

Multiple Mediation of Self-Esteem and Perceived Social Support in the Relationship Between Loneliness and Life Satisfaction

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Abstract

The purpose of this study is to test serial-multiple mediation role of self-esteem and perceived social support on the relationship between university students' loneliness and life satisfaction. The participants of this study consisted of 398 undergraduate students, with 289 females and 109 males aged between 17 and 41 with a mean age of 21.79 (SD=3.23). This study examined the statistical significance of the mediation effects in the tested model through the Ordinary Least Squares Regression Model and the Bootstrap method. The results showed that mediation effect of self-esteem and perceived social support variables solely were found be higher on the relationship between loneliness and life satisfaction than when both of them were entered into the model together. Single mediation effect of each variable did not differ. Focusing on students' perceived social support and self-esteem may be useful to increase students' life satisfaction in universities. This study may also be a resource for college counselors and mental health professionals to create protective and preventive approaches when working with students.

Keywords: Loneliness, Life Satisfaction, Self-Esteem, Perceived Social Support, Serial Multiple Mediation

1. Introduction

Since the ancient Greeks and even earlier, people have wondered about the nature of a good life. In defining a good life, subjective well-being and happiness have been used as the common terminology. Diener (1984) described the phenomenon of subjective well-being as the reality of an individual's own life as desired, pleasant, and well in his/her subjective thoughts. In other words, subjective well-being is about the cognitive and emotional judgment of a person's life. Subjective well-being is a broad concept including higher life satisfaction, more pleasing affects, and a low level of negative affect. Those positive experiences are the basic concept of positive psychology since they make life worthy to live (Diener et al., 2002). Researchers have generally divided subjective well-being into two components as cognitive judgment (life satisfaction) and emotional experiences (Diener, 1984; Lucas & Diener, 2009). If a person has more pleasant experiences than unpleasant experiences for a long time, this person is perceived as having a good life. Thus, reflective judgments and emotional experiences offer two different ways in evaluating an individual's life (Lucas & Diener 2009). Life satisfaction as one of the subjective well-being components means the overall judgments based on cognitive appraisal of a person's life as a whole (Pavot, 2008). Life satisfaction and satisfaction areas have been considered cognitive dimensions of subjective well-being because they are one's beliefs or attitudes about his/her life (Schimmack, 2008). The sub-components of life satisfaction are the desire to change life, current life satisfaction, satisfaction with past, satisfaction with future, and opinions of important individuals about one's life (Diener et al., 1999). These sub-components are considered as meaningful/significant parts of a person's life. Diener and his colleagues (1999) defined satisfaction domains as work, family, leisure time, health, money, self, and a group that one feels belonged to.

Another factors associated with life satisfaction are self and self-esteem. William James is one of those who described self-esteem first. According to William James, self-esteem is our own self-esteem based completely on self-evaluations regarding our own actions and who we are. This is determined by the realization rate of our expected potential. Self-esteem is equal to our claims divided by our achievements (James 1890/1983; as cited in Mruk, 2006). William James described self-esteem as the characteristic of being successful and competent (as cited in Mruk, 2006). Self-esteem is individual's positive or negative attitude towards his/her own self. High self-esteem is about an individual's feeling well enough. An individual with a high self-esteem only respects himself/herself and such a person does not have to be superior to others (Rosenberg, 1979). The concept of self-esteem has almost always been a part of human soul. In addition, self-esteem is a part of personality (Guindon, 2010), mental health, success, living effectively, and even a good life (Mruk, 2006). Self-esteem is about experiencing the competence to cope with difficulties encountered throughout life (Mruk, 2006). According to Rosenberg (1965) self-worth is a concept that is obtained upon an individual's own evaluations as criteria. On the other hand, according to Mruk (2006), self mostly develops as an internal psychic concept in a

social context. Self leads to the development of an individual's worth in the social context during the processes when one reacts to others and others respond to him/her back. For example, Berns (2013) stated that as children grow up, they try to understand how they are viewed by others. People, in socialization process, internalize the attitudes and values of other people which are considered significant. Consequently, they express those attitudes and values as theirs. Besides, this affects person's self, values and attitudes. Thus, individuals react to others coherently with received responses and therein they develop a self-concept. According to Rosenberg (1979) self-worth is evaluated based on a value developed during childhood and adolescence. Feedback from others, particularly from those significant to one, constitutes a key element in the development of self-esteem. The concepts of positive self or negative self are sometimes used to define self-esteem (Berns, 2013). People, at times, receive negative feedback or are rejected in social spheres. Self-evaluations of individuals with lower self-esteem become more negative and decrease when encountering negative feedback. On the other hand, individuals with high self-esteem preserve their self-evaluations and quickly regain their feelings of self-worth in the case of negative feedback. The basic advantage of high self-esteem can be considered the inhibition of an individual's bad feelings (Brown & Marshall, 2006). High self-esteem is also a strong predictor of subjective well-being (Diener, 1984). Research has found positive relationships between individuals' self-esteem and life satisfaction and subjective well-being (Büyükaşahin Çevik & Yıldız, 2016; Çevik, 2010; Doğan & Eryılmaz, 2013; Kocayörük & Şimşek, 2009; Türkmen, 2012; Yıldız & Baytemir, 2016; Yıldız & Duy, 2015).

Another factor associated with life satisfaction is loneliness. Asher and Paquette (2003) describe loneliness as the cognitive awareness of inadequacy following reactions of sadness, longing or emotional deficiency in one's social and personal relationships. In another definition, Perlman and Peplau (1984; 1998) describe loneliness as the experienced subjective psychological distress in the case of considerable inadequacy in the quality and quantity of people's social networks. Loneliness is an unpleasant and distressful experience as well as a threat to individual's mental health when encountered severely and long time. There is a plethora of research in the relevant literature finding negative relationships between loneliness and life satisfaction (Bozoğlan, Demirer & Şahin, 2013; Bozorgpour & Salimi, 2012; Çivitci, Çivitci & Fiyakalı, 2009; Goodwin Cook & Yung, 2001; Johns, Mathew & Mathai, 2016; Kapıkıran, 2013; Mellor et al., 2008; Nickerson & Nagle, 2004; Salimi, 2011; Schumaker Shea Monfries & Groth-Marnat, 1993; Öz Soysal, 2016; Swami et al., 2007; Yan, Su, Zhu & He, 2013; Yıldız, 2016). For example, Tuzgöl Dost (2007) indicated that students who had higher levels of loneliness had lower levels of life satisfaction. In another study, Yıldız and Duy (2014) found a significant level of negative relationship between life satisfaction and loneliness. In addition, researchers found negative relationships between loneliness and self-esteem (Baran Baran & Maskan, 2015; Bozoğlan et al., 2013; Erözkan, 2009; Güloğlu & Kararımak, 2010).

One of the most important factors that might affect human mental health and happiness is the social support perceived in one's social milieu. According to Lin (1986), support can be defined as the process or act of helping or holding on to another thing. Social support, on the other hand, means the factors or powers that enable people to sustain. As such, social support may be defined as the powers or factors that make life easier for people in their social environment. In other words, social support is the instrumental and expressed reality or perception provided by the community, social networks, and trusted relations. Moreover Sarason Levine Basham and Sarason (1983) describe the concept of social support as existence and availability of trusted people that we know that they love, care, and value us. According to Yıldırım (1997), social support may be defined as the social and psychological support that individual perceives in his/her environment. Social support is about the concrete, intellectual, social, and emotional resources provided by others when needed (Berns, 2013). The perception of social support may serve as a buffer against distressful life experiences. Knowing about the existence of others when needed provides confidence to the individual, and thus, individual's cognitive situation and emotions are positively influenced (Cohen Gottlieb & Underwood, 2000). Consequently, the life satisfaction forming the cognitive component of the subjective well-being may be positively influenced by the social support that individuals receive. Hence, this is observed in a number of studies. Froh Yurkewicz and Kashdan (2009) found positive relationships between life satisfaction and social support. In another research, Morgan et al. (2011) found significant positive relationship between self-esteem and perceived social support from family. In Türkmen's (2012) study, social support and self-esteem were observed to be associated with subjective well-being. In another study (Çevik, 2010), the variables of self-esteem, perceived family and peer support were found to be the predictors of high school students' subjective well-being levels and these variables explained 63.5% of the total variance in subjective well-being scores.

For an individual, both real and perceived supports are important (Lin, 1986). Social roles reduce the effect of stress on people and preserve their well-being. Social interactions may influence well-being via self-esteem (Lakey & Cohen, 2000). Socially integrated people, firstly, develop more varied self-concepts as parents, friends, and employees and are less influenced by distress. Secondly, such people have more resources to refer to under distress. Thirdly, they are better off in terms of social interactions both in quantity and quality which leads to increased positive emotions and reduced negative emotions (Cohen Gottlieb & Underwood, 2000). Thus,

examining the mediation role of perceived social support and self-esteem in the relationship between loneliness and life satisfaction is thought to be important.

Many studies in the relevant literature and theoretical explanations indicate that variables of loneliness and life satisfaction along with self-esteem and perceived social support are directly interrelated. However, no studies investigating causal relationships between these variables within a model of mediation were found in the relevant literature. Investigating the mediating relationships between these variables may contribute to the relevant literature. In addition, the current study is expected to contribute to the relevant literature in Turkey by means of defining single and combined effects of mediating variables through a model of serial-multiple mediation and comparing effect sizes. Thus, the current study aims to test the serial-multiple mediation role of self-esteem and perceived social support in the relationship between loneliness and life satisfaction.

2. Method

2.1. Research Design

This study has been conducted based on the correlational design. According to Heppner, Wampold, and Kivlighan (2013), relational designs are used in order to study relationships between two or more variables. The causal relationships among loneliness (predicting variable), perceived social support (mediator), self-esteem (mediator), and life satisfaction (outcome variable) are the research variables that were tested via serial-multiple mediation method and evaluated.

2.2. Participants

The research participants consisted of 398 undergraduate students. Students from Faculty of Science and Letters, Faculty of Theology, and Faculty of Education attended to this study. The data was collected during 2014-2015 academic year. Of the participants, 289 of them were female and 109 were male. The mean age of the participants was 21.79 years ($SD= 3.23$) ranging from 17 to 41-year. The faculties were selected through convenience sampling, and the students were selected through random sampling method. Convenient sampling is about selecting individuals that can easily be reached to obtain a response in a research (Cohen, Manion & Morrison, 2007).

2.3. Instruments

2.3.1. UCLA Loneliness Scale Short Form (ULS-8)

The Short Form of UCLA Loneliness Scale was developed by Hays and DiMatteo (1987). Yıldız and Duy (2014) conducted the adaptation study of the ULS-8 into Turkish language. The ULS-8 was found to be a unidimensional scale based on factor analysis results within the validity and reliability studies conducted by Yıldız and Duy (2014). Factor loadings of 8 items varied between .31 and .71. All fit indices indicated that the scale have good fit values. Data for the criterion-related validity were collected on 80 students, and analyses showed significant relationship between loneliness and overall belonging ($r= -.71$) and life satisfaction ($r= -.42$). Cronbach's alpha internal consistency coefficient of the ULS-8 was found as $\alpha=.74$. For test-retest reliability, the scale was distributed to 64 students within a two-week interval and it was found as $r= .84$. The internal consistency coefficient of the ULS-8 in the current study was .74.

2.3.2. Reviewed Form of the Multi-Dimensional Perceived Social Support Scale

The scale was developed by Zimet Dahlem Zimet and Farley (1988) to define the social support levels perceived by individuals. Validity and reliability studies and the adaptation studies for the reviewed scale form were conducted by Eker Arkar and Yaldız (2001). The scale, with total 12 items, has three sub-scales: Social support received from family, peers and significant others. Each sub-scale includes four items. The higher the score is the higher the support one perceives. In the current study, the internal consistency coefficient for the overall scale was found as .89.

2.3.3. Rosenberg Self-Esteem Scale (RSES)

RSES was developed by Rosenberg (1965) in order to define individuals' self-esteem levels. RSES is a unidimensional scale including total 10 items with 5 positive and 5 negative items. Higher score on the scale means lower self-esteem. Validity and reliability studies along with adaptation into Turkish language for RSES were conducted by Çuhadaroğlu (1986). Reliability coefficient for the scale obtained via Pearson Correlation Coefficient was .71, and test-retest reliability coefficient was found as .75. In the current research, internal consistency coefficient for RSES was found as .85.

2.3.4. Satisfaction with Life Scale (SWLS)

SWLS is a Likert-type 5-item scale with a single dimension developed to define individuals' life satisfaction. Adaptation study into Turkish language for the scale was conducted by Köker (1991). SWLS reliability studies showed that test-retest reliability was $r= .85$, and item-test correlations were found between .71 and .80. In the current research, internal consistency coefficient of the SWLS was found as .85.

2.3.5. Personal Information Form (PIF)

PIF was developed by the researchers to define students' grades, genders, and age levels.

2.4. Data Analysis

Descriptive statistics and Pearson correlation coefficients were used in data analysis. Statistical significance of the mediation effects was examined through the software developed by Hayes (2012), an approach based on the Ordinary Least Squares Regression Model, and the Bootstrap method. Bootstrap analyses were conducted through the attachment downloaded from the following address: <http://www.afhayes.com/spss-sas-and-mplus-macros-and-code.html> using IBM SPSS, as well as PROCESS Macro running "Serial Multiple Mediation-Model 6" (Hayes, 2012). The statistical significance of the mediating variable was examined over 10000 bootstrap samples. Significance level in the current research was set as .05. IBM SPSS 22.0 software package was used to analyze the research data.

3. Results

Pearson Correlation Coefficient was used in order to define the relationships between research variables. Obtained findings and descriptive statistics are presented in Table 1.

Table 1. Descriptive statistics and correlations among the variables

Variables	Mean	SD	1	2	3	4
1. Loneliness	11.97	3.82	---			
2. Perceived social support	64.71	14.66	-.33**	---		
3. Self-esteem	31.03	4.88	-.46**	.36**	---	
4. Life satisfaction	22.31	6.70	-.30**	.41**	.47**	---

N=398, ** $p < .01$

Table 1 displays that there are negative significant relationships between loneliness, perceived social support, self-esteem, and life satisfaction, and positive significant relationships, on the other hand, perceived social support, self-esteem, and life satisfaction.

Figure 1 demonstrates the findings of the tested model of the mediation role of perceived social support and self-esteem in the relationship between loneliness and life satisfaction.

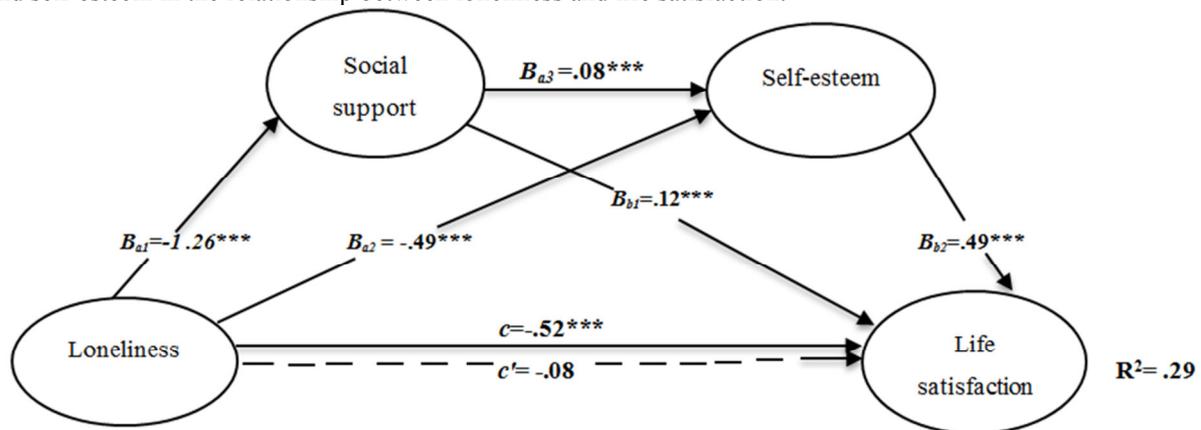


Fig. 1 Serial-multiple mediation role of perceived social support and self-esteem in the relationship between loneliness and life satisfaction and unstandardized beta values. * $p < .05$, ** $p < .01$, *** $p < .001$

As can be seen in Figure 1, total effect of loneliness on life satisfaction is significant ($c = -.52$, $SE = .08$, $t = -6.16$, $p < .001$) (Step 1). Additionally, direct effects of loneliness on perceived social support ($B = -1.26$, $SE = .18$, $t = -6.96$, $p < .001$) and self-esteem ($B = -.49$, $SE = .06$, $t = -8.38$, $p < .001$) are significant. Direct effect of the first mediating variable, perceived social support, on the second mediating variable, self-esteem is also significant ($B = .08$, $SE = .01$, $t = 4.99$, $p < .001$) (Step 2). It was also found that direct effects of perceived social support ($B = .12$, $SE = .02$, $t = 5.72$, $p < .001$), and self-esteem ($B = .49$, $SE = .07$, $t = 7.18$, $p < .001$) on life satisfaction reached to a significant level (Step 3). When loneliness and two mediating variables were entered simultaneously into the equation (Step 4), the significant relationship between loneliness and life satisfaction diminished ($c' = -.08$, $SE = .09$, $t = -.91$, $p > .05$). This result indicates that mediating variables mediate between loneliness and life satisfaction. Moreover, it was found that that overall model was significant ($F_{(4,393)} = 40.31$, $p < .001$) and explained 29% of the total variance in life satisfaction.

Table 2 includes the comparisons of indirect effects and specific indirect effects of university students' loneliness through perceived social support and self-esteem on life satisfactions.

Table 2. The comparisons of indirect effects and specific indirect effects of loneliness through perceived social support and self-esteem on life satisfactions

Effects	Product of coefficients		Bootstrapping	
	Point Estimate	SE	95% BCa Confidence Interval Lower	Upper
Total Indirect Effect	-.4408	.0691	-.5837	-.3160
Loneliness → Soc.Supp.→Life Sat.	-.1540	.0377	-.2367	-.0897
Loneliness → Soc.Supp. → S- Est.→Life Sat.	-.0472	.0140	-.0825	-.0255
Loneliness → S-Est. →Life Sat.	-.2396	.0500	-.3485	-.1523
Contrasts				
Model 1 versus Model 2	-.1069	.0385	-.1894	-.0382
Model 1 versus Model 3	.0855	.0617	-.0335	.2115
Model 2 versus Model 3	.1924	.0478	.1119	.3010

N= 398, k= 10000, * $p < .05$, ** $p < .01$, *** $p < .001$, BCa: Bias corrected and accelerated 10000 bootstrap samples, Model 1 = Loneliness Soc. Supp. Life Sat., Model 2= Loneliness Soc. Supp. S-Est. Life Sat., Model 3= Loneliness S-Est. Life Sat.

Statistical significance of indirect effects in the tested model was examined through 10000 bootstrap samples. Estimates were taken within 95% confidence interval and bias corrected and accelerated results are presented in Table 2. As seen in Table 2, total indirect effect (namely, the difference between total and direct effects/c-c') of loneliness through perceived social support and self-esteem on life satisfactions is statistically significant (point estimate= -.4408 and 95% BCa CI [-.5837, -.3160]). Within the tested model, when mediating variables are considered separately and together regarding mediating indirect effects of loneliness on life satisfaction, single mediation of perceived social support (point estimate= -.1540 and 95% BCa CI [-.2367, -.0897]), multiple-serial mediation of perceived social support and self-esteem (point estimate= -.0472 and 95% BCa CI [-.0825, -.0255]), and single mediation of self-esteem (point estimate= -.2396 and 95% BCa CI [-.3485, -.1523]) were found statistically significant.

In order to investigate whether specific indirect effects of mediating variables were stronger than each other, single and multiple mediation models were contrasted in pairs and findings were demonstrated in table 2. Analysis yielded three pairs. Thus, single mediation of perceived social support alone was found to be stronger than the multiple-serial mediation of perceived social support and self-esteem together. In the second comparison, mediating effects of perceived social support and self-esteem separately were not statistically different regarding mediating power as they were within the point estimate interval based on 95% BCa confidence interval. Lastly, based on 95% BCa confidence interval, within the statistically significant comparison and outside the point estimate interval, mediation role of self-esteem alone was found to be stronger than the serial-multiple mediation role of perceived social support and self-esteem together.

4. Discussion, Conclusion and Suggestions

The aim of the current research was to examine serial-multiple mediation role of self-esteem and perceived social support in the relationship between university students' loneliness and their life satisfaction. The results of this study showed that separate single mediation roles of both self-esteem and perceived social support and the serial-multiple mediation role of variables together were statistically significant. The comparison of three mediation models tested simultaneously indicated that mediations of self-esteem alone and perceived social support alone were stronger than their multiple-serial mediation together. On the other hand, separate mediation roles of perceived social support alone and self-esteem alone did not differ statistically in relation to mediation power. The effect of perceived social support as a mediating variable on life satisfaction was found to be significant. Current studies in the relevant literature seem to have similar results. For example, in a similar study, Gülaçtı (2010) found that perceived social support in the family explained 43% of the variance well-being scores. However, perceived social support from a significant other or peers was not found to be a significant predictor. In Yalçın's (2015) meta-analysis study, there was a positive moderate relationship between well-being and social support variables. In addition, he reported that there was a negative moderate relationship between depression and loneliness and social support as well.

Regarding these findings, it could be concluded that perceived social support contribute to well-being, and thus, their life satisfaction. According to Shorey (2009), perceived social support may serve as a protective factor for individuals against loneliness and mental health issues. According to Kawachi and Berkman (2001), relationships between social bonds and mental health can be established through trust. Social bonds greatly contribute in psychological well-being. According to Lin (1986), though, close social relationships are strongly

associated with individuals' well-being on higher levels. As the availability of social networks provides the individual with a sense of belongingness to a community, they strongly influence an individual's well-being. As the perceived social support of the university students' increase, they may feel belonging to a community. Thus, their life satisfaction may increase and their loneliness may be reduced. In support of the current research findings, according to Carpenter and Scott (1992), particularly when coping with stress, such emotional support perceived will provide relief in a stressful situation and lead to a more positive affective situation through creating a more positive evaluation. Hence, university students' life satisfaction may have been positively influenced. On the other hand, a negative relationship between perceived social support and loneliness was found in a number of studies (Çeçen, 2008; Eker Arkar & Yıldız, 2001; Meydan & Lüleci, 2013). In another study, Yılmaz Yılmaz and Karaca (2008) found a negative relationship between university students' loneliness levels, and their perceived social support (family, peers, and significant other). Duru (2008) found a negative relationship between social support and loneliness in his study.

Perceived social support and self-esteem, the mediating variables in the current research, were found to be associated. According to Lin (1986), when an individual, through social support, shares problems, disappointments, and feelings and gets them understood. This confirms the individual's worth and esteem as well as other's worth and respect to other. This phenomenon, named emotional support by some scientists, preserves and positively influences an individual's well-being. According to Berns (2013), self-esteem is about the worth of a place on one's identity. Significant interactions with peers and parents positively influence self-esteem through the communication therein confirmed, approved, and supported. Self-esteem is influenced by the reflections of evaluations by others. Rosenberg (1963) emphasizes that the requirement of the sense of being significant to others in developing a sense of self-worth for an individual is crucial. According to Newcomb and Keefe (1997), even though it is emphasized that high self-esteem leads to social support, positive self-esteem may contribute in a supportive network and it may help receive feedback. People, assured of a network of significant others and of their responses, are likely to widen their networks and strengthen their existing relationships. Positive relationships are associated with increases in networks. However, individuals with lower self-esteem may feel inhibited to initiate and sustain social relationships with others. Thus, in order for individuals to gain social support and preserve their well-beings, they also need to socialize. Larsen and Prizmic (2008) state that socialization may help reduce negative emotions. For instance, for an individual, explaining another individual about an issue may provide an opportunity for re-constructing the situation through reevaluation and re-interpretation. Consequently, they state that sharing how one feels may reveal positive affects through the other's efforts. As can be deduced in these explanations, self-esteem is influenced by social support. Individuals with higher self-esteem may be receiving positive feedback from others through building significant relationships. Hence, both variables may be mutually inter-affecting each other and increasing individuals' life satisfactions through decrease in loneliness. Studies in the relevant literature are observed to have similar results with the current research findings. In Köksal Akyol and Sali's (2013) study, a positively significant relationship between children's self-esteem and peer support, family support, teacher support, and their total support scores were found. In Kahriman and Polat's (2003) study, it was observed that as the social support from family and peers increased, individuals' self-esteem levels increased. In Gelbal Duyan Sevin and Erbay's (2010) study, self-esteem levels of students with social support were found to be higher than those of students without social support. In another research, Savi Çakar and Karataş (2012) found positively significant relationships between adolescents' self-esteem and perceived social support. In this context, individuals' perceived social support was observed to be positively associated with their self-esteem in the current study. Namely, it may be said that perceived social support from family and peers influences their self-esteem and, thus, increase their life satisfaction. Similarly, Mruk (2006) states that supportive parent attitudes constitute a positive power over self-esteem. However, it is stated that improving or preserving self-esteem basically depends on life-long warm-heartedness of people, encouragement/promotion, respect, and support.

Relevant literature indicates that perceived social support and self-esteem are associated with variables effective on life satisfaction. In Kong Ding and Zhao's (2015) study, a positively significant relationship was found between perceived social support, self-esteem, and life satisfaction. They also found that social support and self-esteem mediated between gratitude and life satisfaction. Kong and You (2013) stated that loneliness and self-esteem fully mediated the relationship between social support and life satisfaction. In another study by Kong Zhao and You (2012), social support and self-esteem had a mediation effect on the relationship between emotional intelligence and life satisfaction. It was also reported (Çivitci & Çivitci, 2009) partial mediation of self-esteem was found between loneliness and life satisfaction. Zhao Wang and Kong (2014) found the full mediation of self-esteem and perceived social support between university students' humor styles, and life satisfaction. As Diener (1984) stated, the most significant predictor of subjective well-being and life satisfaction, which is one of its two components, is self-esteem. Positive relationships between self-esteem and life satisfaction, or subjective well-being levels were found in similar studies, (Çevik, 2010; Doğan & Eryılmaz, 2013; Kocayörük & Şimşek, 2009; Türkmen, 2012; Yıldız & Duy, 2015). Diener and Diener (2009) found a

positive relationship between self-esteem and life satisfaction in their international study. In the current study, self-esteem, both alone and together with perceived social support, significantly predicted individuals' life satisfactions. This result also confirms the theoretical explanations about the relationship between self-esteem and life satisfaction (Diener, 1984; Diener et al., 1999).

The current study has also some limitations. First of all, research sample consisted of individuals in one city or area. The tested model may be confirmed by carrying out new studies with college students from different cities or regions. Thus, the generalizability of the current results may be increased. Moreover, the participants were assumed to have no psychological disorders. The same model may be tested with individuals with mental health problems.

Findings obtained in the current study showed that both perceived social support and self-esteem were two significant factors to reduce loneliness and increase life satisfaction. Some suggestions may be put forward based on the results obtained in the current research. The tested model in the research was confirmed. Hence, psycho-educational programs to escalate self-esteem can be useful. Such psycho-educational programs may also focus on topics, such as social skills and skills for building friendships in order to reduce loneliness levels and increase life satisfactions. In addition, programs based on parent education may be prepared in order to increase parental support.

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