Mediating Role of Self-Esteem in the Association between Loneliness and Psychological and Subjective Well-Being in University Students

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Abstract

The aim of this study is to examine the mediating role of self-esteem in university students in association with loneliness and psychological and subjective well-being. The study consisted of 340 university students, including 118 males and 222 females. The age range of participants is between 18 and 27. Rosenberg Self-Esteem Scale, Flourishing Scale, Satisfaction with Life Scale and UCLA Loneliness Scale were used in the study. Results of the study showed that loneliness was significantly and negatively associated with self-esteem, psychological well-being, and subjective well-being. Self-esteem was significantly and positively related to psychological well-being and subjective well-being. In this study, compared to male students, female students tended to report greater self-esteem, psychological and subjective well-being while they reported lower loneliness. Mediation analysis revealed that loneliness was a significant and negative predictor of self-esteem, psychological and subjective well-being. Self–esteem partially mediated the association between loneliness and well-being outcomes; and it significantly and positively predicted psychological wellbeing and subjective well-being. In university students, loneliness, and self–esteem, together, accounted for 38% of the variance in psychological well-being, while subjective well-being was 25%. Researchers can conduct new research to investigate the positive aspects of university students, and psychological counsellors working in schools can work towards strengthening the positive aspects of students.

Key words: Loneliness, self-esteem, psychological well-being, subjective well-being, positive psychology

Introduction

There is a growing interest in positive psychology, which highlights the individual's strengths, and promotes healthy development (Arslan & Coşkun, 2020; Masoom Ali et al., 2020). Within this context, the aim of positive psychology focuses on improving the living quality of an individual instead of rectifying the negative aspects in his/her life (Seligman, 2002; Seligman, Steen, Park, & Peterson, 2005). Positive psychology is a discipline that studies conditions and experiences related to human development. Positive psychology involves not only dealing with the challenges of life, but also creating positive qualities and changes in the person. Instead of focusing on the individual's shortcomings, positive psychology focuses more on strengthening and capacity building of the individual (Seligman & Csikszentmihalyi, 2000). The focus of positive psychology is to create resources to help individuals develop and become happier by promoting their positive emotions (Snyder & Lopez, 2004). It also focuses more on the positive characteristics, strengths, and virtues of individuals than on the negative, incomplete, and problematic aspects (Barton & Miller, 2015). In recent years, studies on positive psychology have gained remarkable momentum (Tanhan, 2020; Lucas, Diener, & Suh, 1996; Ryan & Deci, 2001). In this context, the course of studies focuses more on areas such as happiness (Deci & Ryan, 2001) self-esteem and optimism (Genç & Arslan, 2021; Lucas et al., 1996), well-being (Arslan, 2018; Meléndez, Satorres, Cujiño, & Reyes, 2019; Tanhan, 2019; Yıldırım & Belen, 2018). Studies on being particularly good appear to be increasing steadily (Meléndez et al., 2019; Tanhan et al., 2020). The concept of well-being refers to high-level psychological function and experience. Well-being has a wide range of content, such as creativity, strong work motivation, strong social bonds, physical health, and life expectancy (Diener, Pressman, Hunter, & Delgadillo-Chase, 2017; Kansky & Diener, 2017), and effective coping strategies and performance (Ryan & Deci, 2001). Investigating the effect of positive psychology on university students creating a significant part of the

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community is thought to be an important field of problem. Based on this idea, this study design has been formed.

Here, two approaches to well-being are prominent: psychological and subjective well-being. Psychological well-being mostly focuses on the happiness; and is defined as avoiding pain and achieving well-being, while more focused subjective well-being meaning, if it is to perform self-well-being, is associated with functions brought instead of the size of one's own (Diener, 1984; Ryan & Deci, 2001). Psychological well-being is that the individual shows his individual equipment against the conditions that she/he meets (Diener, 1984). The heart of psychological well-being has relation with an individual's using his power at the top (Ryff, 1989). Subjective well-being is self-evaluation of a person. This type of evaluation shows itself as both emotional and cognitive judgement (Moore & Diener, 2019). While positive and negative emotions take place in emotional dimension, life satisfaction takes place in cognitive dimension (Diener, 1984; Diener & Diener, 1996). In another word, subjective well-being is the self-evaluation of an individual in terms of work life and physical life (Diener & Lucas, 1999). Loneliness is at the beginning of the situations that weaken the positive aspect of the individual and his/her well-being and cause him/her to be more vulnerable to the negative. Loneliness is the cognitive awareness of sadness, emotional deficiency, and inadequacy (Asher & Paquette, 2003; Metalsky, Joiner, Hardin, & Abramson, 1993). Loneliness is a threat to one's mental and physical health (Du, Li, Chi, Zhao, & Zhao, 2019; Kong & You, 2013). A high level of loneliness causes an individual to have a low well-being (Bhagchandani, 2017; Ye & Lin, 2015) and low social acceptance (Vanhalst at al., 2013). Self-esteem plays an important role among the cases that can help the individual maintain psychological health under forced conditions (Baumeister, Campbell, Krueger, & Vohs, 2003). It is also an important psychological resource (Mruk, 2013). According to Rosenberg (1965), self-esteem is influenced by many factors at some places where one considers himself/herself as a whole. The assessment between individuals ' ideal self-perception and the self-perception they attribute to themselves shows self-esteem (Baumeister et al., 2003). The formation of self-esteem occurs through the experiences of the individual in their lives. From the first years of life, it is an individual's total personal values that she/he develops with family, peer group, and other people (Beumeiter et al., 2003; Ross, 2014). People with high self-esteem are resistant to depression and anxiety and have more positive values (Lyubomirsky, Tkach, & Dimatteo, 2006). A strong self-esteem has a preventative function against depression (Lee, Dickson, Conley, & Holmbeck, 2014), social exclusion, and similar negative psychological outcomes (Arslan, 2019). It has a strong influence on psychological adjustment individually (Smokowski, Guo, Rose, Evans, Cotter, & Bacallao, 2014). It also positively influences the person's ability to evaluate and achieve what they want according to their capacity (Mirjalili, Farahani, & Akbari, 2011). On the other hand, those with low self-esteem are negatively affected by loneliness, depression and anxiety, and exhibit more anti-social behaviours (Leary, 2005; Mackie & Smith, 2002; Luo et al., 2020). Moreover, low self-esteem causes one to have more problems with psychological adjustment (Leary, 2005; Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). In one aspect, a high level of self-esteem serves as a protective shield against many negative situations. That is, loneliness has a devastating effect on one's life, and its negative effect on one's psychological well-being is evident. From this perspective, this study aims to examine the instrumental role of self-esteem in relation with psychological and subjective well-being and loneliness. In earlier studies, there have been no studies of the role of self-esteem as an intermediary between loneliness and psychological and subjective well-being. The study of the role of self-esteem as a mediator between loneliness and psychological and subjective well-being will contribute to the literature. Another goal of this study is to find out what is the negative influence of loneliness levels on university students studying in a rural location.

Loneliness, Psychological, and Subjective Well-Being

Loneliness is still an increasingly chronic problem (Viktor & Yang, 2012). Loneliness is a negative experience that occurs in the context of social relations, when there are some significant deficiencies, quantitative or qualitative, and is unpleasant case (Arslan, 2020; Perlman & Peplau, 1981). In other words, loneliness is a state of subjective contradiction between one's reality and the desired level of social relationship (Peplau & Perlman, 1982). Leaving home and acting independently during the University period brings loneliness with them (Ponzetti, 1990). Loneliness has a negative effect on social adaptation to a new environment (Wohn & LaRose, 2014). In this context, loneliness stands out as an important risk factor for university students. Having a high level of loneliness affects both physical and mental health problems (Kong & You, 2013). These problems are self-harm (Rönkä, at al., 2013), depression (Teo, Choi, & Valenstein, 2013), low self-esteem (Civitci & Civitci, 2009), low psychological and subjective well-being (Bhagchandani, 2017), low social acceptance and negative peer relations (Vanhalst et al., 2013), and weak social relations (Segrin, 2019). Having a high level of loneliness also causes one to isolate him/herself from society and experience academic failures (Benner, 2011). Ang, Chan, & Lee (2018) found a positive and significant relationship between high levels of internet addiction and loneliness in their research. All these data show that loneliness has a positive (internet addiction) or negative

(social adaption to a new environment, physical and mental health problems, depression) effect on many situations, depending on the level of loneliness. For example, Luo, Liu, & Zhang (2020) in their study found a positive and significant relationship between high-level loneliness and psychological maltreatment. In summary, all these results can be interpreted as a high level of loneliness plays a trigger role in the emergence of many psychological disorders in an individual. It can also complicate the individual's life and cause him / her to get into an unsightly predicament (Hyland et. al. 2019; Stoliker & Lafreniere, 2015).

The concept of psychological well-being relies on the holistic understanding that studies the features of individuals maintaining their lives functionally and that takes humanistic approaches as base (Diener et al., 2010). Psychological well-being involves self-actualization when faced with difficulties and mobilizing one's potentials for a meaningful life (Ryff & Singer, 2008). In other words, it is the individual's positive perception of himself and realistically recognizing himself and being aware of his strengths and limitations, as well as being satisfied with himself, being able to act autonomously and independently, and finding the life meaningful (Ryff & Keyes, 1995). Psychological well-being is related to emotional, physical, cognitive, spiritual, personal, and social processes (Roothman, Kirsten, & Wissing, 2003). Psychological well-being in general is based on six dimensions. These include positive relationships with others, purpose and personal growth in life, self-acceptance, autonomy, and environmental mastery (Ryff, 1989). Individuals with a high level of psychological well-being have productive, strong psychological resistance, healthy and positive interpersonal relationships (Ryff, 2014). A strong psychological well-being strengthens many positive sources in a person. The high-level psychological well-being has a positive effect on optimism (Ferguson & Goodwin, 2010), self-esteem (Jiang, 2020; Urzua et al., 2018; Xiang, Tan, Kang, Zhang, & Zhu, 2019). Johansson (2019), for twenty years, carried out a longitudinal study on psychological well-being and subjective well-being, and found out that the relationship between psychological well-being and subjective well-being is strong; and there appeared to be a significant relationship between them. Social anxiety with psychological well-being (Kermen, İlçin-Tosun, & Doğan, 2016), loneliness (Arslan, Yıldırım, & Aytaç, 2020; Meral & Bahar, 2016), depression and stress (Çeri and Çiçek, 2021), perceived discrimination (Urzua et al., 2018), separation-individuation (Çiçek, 2021), a negative and significant relationship was also found between them. Xiang et al. (2019), in their research, found that psychological well-being has an important function in reducing stress. On one side, psychological well-being creates a strong set against problems that reduce one's energy and weaken one's psychological endurance.

Subjective well-being is a cognitive and contagious multidimensional construct and is also used with happiness. It refers to individuals' subjective assessment of the quality of their lives and their life satisfaction (Diener, 1994; Yıldırım & Alanazi, 2018; Yıldırım & Çelik-Tanrıverdi, 2020). In other words, it is about how the individual evaluates and experiences his or her life cognitively and emotionally. Here, subjective well-being is a matter of self-evaluation of both emotional and cognitive aspects. It is often based on happiness and positive emotions (Myers & Diener, 1995). It covers strong interpersonal relationships, self-improving cognitive structures, mental health, and social and psychological outcomes (Lyubomirsky, King, & Diener, 2005a). Having a high level of subjective well-being allows one to experience less psychological and social problems such as loneliness, depression, and incompatible behaviours (Bhagchandani, 2017; Park, 2004; Ye & Lin, 2015). Additionally, subjective well-being has a positive effect in increasing self-esteem (Asli Azad, Shariat, Farhadi, & Shahidi, 2018), hope (Aziz & Hassan, 2019), social support (Çiçek, 2021; Alshehri, Yildirim & Vostanis, 2020), meaning in life (Yıldırım & Arslan, 2021), professional engagement (Dilekçi & Limon, 2020), psychological well-being (Joshanloo, 2019; Demir et al. 2021). In their study, Jalali & Heidari (2016) revealed that there is a meaningful and positive relationship between subjective well-being and happiness, creativity, and professional performance. Myers & Diener (1995) found that people with a high level of subjective well-being generally evaluate the events and phenomena around them positively and experience positive emotions. Similarly, Arslan (2018) found that subjective well-being has a role in enhancing social acceptance and social commitment. All these results show that along with subjective well-being, it makes significant contributions to the psychological empowerment of the person and provides more self-confidence.

Self-esteem as a mediator

Self-esteem plays a major role in the positive progress of individuals (Metalsky et al., 1993). This is an indication that self-esteem plays an important role in a person's psychological endurance. Considering the literature, it is seen that self-esteem has a mediating role among many variables. Self-esteem, life satisfaction, social exclusion (Arslan, 2019), life satisfaction and depression (Civitci, 2010), positive childhood and resilience (Aziz & Yıldırım, 2020; Kocatürk & Çiçek, 2021), social support and subjective well-being (Savi Çakar & Tagay, 2017; Yildirim, Alshehri & Aziz, 2019), procrastination with well-being (Duru & Balkis, 2017), emotional intelligence and life satisfaction (Zarei, Akbarzadeh, & Khosravi, 2019), stress and psychological well-being (Xiang et al., 2019), psychological bullying and loneliness (Luo et al., 2020) have

turned out to be an important intermediary variable among such variables. On the other hand, self-disrespect predicts many variables in both positive and negative way. It has been determined that individual's having high level of self-esteem, life satisfaction (Arslan, 2019; Çivitçi & Çivitçi, 2009; Kwan, Bond, & Singelis, 1997), psychological health (Sedikides et al., 2004) are positively correlated. All these studies show that self-esteem has an intermediary role among many variables. In the literature, there are few studies about the mediating role of loneliness between self-esteem and other variables. Setting out from this perspective, it is thought that investigating the intermediary role of loneliness between positive psychology of self-esteem, a powerful and positive source, and other variables will contribute to the literature. This study aims to examine the mediating role of self-esteem between loneliness and psychological and subjective well-being.
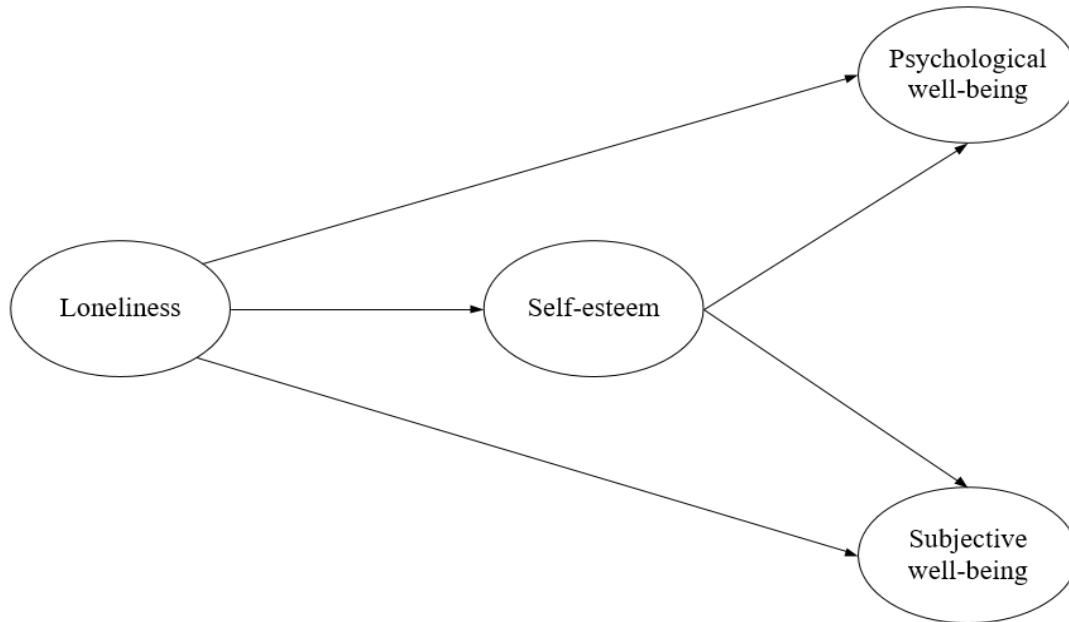

Figure 1. The proposed model of relationships between variables

Method

Participants

Participants of the study consisted of 340 university students. In the study, 222 of the participants were females and 118 were males (N=340). The age range of participants ranged from 18 to 27 (*M*=20.74, *SD*=1.70). The data was collected on a voluntary basis. All participants were assured that their responses would be confidential, anonymous, and used purely for research purposes and were not paid for their involvement in the study. Before starting the study, necessary permissions were obtained from the Batman University Ethics Committee (06/05/2020).

Measures

Rosenberg Self-Esteem Scale (RSES):

The Turkish adaptation of the Rosenberg self-esteem scale developed by Rosenberg (1965) to Turkish language was conducted by Çuhadaroğlu (1986). The Rosenberg self-esteem scale's self-esteem six scale has 10 items and was prepared in a quadruple Likert type (1=strongly disagree, 4 = strongly agree). The height of the scores taken from the scale means that individual's self-esteem is high. The Cronbach Alpha internal consistency coefficient

scale was found as α=.75. The Cronbach alpha internal consistency coefficient scale was calculated as **α=**.80 in the analyses made under this study. This result shows that the scale has a high reliability.

UCLA Loneliness Scale:

The UCLA Loneliness Scale is developed by Russell, Peplau, and Cutrona (1978) that aims to measure individuals' perceptions of their levels of loneliness. The work of adapting the scale to Turkish was done by Demir (1989). The scale consists of 20 items, 10 of which are positive and 10 of which are negative. Elevated scores from the scale indicate that individuals' levels of loneliness are also rising. In the analysis made on the internal consistency of the scale, Cronbach alpha internal consistency coefficient was calculated as α= .96 (Demir, 1989). Within the scope of this research, Cronbach alpha internal consistency coefficient for UCLA Loneliness Scale was α=. 85. This result shows that the scale has a high reliability for this sample

The Flourishing Scale (FS):

The flourishing scale developed by Diener et al. (2010) to measure psychological well-being consists of eight items. Scale clauses (7) are answered in the Likert type ("1=" strongly disagree" to "7=" strongly agree"). The lowest score on the scale is 8 and the highest is 56. Scoring high on the scale is an indication that the person is psychologically good. The Turkish adaptation study of the scale was performed by Telef (2013) (α =. 80). In this study, Cronbach alpha reliability coefficient of this scale was calculated as α=. 87. This result shows that the scale has a high reliability for this sample.

The Satisfaction with Life Scale (SWLS):

The satisfaction with life scale (SWLS), a 5-item and 7-Likert-type scale developed by Diener, at al. (1985), is ranked as (1= "totally agree", 7= "absolutely disagree") to measure subjective well-being. It can be scored between 5 and 35 points on the scale. High scores from the scale show the subjective well-being and positivity of the person. Turkish adaptation study of SWLS was done by Köker (1991) and Cronbach alpha internal reliability coefficient was calculated as α=. 76. Cronbach alpha internal reliability coefficient made within the scope of this study was found to be α=. 82.

Data Analyses

Prior to testing the model, descriptive statistics were conducted to examine the observed scale characteristics, analysis assumptions, and correlations between the study variables. Skewness and kurtosis scores were used to investigate the normality assumption, and these values lower than <|1| are considered as acceptable for normality (Field, 2009). Pearson product-moment correlation was used to examine the association between study variables. After descriptive statistics and correlations were done for the study variables, mediation analyses were conducted to investigate direct and indirect associations between all variables and analyse the mediating role of self-esteem in the association between loneliness and well-being indicators using the PROCESS macro version 3.5 for SPSS (Hayes, 2018). Two independent mediation models (Model 4) were performed to examine the mediating effect of self-esteem on the link of loneliness with psychological well-being and subjective well-being (i.e., life satisfaction). All data analyses were performed using SPSS version 25.

Results

Descriptive Statistics

Preliminary analyses showed that skewness and kurtosis scores ranged between -.82 and .62, supporting that all variables had relatively normal distribution. Pearson product-moment correlation results also showed that loneliness was significantly and negatively associated with self-esteem psychological well-being and subjective well-being. Self-esteem was also significantly and positively related to psychological well-being and subjective well-being. Descriptive statistics and correlation results showing the association between the variables of study are presented in (*Table 1*).

Table 1. Descriptive Statistics and Correlation Results

Scales	1.	2.	3.	4.
1. Loneliness	1	-.46[**]	-.55[**]	-.45[**]
2. Self-esteem		1	.48[**]	.38[**]
3. Psychological well-being			1	.48[**]
4. Subjective well-being				1
Mean	39.097	30.766	42.224	19.387
Sd	10.258	5.788	9.990	6.703
Skewness	.509	-.396	-.822	.229
Kurtosis	.040	-.165	.628	-.443
Internal reliability (α)	.85	.80	.87	.82

[**]All correlation coefficients significant at level $p<.001$.

According to Table 1, there was a negative and significant relationship between loneliness and psychological and subjective well-being and self-esteem. On the other hand, there was a positive and significant relationship between psychological, subjective well-being, and self-esteem. Another result, compared to males, females tended to report greater self-esteem, psychological and subjective well-being while they reported lower loneliness.

Mediating Analysis

After examining descriptive statistics and correlation analysis, two mediation analyses were conducted to investigate direct and indirect associations between all variables and analyse the mediating role of self-esteem in association between loneliness and well-being indicators. We firstly investigated the mediating role of self-esteem in the association between loneliness and psychological well-being. The results of these analyses revealed that loneliness was a significant and negative predictor of self-esteem among university students ($\beta = -.46$, $p<.001$) and accounted for 22% of the variance in this variable. Additionally, loneliness was a significant predictor of university students' psychological well-being ($\beta = -.42$, $p<.001$). Self–esteem partially mediated the association between loneliness and well-being and positively predicted psychological well-being ($\beta = .30$, $p<.001$). Loneliness and self–esteem, together, accounted for 38% of the variance in psychological well-being in university students.

Table 2. Unstandardized Coefficients for the Mediation Model

Antecedent	Coeff.	SE	t	p
	Consequent			
	M_1 (Self-esteem)			
X (Loneliness)	–.26	.03	–9.58	<.001
Constant	40.98	1.10	37.17	<.001
	$R^2 = .22$			
	$F = 91.86; p < .001$			
	Y_1 (Psychological wellbeing)			
X (Loneliness)	–.41	.05	–8.55	<.001
M (Self-esteem)	.51	.08	6.05	<.001
Constant	42.43	3.84	11.04	<.001
	$R^2 = .38$			
	$F = 100.45; p < .001$			
	Y_2 (Subjective wellbeing)			
X (Loneliness)	.23	.04	–6.54	<.001
M (Self-esteem)	–.26	.06	4.18	<.001
Constant	20.35	2.83	7.18	<.001
	$R^2 = .25$			
	$F = 54.45; p < .001$			

Indirect effect of suffering on mental health

	Effect	SE	BootLLCI	BootULCI
Loneliness–>Self-esteem–> Psychological wellbeing	–.13	.03	–.20	–.07
Loneliness–>Self-esteem–> Subjective wellbeing	–.07	.02	–.12	–.03

Note. SE = standard error. Coeff = unstandardized coefficient. X = independent variable; M = mediator variables; Y = dependent variables. Number of bootstrap samples for percentile bootstrap confidence intervals: 10,000.

We secondly examined the mediating role of self-esteem in association with loneliness and subjective well-being. Findings from these analyses showed that subjective well-being was significantly predicted by loneliness (β = -.35, p<.001) and self-esteem (β = -.22, p<.001), and loneliness and self–esteem, together, accounted for 25% of the variance in university students' subjective well-being. Self-esteem mitigated the negative effect of loneliness on subjective well-being. These results suggest that loneliness is a significant predictor of self–esteem and well-being indicators, and self-esteem has a mediator role in the association between loneliness and well-being. Self-esteem is thus important in promoting the university students' psychological and subjective well-being in the context of loneliness experiences.
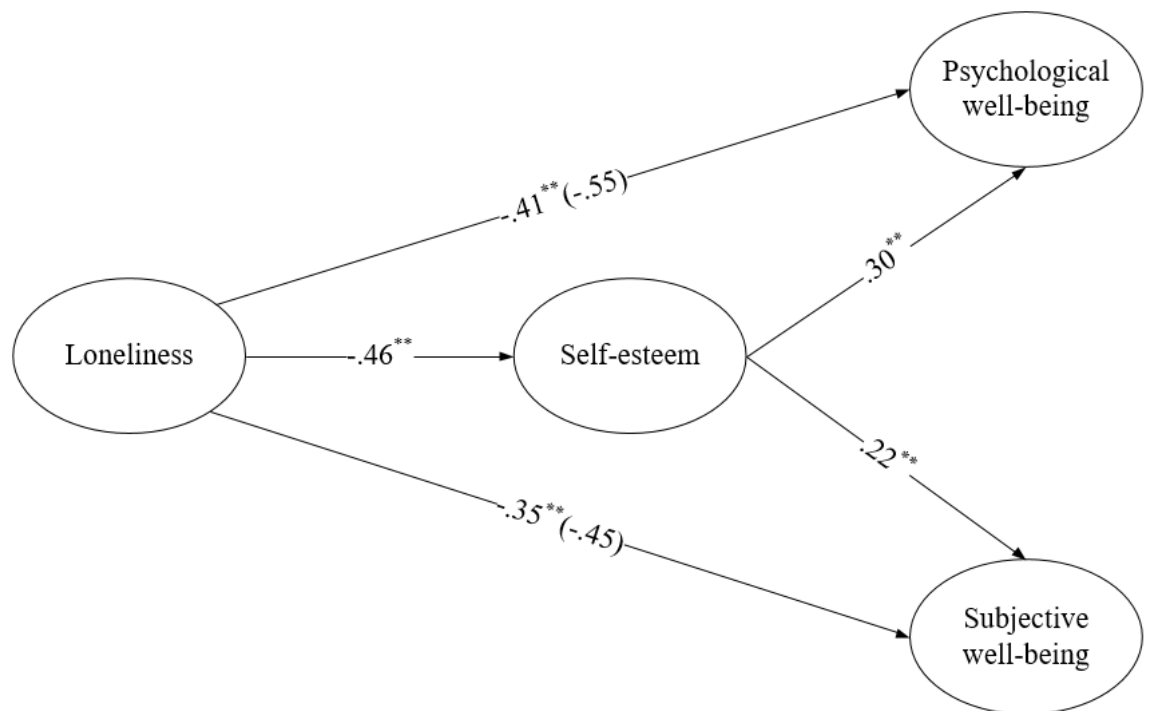
Figure 2. The model showing effects of loneliness on psychological wellbeing and subjective wellbeing via

self–esteem.

Discussion

The results showed that there was a negative and significant relationship between loneliness and self-esteem, psychological well-being, and subjective well-being. On the other hand, there is a positive and significant relationship between self-esteem and psychological and subjective well-being. According to the results obtained from the model, self-esteem mediates partially between loneliness and psychological and subjective well-being and predicts psychological and subjective well-being positively and significantly. Loneliness predicted self-esteem, psychological and subjective well-being in a negative direction. As a result, this study supports the importance of self-esteem in explaining the relationship between loneliness and psychological and subjective well-being and reveals that it has a role to enhance well-being.

The results show a negative and significant relationship between loneliness and self-esteem. As the level of self-esteem rises, the level of loneliness declines. This situation shows that loneliness has negatively and seriously effects on the positive sources of university students. Therefore, it is of great importance to know how devastating effect has loneliness on university students. There are findings in the literature that support these results (Hu et al., 2016; Varghese & Pistole, 2017; Yöyen, 2017). Güloğlu & Karaırmak (2010), in their study on university students, found a negative and significant relationship between loneliness and self-esteem. Low self-esteem causes individuals to experience more intense loneliness (Du et al., 2019; Kong & You, 2013; Luo et al., 2020; Vanhalst et al., 2013). It also appears that low self-esteem triggers loneliness and causes the person to be more vulnerable to negative situations (Metalsky et al., 1993). These results show that low self-esteem causes the individual to encounter many psychological problems. Previous studies have found that low self-esteem is associated with depressive symptoms (Masselink, Van Roekel, & Oldehinkel, 2018) and anxiety (Sowislo & Orth, 2013). In this regard, Stillman et al. (2009) noted that a strong self-esteem is part of the system that individuals use to regulate their behaviour and deal with their existential circumstances. And this system has an empowering effect on the individual's well-being when he/she is evaluated positively, making him/her healthier (Orth & Robins, 2014). Another result of the study was that a negative and significant relationship was found between loneliness and psychological and subjective well-being. This result shows that loneliness has a destructive effect on well-being. Also, this study shows similar results to previous studies (Hu, et. al., 2016;

Mellor, Stokes, Firth, Hayash, & Cummins, 2008; Swami et al., 2007; Yan, Su, Zhu, & He, 2013). Bhagchandani (2017), in his research with university students, found that as students' loneliness scores rose, their psychological well-being scores declined. Likewise, those with higher levels of subjective well-being experienced less loneliness (Ye & Lin, 2015). What limits the individual's daily activities such as loneliness, social relationships, emotional well-being and subjective physical health and psychological well-being of the problematic situation using smartphone was determined to have caused a negative impact on the formation of a lower well (Harwood & Angling, 2019)?

The results from this study found that there was a positive relationship between self-esteem and psychological and subjective well-being. It shows that individuals with strong self-esteem have high levels of psychological and subjective well-being. So, it is seen that self-esteem feeds positive sources of university students in many respects. Many studies support these results (Hu, et al., 2016; Kocayörük, & Şimşek, 2009; Tian, 2016; Yıldız, & Duy, 2015; Yao, Chen, Yu, & Sang, 2017). Jiang (2020), in his study on adolescents, found a positive directional and significant relationship between self-esteem and psychological well-being. Results showed that adolescent's self-esteem rises, their levels of psychological well-being also rise. Doğan & Eryılmaz. (2013) revealed in the research that self-esteem positively predicts subjective well-being. At the same time, a high self-esteem enables the individual to have lower depression (Sowislo & Urth, 2013). In summary, having a high level of self-esteem is a function of protecting the person against negative psychological problems and strengthening the person in a positive way.

Finally, self-esteem was found to be partially mediated between loneliness and psychological and subjective well-being. When the literature is examined, no studies have been found that the intermediary role of self-esteem between loneliness and psychological and subjective well-being are investigated. However, the results of this study show that self-esteem, in a parallel way, mediates between the variables of loneliness and positive psychology (e.g., life satisfaction, well-being) (Çivitçi & Çivitçi, 2009). In Hu, Hu, Huang, & Zheng (2016) 's research on adults, they found that self-esteem mediates as the portion between loneliness and subjective well-being. In addition, there are studies in which self-esteem mediates between loneliness (life satisfaction, peer acceptance) (Song, Zuo, Tan, & Dai, 2017; Kapıkıran, 2013). Savi Çakar and Tagay (2017) found that self-esteem and social support together mediate between well-being (life satisfaction) and loneliness. Another result obtained in this study is that loneliness predicts negative self-esteem. There are studies supporting this result when the literature is examined. Uba, Yaacob, Juhari, and Talib (2012) found in their study that loneliness leads to negative self-esteem. This result can be considered as one of the indicators that loneliness has a negative effect on the individual's well-being and positive psychological resources. In addition, it reveals that the concept of loneliness should be studied from a broader perspective and with different variables.

Implications

With this study, it is possible to say that a valuable contribution has been provided to the literature by studying the intermediary role between self-esteem, which takes place among important variables of positive psychology, and loneliness and psychologic and subjective well-being. Another contribution of this study to the literature is that loneliness and self-esteem together form about 50% of psychologic and subjective well-being. Also, the study has shown that loneliness has a negative effect on positive resources of the university students. Finally, the study has showed that the self-esteem scores of the university students make an important predictor for their psychological and subjective well-being. All these inferences obtained from the study are thought to provide significant contributions to the literature.

Limitations and recommendations

It is possible to note several limitations of this study. First, the number of the participants is not so high. For this reason, it will be convenient to study with bigger volume groups in new studies. Second, demographic variables have not been included in the study much. This creates a limitation on the discussion obtained from the variables in the study according to results of demographic variables. Third, the mediating variable in the study can only be thought of as a limitation in that it represents only a small part of positive psychology. Therefore, future studies will examine the role of other variables associated with positive psychology (such as hope, self-sufficiency, life satisfaction) along with self-esteem as an intermediary. Fourth, the fact that the sample group consists of students studying at a rural university can be considered as a limitation in the generalization of the results obtained from this study on all university students. Researchers can work on students studying at universities in different cities related to this topic. Fifth, the scales of self-esteem, psychological and subjective well-being and loneliness covered in the study were self-reports, and participants may have answered some

questions in a biased way. Therefore, in subsequent studies, researchers may be recommended to apply the same scales to the sample group in two time periods. Therefore, in subsequent studies, researchers may be recommended to apply the same scales to the study group in two time periods. Researchers should conduct new research to investigate the positive aspects of university students. In addition, psychological counsellors working in schools can work to strengthen the positive aspects of students. In addition, it would be appropriate to use different therapeutic techniques (Çiçek & Tanhan, 2020). Psychological counsellors may suggest families holding informative meetings on how to improve the positive aspects of their children.

Conclusions

This study showed that self-esteem is partially mediated between loneliness and psychological and subjective well-being. Self-esteem predicts both psychological well-being and subjective well-being in a positive way. Another result from the study was that self-esteem and loneliness together accounted for 38% of psychological well-being and 25% of subjective well-being. In previous studies, loneliness was effective in experiencing physical and mental health problems (Kong & You, 2013), low psychological and subjective well-being (Bhagchandani, 2017) as a result of this study,loneliness is a strong and negative predictor of self-esteem, and that it also has a strong effect on low psychological and subjective well-being. The results of this study showed that loneliness is a strong and negative predictor of self-esteem. Finally, a negative and significant relationship was found between self-esteem, psychological and subjective well-being, which are components of positive psychology of loneliness.

Ethics declarations

The research was approved by Batman University/Turkey Ethics Committee. All procedures performed in study involving human participants were in accordance with the ethical standards the 1964 Helsinki declaration.

Informed Consent

Informed consent was obtained from all individual participants included in in the study.

Conflict of Interests

The author declares no conflicts of interest with respect to the research, authorship, and/or publication of this article.

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