychology variables as mediators. The main purpose of this study was to test a mediation model for the relationship between self-esteem and risk-taking behavior using psychological resilience and life satisfaction as mediating variables.

Positive psychology concepts such as self-esteem, psychological resilience and life satisfaction used in this study are generally interconnected. An individual with high self-esteem is expected to be psychologically resilient and at the same time be satisfied with his or her life. For example, in a meta-analysis study in Türkiye, a positive medium effect size was obtained between psychological resilience, life satisfaction and self-esteem (Seki & Dilmaç, 2020). In another study in Türkiye, it has been revealed that the self-esteem of logistics students has a positive effect on their life satisfaction and academic success (Çetinceli & Acar, 2022). Since most studies reported an association between higher self-esteem and healthier behavior (Arsandaux et al., 2020) and negative self-esteem and risky behavior (Veselska et al., 2009), the aim of this study was to examine the health risk-taking behaviors of Turkish university students in seven risk domains in the context of three positive psychology variables and demographic characteristics. In line with the purpose of the study, the hypothesis of this study was that there is a negative relationship between self-esteem and risk-taking behaviors in Turkish university students and that this relationship is mediated by life satisfaction and psychological resilience. Our hypothesis was partially supported by the findings of the study. Firstly, self-esteem did not predict all risk-taking behaviors in the study. Secondly, psychological resilience and life satisfaction have partial mediator roles in the relationship between self-esteem and risk-taking behavior in Turkish university students.

When characteristics of the participants are examined, it is seen that the mean and standard deviation values of the scores they get from each scale, especially suicidal tendencies, risky eating habits, and school dropout are relatively close to the average values of the scale (Table 2). This means that three most important risky behaviors for Turkish university students could be suicide tendencies, school dropout and risky eating habits. In addition, suicide tendency is the variable most strongly correlated by life-satisfaction, self-liking sub-component of the self-esteem and psychological resilience in the study (Table 3). Here, the transformation of suicidal tendencies into any kind of suicide naturally carries the risk of resulting in irreversible loss of life. As reported by some researchers, among the various health risk behaviors that could be intervened, the consequences of attempted suicide are extremely serious and deserve special attention (Zhou et al., 2020).

When the indirect effects between the variables are examined, it is seen that the self-liking sub-dimension of self-esteem has a significant indirect effect on suicide tendency, eating habits and school dropout through life satisfaction (Table 4). Risky eating habits, suicidal tendencies and school dropout situations are significantly reduced in self-liking students, as it increases their life satisfaction. Of course the opposite is also true. University students who do not like themselves will be more prone to risky behaviors as their life satisfaction will decrease. This finding reminds us that self-liking can be used as an effective method to increase life satisfaction and thus to prevent risks such as suicidal tendencies, school dropouts and unhealthy nutrition. However, antisocial behaviors as well as alcohol and cigarette use, which are other health risk behaviors in the study, were not predicted by self-esteem indirectly. The main reason for this is probably that these risky behaviors could not very common among Turkish university students in these years. Or these risks may be related to other psychological variables not addressed in this research.

On the other hand, self-liking had also significant indirect effect on suicidal tendency through psychological resilience (Table 4). It was found that the self-liking sub-component of self-esteem predicted only suicidal tendencies through the psychological resilience variable. It has been observed that self-liking reduces suicidal tendencies by increasing psychological resilience of the Turkish university students. Similarly, university students who do not like themselves may become more prone to suicide risk as their psychological resilience decreases. This finding gives us that self-liking also leads to increased psychological resilience in Turkish university students, thus being a protective psychological variable against suicidal tendencies. Other risk-taking behaviors were not predicted here. Previous studies investigating the relationship between risk-taking and self-esteem in Türkiye similarly found a negative significant correlation between the given variables (Geçkil & Dünder, 2011; Oktan, 2014). On the other hand, in a study conducted by Ayvaşık and Sümer (2010) on Turkish university students, no significant relationship was found between drug use, self-esteem and life satisfaction.

When the direct effects between variables were examined, it was found that self-liking, a sub-dimension of self-esteem, had a direct effect on psychological resilience and life satisfaction (Figure 1). Self-liking students had higher levels of life satisfaction and psychological resilience. However, self-competence, the other component of self-esteem, did not predict other positive psychology variables. Although there are different scales measuring self-esteem in psychology, some of them can measure the individual's self-esteem in a holistic way, as in Rosenberg (1965), or the scale can also consist of two sub-components, as used in this study. The lack of predictive power of the self-competence sub-component may also be related to some problems in the development of the scale used in the study or its adaptation to Turkish language and culture. Therefore, it would be appropriate to conduct more studies on the validity and reliability of the self-esteem scale used in the study. In addition, the self-liking sub-component of self-esteem has a strong direct effect on suicidal tendencies. Self-liking protects young people against suicidal tendencies. In other words, Turkish university students who do not like themselves are more prone to suicide.

Interviews conducted by psychological counseling centers of universities will be an effective intervention method against suicidal thoughts. On the other hand, prevention studies should be started by investigating why some of the Turkish university students become suicidal and which psychological, social or economic problems could play a potential role here. Academic studies need to be carried out to identify and eliminate the psychological, social and economic variables thought to be related to the suicidal tendencies of university youth. Increasing social, cultural and exercise activities at universities will make young people feel better, hold on to life more strongly and increase their self-esteem. From the perspective of positive psychology, for example, Proctor and Linley (2014) has suggested some intervention programs that have been shown to promote and enhance life satisfaction in youth. These programs include having young people complete gratitude diaries which record the things for which they are grateful, teaching well-being at school, and enabling students to develop character strengths through a series of tailored developmental interventions. Psychological and social variables associated with self-esteem and suicidal ideation in Turkish people should be scientifically defined. Studies have been conducted on this subject in some societies. For example, among Brazilian emerging adults, family connectedness was found to be associated with increased self-esteem (Dutra-Thome et al., 2019). Besides that, among Croatian adults, increasing the satisfaction of basic psychological

needs and self-esteem could serve as an intervention path to desirable changes in person's life satisfaction (Butkovic et al., 2020). On the other hand, in a Chinese study being female, passive coping style, lower family satisfaction, lower school satisfaction, lower living environment satisfaction and higher self-esteem among adolescents were found to be associated with an increased risk of suicide ideation (Yao et al., 2014).

Other important risks that were found to be significant according to the findings of this research are dropping out of school and unhealthy nutrition. University students who do not like themselves will be more prone to unhealthy nutrition and school dropout as their life satisfaction will decrease. Young people who drop out of school risk a lifetime of unemployment. School dropout may be related to problems in choosing a career. Therefore, vocational guidance services for young people can be increased. Unhealthy or risky nutrition could deteriorate university students' health in the long run and make them more open to the risks of chronic diseases such as diabetes and obesity. Unhealthy eating in young people is related to eating habits but also to economic income. Economic support for university students should be increased.

Although the research hypothesis has not been fully confirmed by the findings, this model shows an acceptable predictive value and may be useful for early prediction of health risk-taking behavior of Turkish university students. For this reason, studies aimed at increasing self-esteem, self-liking and decreasing suicide ideation, risky eating habits, and school dropout among young people in the light of scientific studies has gained even more importance. It is not easy to compare the findings obtained from this study with other research findings in Türkiye due to the limited number of related studies with Turkish samples. It is seen that very few similar studies in Türkiye only focus on the risk-taking behavior of adolescents (Geçkil & Dündar, 2011) but not risk-taking of university students. On the other hand, studies on risk-taking behavior and self-esteem relation in different countries generally focused on sexual and financial risk-taking behaviors (Boden & Horwood, 2006; Klein et al., 2010; Sekscinska et al., 2021; Sterk et al., 2004). The limited number of studies focusing on university students' risk-taking behaviors using positive psychology variables in Türkiye points to the strength of this study. The fact that only one component of the self-esteem namely self-liking was found to be related to risk-taking behavior can be considered among the limitations of this study. Other limitation of the study includes the fact that it is a cross-sectional study and that the number of male participants were very low compared to the number of female participants. Therefore, it would be useful to collect data from more participants in future studies on a similar topic in Türkiye and other countries.

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