



*Araştırma Makalesi • Research Article*

## The Mediation Role of Dispositional Hope and Life Satisfaction in The Loneliness-Life Engagement Relationship \*

### *Yalnızlık ve Yaşama Bağlanma Arasındaki İlişkide Sürekli Umut ve Yaşam Doyumunun Aracı Rolü*

Eyüp Çelik,<sup>a,\*\*</sup> Neslihan Arıcı Özcan,<sup>b</sup> Erol Uğur<sup>c</sup>

<sup>a</sup> Doç. Dr., Sakarya Üniversitesi, Eğitim Fakültesi, 54300, Sakarya/Türkiye.  
ORCID: 0000-0002-7714-9263

<sup>b</sup> Dr. Öğr. Üyesi., İstanbul Medeniyet Üniversitesi, Sağlık Bilimleri Fakültesi, 34720, İstanbul/Türkiye.  
ORCID: 0000-0002-6169-1445.

<sup>c</sup> Arş. Gör., Sakarya Üniversitesi, Eğitim Fakültesi, 54300, Sakarya/Türkiye.  
ORCID: 0000-0003-1974-2621

#### MAKALE BİLGİSİ

##### *Makale Geçmişi:*

Başvuru tarihi: 10 Ekim 2019  
Düzeltilme tarihi: 19 Ocak 2020  
Kabul tarihi: 07 Şubat 2020

##### Anahtar Kelimeler:

Yalnızlık  
Sürekli Umut  
Yaşam doyumu  
Yaşama Bağlanma  
Seri aracı model

#### ARTICLE INFO

##### *Article history:*

Received 10 October 2019  
Received in revised form 19 January 2020  
Accepted 07 February 2020

##### Keywords:

Loneliness  
Dispositional hope  
Life Satisfaction  
Life engagement  
Serial mediation model

#### ÖZ

Araştırmanın amacı, seri çoklu aracı model ile yalnızlık ve yaşama bağlanma arasındaki ilişkide sürekli umut ve yaşam doyumunun aracı rolünün incelenmesidir. Araştırma ilişkisel tarama yöntemi ile gerçekleştirilmiştir. Veriler 226 üniversite öğrencisi üzerinden uygun örnekleme yöntemi kullanılarak toplanmıştır. Araştırma verileri Sosyal ve Duygusal Yalnızlık Ölçeği-Kısa Formu, Sürekli Umut Ölçeği, Yaşama Bağlanma Ölçeği ve Yaşam Doyumu Ölçeği ile toplanmıştır. Verilerin analizi korelasyon ve regresyon analizi ile gerçekleştirilmiştir. Aracılık analizi öncesinde yapılan regresyon analizinde yalnızlığın yaşama bağlanmayı yordadığı bulunmasına rağmen seri çoklu aracı model testinde sürekli umut ve yaşam doyumu değişkenlerinin yalnızlığın yaşama bağlanmayı yordama düzeyini düşürdüğü bulunmuştur.

#### ABSTRACT

The aim of the present study is testing the mediation role of dispositional hope and life satisfaction in the relationship between loneliness and life engagement with serial mediation model. The relational survey method was used in the study. Data were collected from 226 college students. Research data were collected with Social and Emotional Loneliness Scale for Adults-Short Form, Dispositional Hope Scale, Life Engagement Scale, and Satisfaction with Life Scale. The data were analyzed by correlation and regression analysis. Regression analysis made before the mediation analysis, showed that loneliness significantly predicted life engagement. The serial mediation analysis showed that the mediation role of dispositional hope and life satisfaction decreased the predictive level of the loneliness on life engagement.

## 1. Introduction

Human behaviors including daily activities are indicators of being alive (Carver, & Scheier, 1998). Many personality theorists (e.g. Bandura, 1997; Carver, & Scheier, 1998) state

that human behavior is formed around goals and these goals enable people to give meaning to their life. According to the expectancy model, two things are vital for human behaviors; one of them is people's ability to find the goals, second one is the identification of these valued goals (Vroom, 1964).

\* Part of this study was presented an oral presentation at the Multidisciplinary Academic Conference (MAC-ETeL 2016. August, 5-6, Prague, Czech Republic), "Epiphenomenal Effect of Dispositional Hope and Life Satisfaction in the Loneliness-Life Engagement Relationship"

\*\* Sorumlu yazar/Corresponding author  
e-posta: eyupcelik@sakarya.edu.tr

Therefore, to live as a human being people have to put goals, give meaning what they do and engage activities (Csikszentmihalyi, 1997; King, Hicks, Krull, & Del Gaiso, 2006). Engagement in valued activities may enhance individuals' life engagement which protect people from psychological and physiological problems (Wrosch, Scheier, Miller, Schulz, & Carver, 2003). Moreover, life engagement was widely associated with the positive psychological factors (Vella-Brodrick, Park, & Peterson, 2009). Significant positive correlation was found between life engagement and life satisfaction, (Peterson, Ruch, Beermann, Park, & Seligman, 2007) and significant negative correlations were found between life engagement and perceived stress and depression (Salguero, Palomera, & Fernández-Berrocal, 2012). Life engagement is a predictor of psychological and physiological well-being, hope and life satisfaction (Scheier, et al., 2006). Hope is related with psychological well-being and life satisfaction (Bronk, Hill, Lapsley, Talib, & Finch, 2009; Synder, 2000; Valle, Huebner, & Suldo, 2006).

Hope is defined as a cognitive set that contains a derived sense of successful future agency and pathways for goals (Bailey, & Snyder, 2007; Cole, 2008). In other words, people with hope have goal directed determination and make plans to achieve their goals (Lopez, et.al, 2004; Synder et al., 1991; Snyder, Rand, & Sigmon, 2002). Arnau, Rosen, Finch, Rhudy, and Fortunato (2007) indicated that hope was a self-initiated action. Thus, people with hope have more valued goals and engage in more purposeful activities to reach valued goals (Synder et al., 1991; Snyder, et al., 2002). With parallel to this, some of the research (Acun-Kapikiran, 2012; Bailey, Eng, Frisch, & Snyder, 2007; Bailey, & Synder, 2007; Cole, 2008; Extremera, Duran, & Rey, 2009) indicated that people with hope had more life satisfaction level.

Life satisfaction defined as the general cognitive evaluations of one's life is evaluated by globally or specifically (Emmons, Larsen, & Griffin, 1985). People are content with their life as a whole or content with specific area of their life such as friends (Suldo, Riley, & Shaffer, 2006). General or specific life satisfaction consists of conscious pleasant activities that motivate people to pursue goals (Frisch, Clark, Rouse, Rudd, Paweleck, & Greenstone, 2005). In literature there are many research (Gillman, 2001; Valois, Zullig, Huebner, & Drane, 2004) indicated that extracurricular activities are positively correlated with life satisfaction especially among adolescents. With parallel to this, it is stated that life satisfaction is component of well-being (Suldo, & Huebner, 2006), and it is also positively related with hope (Chang, 1998, Gilman, Dooley, & Florell, 2006) and life engagement (Csikszentmihalyi, 1997). However, life engagement (Csikszentmihalyi, 1997; Joiner, Lewinsohn, & Seeley, 2002), hope (Snyder, Cheavens, & Simpson, 1997), and life satisfaction (Anderson, & Diamond, 1995; Goodwin, Cook, & Yung, 2001; Neto, 1995) are negatively correlated with loneliness.

Loneliness devastating serious consequences on peoples' health system (DiTommaso, & Spinner, 1997; Hawkey, Burleson, Berntson, & Cacioppo, 2003; Peplau, & Goldston, 1984; Shiovitz-Ezra, & Ayalon, 2010; Thurston, & Kubzansky, 2009) is conceptualized by two main perspectives (DiTommaso, Brannen, & Best, 2004). In one perspective, loneliness is defined as feelings and thoughts of being isolated and disconnected from others (Russell, 1996).

In another perspective, loneliness is described as the experience of emotional and social isolation (Weiss, 1973). It can be seen that one perspective evaluate loneliness as a unit, another perspective evaluate loneliness a multidimensional. Furthermore, as a component of life engagement, social engagement is also crucial to tackle the social isolation and loneliness (Jang, Mortimer, Haley, & Graves, 2004; Sprinks, 2014). In other words social support is a crucial predictor of life satisfaction (Diener, & Seligman, 2002; Skok, Harvey, & Reddihough, 2006; Suldo, & Huebner, 2006).

Moreover life engagement, life satisfaction, and hope are also vital for young adults this is because young adults in transition period from adolescence to adult life feel more loneliness than the other developmental stages of life (Cheng, & Furnhan, 2002; Frisen, 2007; Heinrich, & Gullone, 2006; Jones, & Carver, 1991). And some studies (Akhunlar, 2010; Chipuer, Bramston, & Pretty, 2003; Goodwin, Cook, & Yung, 2001; Kapikiran, 2013; Neto, & Barros, 2000; Salimi, 2011; Swami et al., 2007; Tzonichaki, & Kleftaras, 2002) showed that when the level of loneliness of young adults increases the level of life satisfaction of their decreases. However, in the literature it is stated that having a good relationship with friends was correlated with lower level of loneliness (Lee, & Goldstein, 2015; Segrin, & Passalacqua, 2010). In paralel to this, some research's results (Lewis, Huebner, Malone, & Valois, 2011; Proctor, Alex Linley, & Maltby, 2009) pointed out that young adults engaged in valued academic or social activities reported successful career results and higher level of life satisfaction. Gilman and Huebner (2006) showed that high level of life satisfaction of young adults is positively correlated with the level of hope and social relationship of young adults. Suldo and Huebner (2004) stated that life satisfaction among young adults is as a mediator and moderator between the environment and behavior. In Turkey, some of the university environment especially in small country is not suitable for individuals to engage in some of the activities which may be positive effects on their level of life satisfaction and hope, and decrease their level of loneliness.

Furthermore in the late adolescent period people have an expectation to get a positive feedback and confirmation from adults especially parents, teachers, to form coherent identity based on their personal values, goals and ideologies (Ellis, 2002). Phinney and Ong (2002) stated that any discrepancies or disagreements between parents' and youth's ideas about values, goals and ideologies are correlated with low life satisfaction across cultures. With parallel to this parental criticism has negative effects on youth's identity formation and mental health (Baetens, 2015; Wedig, & Nock, 2007; Yates, Tracy, & Luthar, 2008). In Turkey some adults such as the parents can use authoritative style and more criticism. This can influence some of the young adult adversely some of them not (Kağıtçıbaşı, 2005; Kağıtçıbaşı, 2007; Sümer, & Güngör, 1999; Yılmaz, 1999). In this respect, young adult adversely affected might not share their ideas with adults, may feel lonely and may get mental health problems. And in the literature, it is also stated that overprotection from parents was positively correlated with loneliness (Jackson, 2007; Terrell, Terrell, & Von Drashek, 2000). In Turkey, even though the parents generally are authoritarian, they have over protective behaviors for their children

(Kağıtçıbaşı, 2005; Kağıtçıbaşı, 2007; Yılmaz, 1999) that may effect on their mental health and loneliness.

Last but not least, these concepts mentioned above described as positive and correlated with loneliness in a negative way in related literature (Dowling, & Rickwood, 2015). However it is not stated in literature which one is the mediator and factor for explaining the loneliness especially among young adults. However many studies in Turkey have examined the relationship between loneliness and several variables such as attachment (Demirli, & Demir, 2014, Yıldız, 2014), demografic variables (Özdemir, & Tuncay, 2008) depression (Bilgiç, 2000), social skills (Ozben, 2013) internet addiction (Akin, 2012) life satisfaction (Bugay, 2007), it is not stated in literature which one is the mediator and factor for explaining the loneliness especially among young adults together. Therefore, this study makes a contribution to understanding which factors play an important role in loneliness among young adult. Essentially, understanding which factors play an important role in loneliness should lead further studies in order to better adapt programs and training sessions accordingly. In the present study, the analysis focuses on the relationship between loneliness and life engagement with the mediating roles of dispositional hope and life satisfaction, and the sequential effect of dispositional hope and life satisfaction on life engagement in young adults. And this study tested whether there was more than one mediating variable in the relationship between loneliness and life engagement in young adults. In this context, this study argues that dispositional hope and life satisfaction processes have mediation roles in the loneliness-life engagement relationship.

H1. Loneliness predict life engagement

H2. Dispositional hope positively mediates the relation between loneliness and life engagement.

H3. Life satisfaction positively mediates the relation between loneliness and life engagement.

H4. Dispositional hope and life satisfaction sequentially mediate the relationship between loneliness and life engagement.

## 2. Methodology

This section contains information about the research model, sample, data collection tools, data collection and analysis.

### 2.1. Research Method

The relational survey method was used in the study. Karasar (2006) states that the relationships between variables can be examined with this method. In this context, this work was carried out to investigate the relationships between loneliness, dispositional hope, life satisfaction and life engagement levels of university students.

### 2.2. Participants

College students (Faculty of Education, Sakarya University, Turkey) from five classes participated the present study. Convenience student sample was used in choosing the sample because they are willing and available to be studied (Creswell, 2002). Participants were asked about their willingness to participate in a research. They were told that their participation would be voluntary and incorporated, and

that no formative credits or monetary rewards would be given. 226 college students accepted to participate (132 female 58%; 94 male 42%; age range 18-22). All of the participants were Turkish.

### 2.3. Data Collection

Researchers administered the self-report measures to the students in the classroom environment. Informed consent was gathered from all students. The data collection and its analysis were done anonymously. Participants completed the instruments approximately in 20 min.

### 2.4. Data Collecting Tools

#### 2.4.1. *Social and Emotional Loneliness Scale for Adults-Short Form (SELSA-S)*

The scale was developed by DiTommaso, Brannen, and Best (2004), and it was adapted into Turkish by Çeçen (2007). In the scale development study, the result of the exploratory factor analysis showed that factor loadings ranged from .70 to .70. For construct validity, confirmatory factor analysis demonstrated that fit index coefficients of the model were NFI= .92, CFI= .92, TLI 91, and the root mean squared residual < .01. SELSA-S has three subscales namely romantic loneliness, family loneliness and social loneliness. The levels of internal consistency for subscales were ranging from .87 to .90. In the adaptation study, the result of the exploratory factor analysis showed that the total variance explained was 55.13%, and factor loadings ranged from .55 to .84. For construct validity, confirmatory factor analysis demonstrated that fit index coefficients of the model were GFI= .91, IFI= .92, CFI= .92, and RMSEA= .02. SELSA-S has three subscales namely romantic loneliness, family loneliness and social loneliness. Cronbach's alpha was found .83 for romantic loneliness, .76 for family loneliness, and .74 for social loneliness. Cronbach's alpha was found .68 for romantic loneliness, .74 for family loneliness, and .62 for social loneliness in the current study. The SELSA-S measures a lack of others who the individual has an emotional attachment to them, and a lack of an acceptable social network (Peerenboom, Collard, Naarding, & Comijs, 2015). SELS is a 15-item self-report instrument (e.g., I feel part of a group of friends-social loneliness- e.g., I feel alone when I am with family-family loneliness- e.g., I have an unmet need for a close romantic relationship- romantic loneliness), and items are rated from 1 (very strongly disagree) to 7 (very strongly agree). SELS's scores ranging from 15 (lower level of loneliness) to 105 (higher level of loneliness), and scores are the sum of items (Çeçen, 2007).

#### 2.4.2. *Dispositional Hope Scale (DHS)*

Snyder et al. (1991) developed DHS, and its validity and reliability studies were conducted by Tarhan and Bacanlı (2015) in order to adapt it into Turkish. In the scale development study, the levels of internal consistency coefficients for the total scale was found ranging from .74 to .84. In the adaptation study, the result of the exploratory factor analysis showed that the total variance explained was 61%, and factor loadings ranged from .54 to .91. For construct validity, confirmatory factor analysis demonstrated that factor loadings ranged from .56 to .80, and fit index coefficients of the model were GFI= .96, AGFI= .92, RMR= .08, NNFI= .94, RFI= .90, CFI= .96, and RMSEA= .077. Cronbach's alpha for the adaptation study sample was .84.

Cronbach's Alpha coefficient was found as .78 in the current study. The scale is a 12-item self-report instrument (e.g., I energetically pursue my goals), and items are rated on an 8-point Likert-type scale (0 = definitely wrong and 8 = definitely true). DHS's scores are calculated by summing the responses to the items, and higher scores indicate higher levels of dispositional hope (Tarhan, & Bacanlı, 2015).

### 2.4.3. Life Engagement Scale (LES)

The scale was developed by Scheier et al. (2006), its validity and reliability studies were performed by Uğur and Akin (2015) in order to adapt it into Turkish. The scale is a 6-item self-report instrument (e.g., There is not enough purpose in my life), and items are rated from 1 (strongly disagree) to 5 (strongly agree), and three items (1, 3, 5) were reverse coded. Higher scores indicate higher levels of life engagement. In the original form, factor loadings ranged from .57 to .86. Cronbach's alpha internal consistency reliability coefficients were between .72 and .87; test-retest reliability coefficients were found between .61 and .76. In the Turkish version, data were obtained from undergraduate students. The confirmatory factor analysis demonstrated that the 6 items loaded on one factor (life engagement) and the one-dimensional model was well fit ( $\chi^2= 11.50$ ,  $df= 8$ ,  $RMSEA= .039$ ,  $AGFI= .93$ ,  $CFI= .99$ ,  $GFI= .99$ ,  $NFI= .97$ ,  $IFI= .99$ ,  $RFI= .94$ ,  $NNFI= .98$ ,  $SRMR= .032$ ) (Uğur & Akin, 2015). Cronbach's Alpha coefficient was .74. Cronbach's Alpha coefficient was found as .68 in the current study.

### 2.4.4. Satisfaction with Life Scale (SWLS)

Diener, Emmons, Larsen, and Griffin (1985) developed the SWLS, and Durak, Şenol-Durak, and Gençöz (2010) performed the validity and reliability studies in order to adapt into Turkish. In the original form, the internal consistency of the scale was .87, and the test-retest correlation was .82. Also, it was found a one-factor structure that explained 66% of the variance. The confirmatory factor analysis of the Turkish form revealed the most simple factor structure as the original scale and one factor structure of the scale was a valid model ( $\chi^2/df= 2.026$ ,  $RMSEA = .043$ ,  $TLI = .98$ ,  $CFI = .99$ ,  $IFI = .99$ ) in university student sample. It was observed that the all fit indices of the model were acceptable. The internal consistency reliability of the scale was .81. Cronbach's Alpha coefficient was found as .85 in the current study. The SWLS is a 5-item scale which refers to positive health related outcomes and wellbeing (e.g., in most ways my life is close to my ideal). SWLS uses a 7-point Likert scale (1= very strongly disagree and 7= very strongly agree). The total scores range from 5 to 35. SWLS scores are the sum of the items, and higher scores indicate higher level of life satisfaction.

## 2.5. Data Analysis

The data were analyzed by correlation and regression analysis. Furthermore, the serial multiple mediation model was tested with regression-based mediation analysis, which is a statistical method used to help answer the question as to how some causal agent X transmits its effect on Y. What is the mechanism by which X influences Y? (Hayes, 2013). In this context, the serial multiple mediator model of the present study is to investigate the direct and indirect effects of loneliness on life engagement while modeling a process in which loneliness causes dispositional hope, which in turn

causes life satisfaction, and so forth, concluding with life engagement as the final consequent. The Sobel test was used to determine whether the mediational roles of dispositional hope and life satisfaction are statistically significant in the relationship between loneliness and life engagement. Thus, the SPSS version of the PROCESS was used to analyze the data.

## 3. Findings

Table 1 presented the means, standard deviations of the variables and their inter-correlations. As shown in Table 1, life satisfaction and dispositional hope positively related to life engagement, but loneliness negatively related to life engagement, life satisfaction and dispositional hope.

**Table 1.** Descriptive Statistics and Correlations

Variables	1	2	3	4
Life Engagement	1			
Loneliness	-.26**	1		
Dispositional Hope	.57**	-.33**	1	
Life Satisfaction	.36**	-.34**	.34**	1
M	23.61	49.62	66.57	23.77
SD	3.61	15.82	11.24	6.90

\*\* $p < 0.01$

### 3.1. Mediating Role of Dispositional Hope and Life Satisfaction

Before the serial multiple mediation model was tested with regression-based mediation analysis, data were checked that there are missing data and data come up to regression assumptions. Furthermore, missing data were deleted. The results of the examination were presented in Table 2. As seen in Table 2, these findings demonstrated that data meet the required assumptions for regression analysis.

**Table 2.** The Results of Regression Assumptions

Dependent Variable	Independent Variables	Skewness	Kurtosis	VIF	CI
		-.80	1.01		1.00
Life Engagement	Loneliness	.11	-.08	1.20	5.66
	Dispositional Hope	-.56	.73	1.20	10.59
	Life Satisfaction	-.45	-.26	1.21	20.43
					3

In order to determine the factors that contribute to the life engagement, the regression analysis was done to determine whether loneliness significantly predicted life engagement. As shown in Table 3, regression analysis showed that loneliness significantly predicted life engagement (Coeff. = -.26, 95% CI: -.39 – -.13;  $p < .001$ ).

**Table 3.** Regression Coefficients, Standard Errors and Significance Tests for the Regression Model

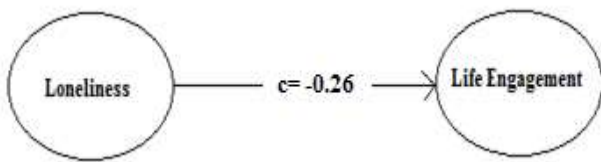
Predictor	Coeff.	SE	p	F	R <sup>2</sup>
Constant	.00	.06	1.0000		
Loneliness	-.26	.01	<.001	16.06	.07

As shown in Figure 1 and Table 4, the result of the mediation analysis showed that both dispositional hope (Coeff. = .27,

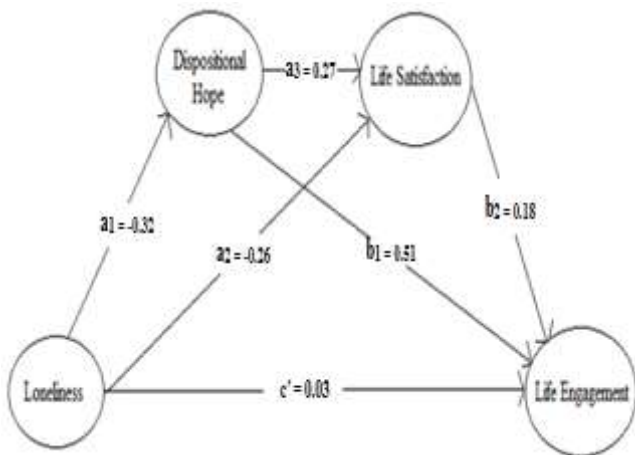
95% CI: .13 – .40;  $p < .001$ ) and loneliness (Coeff. = -.26, 95% CI: -.38 – -.13;  $p < .001$ ) significantly predict life satisfaction. Furthermore, dispositional hope (Coeff. = .51, 95% CI: .39 – .63;  $p < .001$ ) and life satisfaction (Coeff. = -.18, 95% CI: .06 – .29;  $p < .05$ ) significantly predict life engagement; however, loneliness does not significantly predict life engagement (Coeff. = -.03, 95% CI: -.15 – .08;  $p > .05$ ). Furthermore, dispositional hope and life satisfaction decreased the predictive level of the loneliness on life engagement (from -.26 to -.03). Finally, the relationship between loneliness and life engagement was mediated by dispositional hope and life satisfaction.

**Table 4.** The Serial Multiple Mediation Model Coefficients

Predictors	Consequent										
	Dispositional Hope			Life Satisfaction			Life Engagement				
	Coeff	SE	p	Coeff	SE	p	Coeff	SE	p		
Loneliness	a	-.32	.06	<.001	-.26	.06	<.001	c'	-.03	.06	.56
Disposition al Hope				.27	.07	<.001	b	.51	.07	<.001	
Life Satisfaction							b	.18	.06	<.05	
Constant	i				.098		i <sub>2</sub>	-.05		.91	
					.0013			.0058		.05	
		$R^2 = .11$			$R^2 = .18$			$R^2 = .36$			
		$F(1, 224) = 27.34, p < .001$			$F(2, 223) = 23.76, p < .001$			$F(3, 222) = 40.72, p < .001$			



**Figure 1.** Model with total effect



H1= Loneliness..... Life Engegament (c')

H2= Loneliness..... Dispositional Hope..... Life Engegament (a<sub>1</sub> b<sub>1</sub>)

H3= Loneliness..... Life satisfaction..... Life Engegament (a<sub>2</sub> b<sub>2</sub>)

H4= Loneliness..... Dispositional Hope.....Life Satisfaction..... Life Engegament (a<sub>1</sub> a<sub>3</sub> b<sub>2</sub>)

**Figure 2.** Three-path mediation model

**4. Discussion**

Scheier et al. (2006) underlined the associations among life engagement and negative health-related outcomes (e.g., depression, perceived stress). Nearly, according to Park, Jang, Lee, Haley, and Chiriboga’s (2013) findings, loneliness related mediated the relationship between social engagement and depressive symptoms. This study examines the relationship between loneliness and life engagement in a sample of university students with serial mediation. Serial mediation supposes “a causal chain linking the mediators, with a specified direction of causal flow” (Hayes, 2013). Specifically, the analysis focuses on the relationship between loneliness and life engagement with the mediating roles of dispositional hope and life satisfaction, and the sequential effect of dispositional hope and life satisfaction. We tested whether there was more than one mediating variable in the relationship between loneliness and life engagement. Findings underlined two mediating variables namely dispositional hope and life satisfaction in the relationship between the life engagement and loneliness. Dispositional hope, to a greater extent, and life satisfaction, to a lesser extent, mediate the effect of the loneliness on life engagement. In serial mediation model, there is also significant correlation between mediating variables. Mediating variables that effect the relationship between loneliness and life engagement are associated with the causal chain. Based on results, it can be said that dispositional hope and life satisfaction are mediating variables in the present study.

The results of the model with only the total effect (Figure1) indicate that the lower the loneliness level, the greater the life engagement ( $R^2 = .36$ ). The loneliness, by itself, decreases the life engagement, as the results shows in the life engagement of  $c' = .00$ , which is significant. This finding denotes that loneliness has not a negative effect on life engagement when dispositional hope and life satisfaction are added to the serial model. Based on this context, it can be stated that the negative effect of loneliness on life engagement originated from individuals’ low level of dispositional hope and life satisfaction. In addition, life engagement level of individuals who have higher levels of loneliness can be increased via increasing the levels of dispositional hope and life satisfaction.

The serial mediation model shows that the negative effect that loneliness has in the generation of dispositional hope does not lead to a significant effect in the decrease of life engagement ( $H2 = a_1 b_1 = -0.16$ ). However, to the extent that dispositional hope cause life satisfaction, a multiple mediation role does not take place through these two variables- dispositional hope and life satisfaction ( $H4 = a_1 a_3 b_2 = 0.02$ ). Finally, the indirect effect that this study detects is that which occurs via dispositional hope. Thus, when life satisfaction gives decrease to the negative effect of loneliness, this life satisfaction generates increase in life engagement ( $H3 = a_2 b_2 = 0.05$ ). Because, loneliness inhibits

the effect of the factors that increase the level of life engagement. The previous studies corroborate that variables (e.g., perceived stress, depression) negatively correlated with life engagement (Scheier et al., 2006) are positively correlated with loneliness (Park et al., 2015). Furthermore, variables (e.g., family and friends support, social support) negatively correlated with loneliness (Lee, & Goldstein, 2016) are positively correlated with life engagement (Scheier et al., 2006). In parallel with our findings, studies reveal that loneliness is negatively correlated with hope (Rosenstreich, Feldman, Davidson, Maza, & Margalit, 2015) and life satisfaction (Kapıkıran, 2013); on the other hand life engagement is positively correlated with life satisfaction (Scheier et al., 2006), and hope (Moe, Dupuy, & Laux, 2008).

Recent studies reveal that hope, life engagement, (Moe et al., 2008; Scheier et al., 2006), and life satisfaction (Halisch, & Geppert, 2001) was significantly correlated with purposefulness (purpose in life). Hope also mediated the relationship between purpose and life satisfaction (Cotton Bronk, Hill, Lapsley, Talib, & Finch, 2009). According to Bailey and Snyder (2007), significantly positive correlations between the satisfaction with life and hope indicated that people who are satisfied with their life are also hopeful. In the context of research findings, higher level of life engagement can be clarified via higher level of purposefulness of people who have higher level of dispositional hope and life satisfaction. Furthermore, there are substantial variables which play important roles in the relationship between life satisfaction and hope. For instance, as a remedy for loneliness, perceived community support has remarkable mediating role in the influence of hope on life satisfaction (Ng, Chan, & Lai, 2014). Individuals with higher level of life satisfaction and hope have higher level of mental health (Marques, Pais-Ribeiro, & Lopez, 2009). Besides, emotional intelligence, and hope are both significant predictor of life satisfaction (Sarıçam, Çelik, & Coşkun, 2015). Consequently, it can be suggested that due to their epiphenomenal nature life satisfaction and dispositional hope may have a mediating role on the relationship between loneliness and life engagement.

Although the present study has notable findings to explain life engagement which is important for psychological health, the present study has some limitations. The basic limitation of the study is using a cross-sectional design to test mediation role. Because, estimating of the direct effect of X on Y, the indirect effect of X on Y through M, and the proportion of the total effect mediated by M by cross-sectional data are often highly misleading (Maxwell, & Cole, 2007). The results obtained in this study should not be generalized other populations as the study only involved undergraduate students. As correlational statistics were performed, no definitive explanation can be made about causality among loneliness, life engagement, dispositional hope, and life satisfaction. All data in this work are self-reported.

Moreover, in this work in a limited number of variables were run. With this respect, in further studies various serial models which include different variables can be tested to fully understand the life engagement. Due to the low level of regression coefficient ( $R^2 = .36$ ) to predict the life engagement, it can be interpreted that there are other

important variables effect life engagement. Further studies are required to include variables that have possibility to effect the life engagement. Finally, the study shows that loneliness is one of the important variables explain the life engagement, and dispositional hope and life satisfaction play a mediating role in the relationship between loneliness and life engagement. The results support that loneliness affects life engagement directly and indirectly, through dispositional hope, and through the multiple effect of dispositional hope and life satisfaction. Dispositional hope and life satisfaction can be taken into consideration while explaining life engagement. Findings can be referred that via increasing individuals' life engagement levels, their psychological health can be enhanced. Group programs for strengthening the skills to cope with loneliness, to increase the levels of dispositional hope, and life satisfaction can contribute to the literature in theory and practice.

## References

- Acun-Kapıkıran, N. (2012). Positive and negative affectivity as mediator and moderator of the relationship between optimism and life satisfaction in Turkish university students. *Social Indicator Research*, 106(2), 333-345.
- Akhunlar, M. N. (2010). An investigation about the relationship between life satisfaction and loneliness of nursing students in Uşak University. *Procedia Social and Behavioral Sciences*, 5, 409-2415.
- Anderson, K., & Diamond, M. (1995). The experience of bereavement in older adults. *Journal Advance Nursing*, 22, 308-315
- Arnau, R. C., Rosen, D. H., Finch, J. F., Rhudy, J. L., & Fortunato, V. J. (2007). Longitudinal effects of hope on depression and anxiety: A latent variable analysis. *Journal of Personality*, 75, 43-64.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman/Times Books/ Henry Holt & Co.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.
- Baetens, I., Claes, L., Hasking, P., Smits, D., Grietens, H., Onghena, P., & Martin, G. (2015). The relationship between parental expressed emotions and non-suicidal self-injury: The mediating roles of self-criticism and depression. *Journal Child Family Studies*, 24, 491-498.
- Bailey, T. C., Eng, W., Frisch, M. B., & Snyder. C. R. (2007). Hope and optimism as related to life satisfaction. *The Journal of Positive Psychology*, 2(3), 168-175.
- Bailey, T. C., & Snyder, C. R. (2007). Satisfaction with life and hope: A look at age and marital status. *The Psychological Record*, 57(2), 233-240.

- Bronk, K. C., Hill, P. L., Lapsley, D. K., Talib, T. L., & Finch, H. (2009). Purpose, hope, and life satisfaction in three age groups. *The Journal of Positive Psychology*, 4(6), 500-510.
- Chang, E. C. (1998). Hope, problem-solving ability, and coping in a college student population: Some implications for theory and practice. *Journal of Clinical Psychology*, 54(7), 953-962.
- Cheng, H., & Furnham, A. (2002). Personality, peer relations, and self-confidence as predictors of happiness and loneliness. *Journal of Adolescence*, 25(3), 327-339.
- Chipuer, H. M., Bramston, P., & Pretty, G. (2003). Determinants of subjective quality of life among rural adolescents: A developmental perspective. *Social Indicators Research*, 61(1), 79-95.
- Cole, B. P. (2008). *Correlations between trait and academic measure of hope and the inventory on learning climate and student well-being* (Master thesis). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 1450456).
- Cotton-Bronk, K., Hill, P. L., Lapsley, D. K., Talib, T. L., & Finch, H. (2009). Purpose, hope, and life satisfaction in three age groups. *The Journal of Positive Psychology*, 4(6), 500-510.
- Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative*. Prentice Hall.
- Csikszentmihalyi, M. (1997). *Finding flow: The psychology of engagement with everyday life. The masterminds series*. New York: Basic Books.
- Cecen, A. R. (2007). The Turkish short version of the Social and Emotional Loneliness Scale for Adults (SELSA-S): Initial development and validation. *Social Behavior and Personality*, 35(6), 717-734.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Diener, E., & Seligman, E. (2002). Very happy people. *Psychological Science*, 13(1), 81-84.
- DiTommaso, E., & Spinner, B. (1997). Social and emotional loneliness: A reexamination of Weiss' typology of loneliness. *Personality and Individual Differences*, 22, 417-427.
- Ditomaso, E., Brannen, C., & Best, L. A. (2004). Measurement and validity characteristics of the short version of the social and emotional loneliness scale for adults. *Educational and Psychological Measurement*, 64(1), 99-119.
- Dowling, M., & Rickwood, D. (2015). A naturalistic study of the effects of synchronous online chat counselling on young people's psychological distress, life satisfaction and hope. *Counselling and Psychotherapy Research*, 15(4), 274-283.
- Durak, M., Senol-Durak, E., & Gencoz, T. (2010). Psychometric properties of the Satisfaction with Life Scale among Turkish university students, correctional officers, and elderly adults. *Social Indicators Research*, 99(3), 413-429.
- Ellis, K. (2002). Perceived parental confirmation: Development and validation of an instrument. *Southern Communication Journal*, 67, 319-334.
- Extremera, N., Duran, A., & Rey, L. (2009). The moderating effect of trait meta-mood on perceived stress on life satisfaction. *Personality and Individual Differences*, 47, 116-141.
- Frisch, M. B., Clark, M. P., Rouse, S. V., Rudd, M. D., Paweleck, J., & Greenstone, A. (2005). Predictive and treatment validity of life satisfaction and the quality of life inventory. *Assessment*, 12(1), 66-78.
- Frisen, A. (2007). Measuring health-related quality of life in adolescence. *Acta Paediatrica*, 96(7), 963-968.
- Gilman, R. (2001). The relationship between life satisfaction, social interest, and frequency of extracurricular activities among adolescent students. *Journal of Youth and Adolescence*, 30, 749-767.
- Gilman, R., Dooley, J., & Florell, D. (2006). Relative levels of hope and their relationship with academic and psychological indicators among adolescents. *Journal of Social and Clinical Psychology*, 25, 166-178.
- Gilman, R., & Huebner, E. S. (2006). Characteristics of adolescents who report very high life satisfaction. *Journal of Youth and Adolescence*, 35(3), 293-301.
- Goodwin, R., Cook, O., & Yung, Y. (2001). Loneliness and life satisfaction among three cultural groups. *Personal Relationships*, 8(2), 225-230.
- Halisch, F., & Geppert, U. (2001). Motives, personal goals, and life satisfaction in old age. Eklides, A., Kuhl, J., & Sorrentino, R. M. (Eds.) *Trends and Prospect in Motivational Research* (pp. 389-409). Springer, Dordrecht.
- Hawkey, L. C., Burleson, M. H., Berntson, G. G., & Cacioppo, J. T. (2003). Loneliness in everyday life: Cardiovascular activity, psychosocial context, and health behaviors. *Journal of Personality and Social Psychology*, 85, 105-120.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis:*

- A regression-based approach*. New York: The Guilford Press.
- Heinrich, L. M., & Gullone, E. (2006). The clinical significance of loneliness: A literature review *Clinical Psychology Review*, 26, 695-718.
- Jackson, T. (2007). Protective self-presentation, sources of socialization, and loneliness among Australian adolescents and young adults. *Personality and Individual Differences*, 43, 1552-1562.
- Jang, Y., Mortimer, J. A., Haley, W. E., & Graves, A. R. B. (2004). The role of social engagement in life satisfaction: Its significance among older individuals with disease and disability. *Journal of Applied Gerontology*, 23(3), 266-278.
- Joiner, T. E., Lewinsohn, P. M., & Seeley, J. R. (2002). The core of loneliness: Lack of pleasurable engagement--more so than painful disconnection--predicts social impairment, depression onset, and recovery from depressive disorders among adolescents. *Journal of Personality Assessment*, 79(3), 472-491.
- Jones, W. H., & Carver, M. D. (1991). Adjustment and coping implications of loneliness. In: R. Snyder & D. R. Forsyth (Eds.), *Handbook of social and clinical psychology: The healthy perspective* (pp. 395-415) New York: Pergamon Press.
- Kagıtcıbaşı, C. (2005). Autonomy and relatedness in cultural context: Implications for self and family. *Journal of Cross-Cultural Psychology*, 36(4), 403-422.
- Kagıtcıbaşı, C. (2007). *Family, self and human development across cultures: Theory and applications*. Hillsdale, NJ: Lawrence Erlbaum
- Kapıkıran, S. (2013). Loneliness and life satisfaction in Turkish early adolescents: The mediating role of self-esteem and social support. *Social Indicators Research*, 111(2), 617-632.
- Karasar, N. (2006). *Bilimsel araştırma yöntemi*. Ankara: Nobel Yayın Dağıtım.
- King, L. A., Hicks, J. A., Krull, J. L., & Del Gaiso, A. K. (2006). Positive affect and the experience of meaning in life. *Journal of Personality and Social Psychology*, 90(1), 179-196.
- Lee, C. Y. S., & Goldstein, S. E. (2016). Loneliness, stress, and social support in young adulthood: Does the source of support matter? *Journal of Youth and Adolescence*, 45(3), 568-580.
- Lewis, A. D., Huebner, E. S., Malone, P. S., & Valois, R. F. (2011). Life satisfaction and student engagement in adolescents. *Journal of Youth and Adolescence*, 40(3), 249-262.
- Lopez, S. J., Snyder, C. R., Magyar-Moe, J. L., Edwards, L. M., Pedrotti, J. T., Janowski, K., Turner, J. L., & Pressgrove, C. (2004). Strategies for accentuating hope. In P. A. Linley & S. Joseph (Eds.), *Positive psychology in practice* (pp. 388-404). Hoboken, NJ: Wiley
- Marques, S. C., Pais-Ribeiro, J. L., & Lopez, S. J. (2009). Validation of a Portuguese version of the Children's Hope Scale. *School Psychology International*, 30(5), 538-551.
- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, 12(1), 23-44.
- Moe, J. L., Dupuy, P. J., & Laux, J. M. (2008). The relationship between LGBQ identity development and hope, optimism, and life engagement. *Journal of LGBT Issues in Counseling*, 2(3), 199-215.
- Neto, F. (1995). Predictors of satisfaction with life among second generation migrants. *Social Indicators Research*, 35(1), 93-116.
- Neto, F., & Barros, J. (2000). Psychosocial concomitants of loneliness among students of Cape Verde and Portugal. *The Journal of psychology*, 134(5), 503-514.
- Ng, E. C., Chan, C. C., & Lai, M. K. (2014). Hope and life satisfaction among underprivileged children in Hong Kong: The mediating role of perceived community support. *Journal of Community Psychology*, 42(3), 352-364.
- Park, N. S., Jang, Y., Lee, B. S., Haley, W. E., & Chiriboga, D. A. (2013). The mediating role of loneliness in the relation between social engagement and depressive symptoms among older Korean Americans. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 68(2), 193-201.
- Park, S., Kim, I., Lee, S. W., Yoo, J., Jeong, B., & Cha, M. (2015, February). Manifestation of depression and loneliness on social networks: A case study of young adults on facebook. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing* (pp. 557-570). ACM.
- Peerenboom, L., Collard, R. M., Naarding, P., & Comijs, H. C. (2015). The association between depression and emotional and social loneliness in older persons and the influence of social support, cognitive functioning and personality: A cross-sectional study. *Journal of Affective Disorders*, 182, 26-31.
- Peplau, L. A., & Goldston, S. E. (1984). *Preventing the harmful consequences of severe and persistent loneliness*. Rockville Maryland: National Institute of Mental Health.
- Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. P. (2007). Strengths of



- character, orientations to happiness, and life satisfaction, *The Journal of Positive Psychology*, 2(3), 149-156.
- Phinney, J. S., & Ong, A. D. (2002). Adolescent-parent disagreements and life satisfaction in families from Vietnamese- and European-American backgrounds. *International Journal of Behavioral Development*, 26, 556-561.
- Proctor, C., Alex-Linley, P., & Maltby, J. (2009). Youth life satisfaction measures: A review. *The Journal of Positive Psychology*, 4(2), 128-144.
- Rosenstreich, E., Feldman, D. B., Davidson, O. B., Maza, E., & Margalit, M. (2015). Hope, optimism and loneliness among first-year college students with learning disabilities: a brief longitudinal study. *European Journal of Special Needs Education*, 30(3), 338-350.
- Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, 66(1), 20-40.
- Salguero, J. M., Palomera, R., & Fernández-Berrocal, P. (2012). Perceived emotional intelligence as predictor of psychological adjustment in adolescents: A 1-year prospective study. *European Journal of Psychology of Education*, 27(1), 21-34.
- Salimi, A. (2011). Social-emotional loneliness and life satisfaction. *Procedia - Social and Behavioral Sciences*, 29, 292-295.
- Saricam, H., Celik, I., & Coskun, L. (2015). The relationship between emotional intelligence, hope and life satisfaction in preschool preservers teacher. *The International Journal of Research in Teacher Education*, 6(1), 1-9.
- Scheier, M. F., Wrosch, C., Baum, A., Cohen, S., Martire, L. M., Matthews, K. A., Schulz, R., & Zdzienicka, B. (2006). The life engagement test: Assessing purpose in life. *Journal of Behavioral Medicine*, 29(3), 291-298.
- Shiovitz-Ezra S., & Ayalon L. (2010). Situational versus chronic loneliness as risk factors for all-cause mortality. *International Psychogeriatrics*, 22, 455-462.
- Skok, A., Harvey, D., & Reddihough, D. (2006). Perceived stress, perceived social support, and wellbeing among mothers of school-aged children with cerebral palsy. *Journal of Intellectual and Developmental Disability*, 31(1), 53-57.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60(4), 570-585.
- Snyder, C. R., Cheavens, J., & Sympson, S. C. (1997). Hope: An individual motive for social commerce. *Group Dynamics: Theory, Research, and Practice*, 1(2), 107-118.
- Snyder, C. R. (2000). Genesis: The birth and growth of hope. In C. R. Snyder (Ed.), *Handbook of hope: Theory, measures, and applications* (pp 25-38). San Diego: Academic Press.
- Snyder, C. R., Rand, K. L., & Sigmon, D. R. (2002). Hope theory: A member of the positive psychology family. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 257-276). New York: Oxford University Press.
- Sprinks, J. (2014). Social engagement crucial to tackling loneliness in old age. *Nursing Older People*, 26(7), 8-9.
- Suldo, S. M., & Huebner, E. S. (2004). Does life satisfaction moderate the effects of stressful life events on psychopathological behavior during adolescence? *School Psychology Quarterly*, 19(2), 93-105.
- Suldo, S. M., & Huebner, E. S. (2006). Is extremely high life satisfaction during adolescence advantageous? *Social Indicators Research*, 78, 179-203.
- Suldo, S. M., Riley, K. N., & Shaffer, E. J. (2006). Academic correlates of children and adolescents' life satisfaction. *School Psychology International*, 27(5), 567-582.
- Sumer, N., & Gungor, D. (1999). Anne-baba tutum ve davranışlarının psikolojik etkileri: Türkiye’de yapılan çalışmalara toplu bakış, *Türk Psikoloji Yazıları*, 3(25), 42-59.
- Swami, V., Chamorro-Premuzic, T., Sinniah, D., Maniam, T., Kannan, K., Stanistreet, D., & Furnham, A. (2007). General health mediates the relationship between loneliness, life satisfaction and depression. *Social psychiatry and psychiatric epidemiology*, 42(2), 161-166.
- Tarhan, S., & Bacanlı, S. (2015). Sürekli Umut Ölçeği'nin Türkçe'ye uyarlanması: Geçerlilik ve güvenilirlik çalışması. *The Journal of Happiness & Well-Being*, 3(1), 1-14.
- Terrell, F., Terrell, I., & Von Drashek, S. R. (2000). Loneliness and fear of intimacy among adolescents who were taught not to trust strangers during childhood. *Adolescence*, 35, 611-617.
- Thurston, R. C., & Kubzansky, L. D. (2009). Women, loneliness, and incident coronary heart disease. *Psychosomatic Medicine*, 71, 836-842.
- Tzonichaki, I., & Kleftaras, G. (2002). Paraplegia from spinal cord injury: Self-esteem, loneliness, and life satisfaction. *Occupation, Participation and Health*, 22(3), 96-103.

- Ugur, E., & Akin, A. (2015). Yaşam Bağlılığı Ölçeği Türkçe formu: Geçerlik ve güvenirlik çalışması. *Itobiad: Journal of the Human & Social Science Researches*, 4(2), 424-432.
- Valle, M. F., Huebner, E. S., & Suldo, S. M. (2006). An analysis of hope as a psychological strength. *Journal of School Psychology*, 44, 393-406.
- Valois, R. F., Zullig, K. J., Huebner, E. S., & Drane, J. W. (2004). Physical activity behaviors and perceived life satisfaction among public high school adolescents. *Journal of School Health*, 74, 59-65.
- Vella-Brodrick, D. A., Park, N., & Peterson, C. (2009). Three ways to be happy: Pleasure, engagement, and meaning-findings from Australian and US Samples. *Social Indicator*, 90(2), 165-179.
- Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.
- Wedig, M. M., & Nock, M. K. (2007). Parental expressed emotion and adolescent self-injury. *Journal of American Academic Child and Adolescent Psychiatry*, 46, 1171-1178.
- Weiss, R. S. (1973). *Loneliness: The experience of emotional and social isolation*. Cambridge: MIT Press.
- Wrosch, C., Scheier, M. F., Carver, C. S., & Schulz, R. (2003). The importance of goal disengagement in adaptive self-regulation: When giving up is beneficial. *Self-Identity*, 2, 1-20.
- Yates, T. M., Tracy, A. J., & Luthar, S. S. (2008). Non-suicidal self-injury among "privileged" youths: Longitudinal and cross-sectional approaches to development process. *Journal of Consulting and Clinical Psychology*, 76, 52-62.
- Yılmaz, A. (1999). Çocuk yetiştirme tutumları: Kuramsal yaklaşımlar ve görgül çalışmalar. *Türk Psikoloji Yazıları*, 1(3), 99-118.