

The Mediator Effects of Positive and Negative Affectivity on the Relationship between Optimism-Pessimism and Satisfaction with Life

Pozitif ve Negatif Duyguların İyimserlik-Karamsarlık ve Yaşam Doyumu Arasındaki İlişkide Ara bulucu Etkisi

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ABSTRACT: This study examined the mediation effects of positive and negative affectivity on the relationship between optimism/pessimism and satisfaction with life among university students. Participants were 95 female and 151 male undergraduate students (N = 246). Participants ranged in age from 18 to 26 with a mean of 21.09 (*SD* = 2.34). Participants completed Life Orientation Scale (LOT), Positive and Negative Affect Schedule (PANAS), and Life Satisfaction Scale. Results of correlational analyses demonstrated that the association between optimism and pessimism was -.40. Optimism was significantly associated with PA ($r = .40$), NA ($r = -.26$), and satisfaction with life ($r = .36$). Similarly, pessimism was significantly correlated with PA ($r = -.26$), NA ($r = .39$), and satisfaction with life ($r = -.30$). Finally, optimism had statistically significant direct and indirect links (by means of positive affectivity) with satisfaction with life, whereas pessimism only had statistically significant direct link with life satisfaction.

Keywords: optimism, pessimism, positive affectivity, negative affectivity, satisfaction with life, LOT, PANAS

ÖZ: Bu çalışmanın amacı üniversitesli öğrencilerde iyimserlik-karamsarlık ve yaşam doyumunu arasındaki ilişkiyi pozitif ve negatif duygunun ara bulucu rolünü çalışmaktır. Çalışmaya 95 kadın ve 151 erkek üniversite öğrencisi katılmıştır. Bu katılımcıların yaşları 18 ila 26 arasında ve yaş ortalaması 21.09 (*SS* = 2.34) değerindedir. Katılımcılar Yaşam Yönelimi (Oryantasyonu) Ölçeği, Pozitif ve Negatif Duygu Ölçeği ve Yaşam Doyum Ölçeğini doldürmüşlardır. Bulgulara göre iyimserlik ile karamsarlık arasındaki korelasyon -.40 değerindedir. İyimserlik, pozitif duygu ($r = .40$), negatif duygu ($r = -.26$) ve yaşam doyumunu ($r = .36$) ile anlamlı düzeyde korelasyon göstermektedir. Benzer şekilde, karamsarlık pozitif duygu ($r = -.26$), negatif duygu ($r = .39$) ve yaşam doyumunu ($r = -.30$) anlamlı düzeyde ilişkilidir. Son olarak, iyimserlik yaşam doyumunu hem doğrudan hem de pozitif duygu aracılığı ile yordamakta iken karamsarlık yaşam doyumunu doğrudan yordamaktadır.

Anahtar sözcükler: iyimserlik, karamsarlık, pozitif duygu, negatif duygu, yaşam doyumunu, LOT, PANAS

1. INTRODUCTION

Optimism and pessimism has been increasingly a popular topic over the past several decades. Researchers have examined the relations among optimism-pessimism, adjustment to college (Aspinwall & Taylor, 1992), adjustment following surgery (Carver et al., 1993), hopelessness (Ayub, 2009), negative affectivity, stress, depression (Robinson-Whelen, Kim, MacCallum, & Kiecolt-Glaser, 1997), and satisfaction with life (Change & Sanna, 2001). Various researches have demonstrated that optimism is correlated with greater positive psychological outcomes, whereas pessimism is associated with greater negative psychological outcomes (Andersson, 1996; Scheier & Carver, 1992; Scheier, Carver, & Bridges, 2001). Recently, Turkish researchers have started to examine the relationship between well-being and other psychological variables such as PANAS (Yılmaz & Arslan, 2013), self-esteem (Işıklar, 2012), perceived control (Eryılmaz & Ercan, 2012), and loneliness (Gündoğdu, 2010) but the studies didn't cover the relations among optimism-pessimism, positive-negative affectivity (PANAS) and subjective well-being in the same research. It seems that there is a need to examine the relations among them in order to see whether the results of foreign studies could be replicated in Turkey. Consequently, the purpose of the present study is to examine the relations between optimism-pessimism,

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affectivity (as positive and negative affectivity), and satisfaction with life in a sample of Turkish university students.

Scheier and Carver (1985) developed Life Orientation Test (LOT) including optimism and pessimism. They defined optimism as positive outcome expectancies and pessimism as negative outcome expectancies. These investigators originally suggested a strong association between optimism and pessimism. They argued that optimism and pessimism are the opposite ends of the same construct, optimism. However, later on, other researchers either found no correlation or low correlation between optimism and pessimism (e.g., Mroczek, Spiro, Aldwin, Ozer, and Bosse, 1993). Researchers have argued that optimism and pessimism are separate constructs and the LOT consists of independent factors as optimism and pessimism (e.g., Kubzansky, Sparrow, Vokonas et al., 2004; Marshall, Wortman, Kusulas, Havig, & Vickers, 1992; Mroczek et al., 1993; Robinson-Whelen, Kim, MacCallum, & Kiecolt-Glaser, 1997; Scheier, Carver, & Bridges, 1994).

Many researchers have examined the relations among optimism, pessimism and various psychological adjustment (Chang & Sanna, 2001), psychological health (Gallagher & Lopez, 2009; Keyes, 2007) and physical health (Scheier & Carver, 1987; Peterson, 2000; Rasmussen et al., 2009; Tennen & Affleck, 1987). For example, optimism has been found to be associated with academic performance (Peterson & Barret, 1987), stress management (Nolen-Hoeksama, 2000), happiness and satisfaction with life (Chang & Sanna, 2001; Chang, Maydeu-Olivares, & D'Zurilla, 1997; Lyubomirsky, 2001). On the other hand, pessimism has been found to be associated with depression (Chang et al., 1997; Robinson-Whelen et al., 1997), and lower well-being (Lyubomirsky, Caldwell, & Nolen-Hoeksama, 1998). These studies demonstrated a growing interest in studying the links between optimism, pessimism, and life satisfaction in general.

As Chang and Sanna (2001) argued, when the link between optimism-pessimism and satisfaction with life is examined, it is necessary to consider the role of mood. Watson and his colleagues (e.g., Watson, Clark, & Carey, 1988; Watson, Clark, & Tellegen, 1988) suggested that mood is composed of two distinguishable dimensions, namely positive affect (PA) and negative affect (NA). They developed Positive Affectivity and Negative Affectivity Schedule (PANAS). According to Watson, Clark, & Tellegen (1988), positive affectivity reflects the extent to which individuals generally feel active, alert, and enthusiastic, whereas negative affectivity reflects the extent to which individuals generally feel upset or unpleasantly aroused.

Researchers suggested that mood (PA and NA) may mediate the relationship between optimism-pessimism (LOT) and satisfaction with life (Chang, 2000; Chang & Sanna, 2001). Pessimism can lead to the development of a psychological vulnerability to experience negative emotions (NA), which in turn results in low life satisfaction, whereas optimism can lead to the development of psychological readiness to experience positive emotions (PA), which in turn results in greater life satisfaction. Chang and Sanna (2001) found that optimism and pessimism have indirect links through PA with satisfaction with life for middle-aged adults.

Researchers in Turkey have recently started to examine the relationship between well-being and other psychological variables such as PANAS (Yılmaz & Arslan, 2013), self-esteem (Işıklar, 2012), perceived control (Eryılmaz & Ercan, 2012), and loneliness (Gündoğdu, 2010). Eryılmaz & Ercan (2010) used PANAS to calculate subjective well-being and then found that perceived

control is important predictors of subjective well-being. Yılmaz & Arslan (2013) demonstrated that there is a positive correlation between PA and subjective well-being whereas there is a negative correlation between NA and subjective well-being. Researchers have also found that females have higher scores on well-being than males (Cenkseven ve Akbaş, 2007; Köker, 1991; Tuzgöl Dost, 2007). Even though the studies mainly cover well-being and PANAS, they did not examine life orientation (LOT), including optimism, and pessimism variables. Some other studies (e.g., Kümbül Güler & Emeç, 2006) included optimism and its effect on academics success and life satisfaction, but they did not cover the relations among LOT, PANAS and subjective well-being.

The purpose of the present study was to investigate the relations among measures of LOT (optimism and pessimism), affectivity (PA and NA), and life satisfaction in a sample of university students in Turkey. Specifically, following the cognitive-affective model of psychological adjustment (Chang, Maydeu-Olivares, & D'Zurilla, 1997; Chang & Sanna, 2001), it was expected that measures of LOT (optimism and pessimism) affectivity (PA and NA), and satisfaction with life would be significantly interrelated with each other. It was also predicted that affectivity (PA-NA) would partially mediate the link between optimism-pessimism and satisfaction with life.

2. METHOD

2.1. Participants and procedure

The participants were 246 (151 men, 95 women) Turkish undergraduate students from various universities. Participants ranged in age from 18 to 26 with a mean of 21.09 (SD = 2.34).

Participants filled the questionnaire in classrooms. The participation was on voluntary basis and students were assured about the confidentiality of the information they provide. After signing the consent inform form, the participants completed the scales. Then, they were debriefed about the aim of the study.

2.2. Measures

2.2.1. Life Orientation Test (LOT).

LOT (Scheier & Carver, 1985) was developed to assess participants' level of dispositional optimism and pessimism. It consists of 12 items to measure generalized expectancies for positive outcomes (4 items) and generalized expectancies of negative outcomes (4 items). The other 4 items are only filling items. The scale was translated into Turkish by Aydın and Tezer (1991). Later, Üstündağ- Budak (1999) also examined the reliability and validity of the LOT with Turkish sample. Both studies found that LOT can be used with Turkish sample. Ratings are made on a 5-point Likert type scale from 1 (*completely disagree*) to 5 (*completely agree*). Participants who score higher on the LOT are considered to have higher levels of dispositional optimism and lower levels of dispositional pessimism. The internal consistency of optimism was .72 whereas it was .68 for the present study.

2.2.2. Positive and Negative Affect Schedule (PANAS).

The PANAS (Watson, Clark, & Tellegen, 1988) is a 20-item self-report measure including Positive Affectivity (PA, 10 items) and Negative Affectivity (NA, 10 items). The scale was adapted into Turkish by Gençöz (2000). Participants are asked to rate how they feel for each item across a 5-point Likert-type scale ranging from 1 (very slightly) to 5 (extremely). Participants who score higher on PA or NA are considered to have higher positive affectivity or negative affectivity. The internal consistency of PA was .85 whereas internal consistency of NA .82 for the present study.

2.2.3. Satisfaction With Life Scale (SWLS).

The SWLS (Diener, Emmons, Larsen, & Griffin, 1985) measures global life satisfaction or a person's satisfaction with life as a whole. The scale has 5 items. The scale was adapted into Turkish by Durak, Gencoz, & Senol-Durak (2010). Respondents are asked to rate the extent of their agreement to these items across a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores on the SWLS reflect greater life satisfaction. The internal consistency of SWLS was .80 for the present study.

3. RESULTS

3.1. Sex Differences on Studies Variables

The result of MANOVA demonstrated no significant sex differences (Wilks' Lambda (5, 222) = .97, ns). Therefore, all subsequent analyses are based on combining the responses obtained by both men and women.

3.2. The Correlations between LOT, PA, NA, and Life Satisfaction

Zero-order correlations, means, standard deviations, and internal consistencies for all the study measures are presented in Table 1. As seen in Table 1, the correlation between optimism and pessimism was -.40. Significant associations emerged between Satisfaction with Life scores and scores on PA ($r = .35$), NA ($r = -.23$), optimism ($r = .36$), and pessimism ($r = -.30$). There was no significant correlation between PA and NA ($r = -.02$).

Table 1: Correlations, Means, Standard Deviations and Internal Reliabilities for All Study Measures

Measures	1	2	3	4	5
1. Satisfaction	--				
2. Optimism	-.36**	--			
3. Pessimism	-.30**	-.40**	--		
4. PA	.35**	.40**	-.26**	--	
5. NA	-.23**	-.27**	.39**	-.02	--
M	4.42	3.35	2.79	3.43	2.25
SD	1.32	.85	.76	.77	.89
α	.80	.72	.68	.85	.82

Note. Satisfaction = Satisfaction With Life Scale; Optimism = Optimism scale of the Life Orientation Test (LOT); Pessimism = Pessimism scale of the LOT; PA = Positive Affect scale of the PANAS; NA = Negative Affect scale of the PANAS.

** $p < .001$.

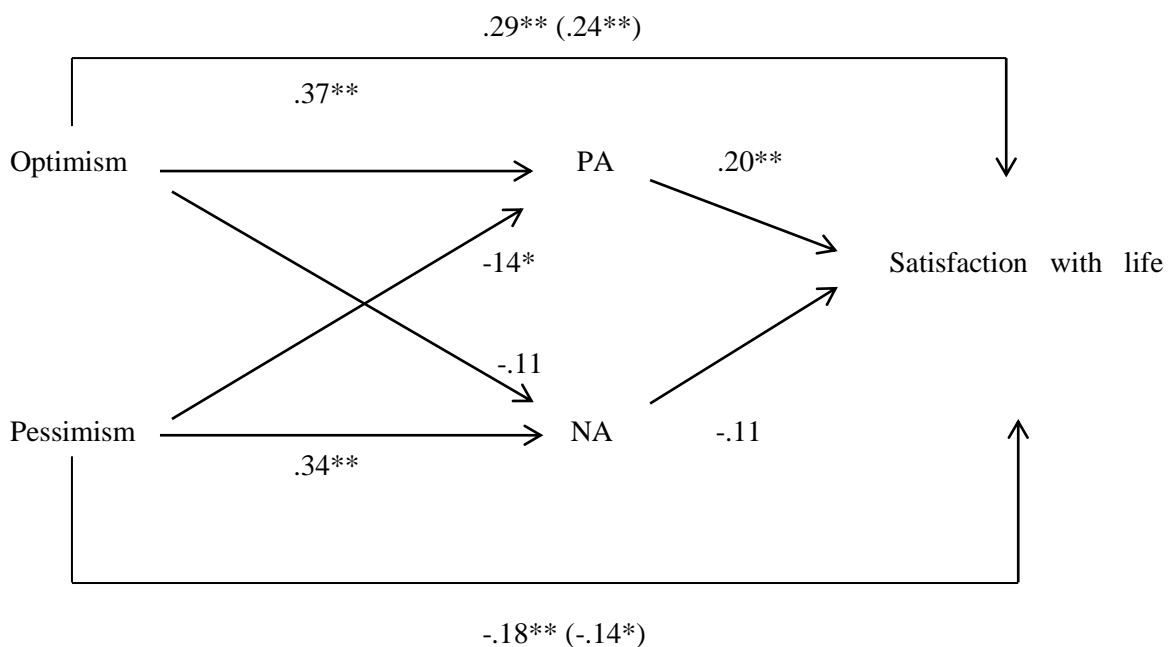
3.3. PA and NA as Mediators of the Link between Optimism-Pessimism and Satisfaction with Life

A mediation model in which the hypothesized influence of optimism and pessimism on satisfaction with life is mediated by PA and NA was tested by following the general guidelines of Baron and Kenny (1986). As suggested by Baron and Kenny, first, results of regressing affectivity (PA and NA) on Optimism-Pessimism must show that the variables are significantly associated with affectivity. Second, results of regressing satisfaction on optimism-pessimism must show that optimism and pessimism are significantly associated with satisfaction with life. Third, results of regressing satisfaction with life on both optimism-pessimism and affectivity (PA and NA) should result in a weaker association between optimism-pessimism and satisfaction with life. Results of these regression analyses for life satisfaction are presented in Figures 1. It should be noted that when running the regression analysis for predicting NA and PA from either one of

the LOT sub-factors (optimism or pessimism), the other LOT variable (either pessimism or optimism) was controlled to take a more conservative approach because optimism and pessimism was moderately correlated to each other ($r = -.40$).

As Figure 1 shows, the previously significant link between optimism and life satisfaction was found to be partially mediated by PA. Results of regressing satisfaction with life on both optimism-pessimism and affectivity (PA and NA) resulted in a weaker association between optimism-pessimism and satisfaction with life (Sobel z test = 2.67, $SD = .04$, $p < .001$). However, the significant link observed between pessimism and life satisfaction was not mediated by NA. Results of regressing satisfaction with life on both optimism-pessimism and affectivity (PA and NA) did not result in a weaker association between optimism-pessimism and satisfaction with life (Sobel z test = -1.55, $SD = .04$, $p = .11$). In short, these path-analytic results present that optimism has important direct and indirect links (only through PA) with life satisfaction whereas pessimism had only significant direct link with life satisfaction.

Figure 1. Results of the Regression Analyses for Mediation for Satisfaction with Life.



R^2 (optimism & pessimism predicting PA) = .18, $F(2, 230) = 24.62^{**}$
 R^2 (optimism & pessimism predicting NA) = .17, $F(2, 232) = 24.02^{**}$
 R^2 (optimism, pessimism, NA, and PA predicting satisfaction with life) = .24, $F(4, 223) = 17.39^{**}$

Note. Optimism = Optimism scale of LOT; Pessimism = Pessimism scale of the LOT; PA = Positive Affect scale of the PANAS; NA = Negative Affect scale of the PANAS.
 $** p < .01$, $* p < .05$.

4. DISCUSSION

The purpose of the present study was to investigate the relations among measures of optimism-pessimism), affectivity (PA and NA), and life satisfaction in a sample of university students in order to show whether Chang and Sanna's (2001) findings could be replicated in Turkey. In general, it was expected that measures of LOT (optimism and pessimism) affectivity

(PA and NA), and satisfaction with life would be significantly interrelated with each other. It was specifically predicted that affectivity (PA and NA) would partially mediate the link between optimism-pessimism and satisfaction with life.

The result of MANOVA demonstrated no significant sex differences. The finding was inconsistent with earlier studies in Turkey, demonstrating that females have higher well-being than males have (Cenkseven ve Akbaş, 2007; Köker, 1991; Tuzgöl Dost, 2007). However, the present result was consistent with other studies in abroad (Francis, Brown, Lester, & Philipchalk, 1998; Grace, Miller, & Tcha, 2005). The inconsistency about sex differences could have resulted from scale or sample differences in these studies. Some researchers include happiness issues in the well-being whereas others do not. These kind of measurement differences could have created inconsistent sex differences for well-being. In general, studies in Turkey (e.g., Cenkseven ve Akbaş, 2007; Köker, 1991; Tuzgöl Dost, 2007) show that females indicate higher well-being than males. It may be interesting to further study why females score higher in well-being than males in Turkey.

Because of the non significant sex differences on the well-being, the responses obtained by both men and women were combined and then analyzed. First of all, Zero-order correlations were calculated. As seen in Table 1, the correlation between optimism and pessimism was negatively significant ($r = -.40$). The finding was similar to the finding ($r = -.54$) of Chang and Sanna (2001). However, it was inconsistent with the findings of some other earlier studies (e.g., Mroczek et al., 1993). Further, there were statistically significant associations between Satisfaction with Life scores and scores of PA, NA, optimism, and pessimism. The correlational results between subscales of LOT and life satisfaction supported earlier studies on the positive relationship between optimism and satisfaction with life (Chang & Sanna, 2001; Chang, Maydeu-Olivares, & D'Zurilla, 1997; Lyubomirsky, 2001), and the negative relations between pessimism and well-being (Lyubomirsky, Caldwell, & Nolen-Hoeksama, 1998). In addition, consistent with earlier studies in abroad (Chang & Sanna, 2001) and in Turkey (Yılmaz & Arslan, 2013), PA was positively associated with satisfaction with life whereas NA was negatively associated with life satisfaction.

Furthermore, a mediation model suggesting PA and NA as mediators of the link between optimism-pessimism and satisfaction with life was tested by regression analyses by following the general guidelines of Baron and Kenny (1986). As Figure 1 presents, the previously significant link between optimism and life satisfaction was found to be partially mediated by PA. However, the significant link observed between pessimism and life was not mediated by NA. In short, these path-analytic results present that optimism had important direct and indirect links (through PA) with life satisfaction. The present findings were consistent with Chang and Sanna's (2001) findings. The present study also found that NA failed to be a mediator of the link between pessimism and life satisfaction. The results present the importance of optimism and PA in well-being. It seems that optimist individuals experience more positive affect and consequently they are more likely to be satisfied with their lives.

In conclusion, the present findings offer a useful contribution to the growing literature identifying optimism and pessimism as important variables of life satisfaction (e.g., Bromberger & Matthews, 1996; Mroczek et al., 1993; Robinson-Whelen et al., 1997; Schulz et al., 1996). The present study supports the cognitive-affective model of psychological adjustment (Chang, Maydeu-Olivares, & D'Zurilla, 1997; Chang & Sanna, 2001). Further, the present findings also show the importance of considering affectivity variables (especially PA) as potential mediator of the link between optimism and life satisfaction in Turkish sample.

However, it is important to note that there may be some potential limitations to the present findings. First, the present findings are based on responses obtained from only university students. Whether these findings can be generalized to other age groups remains unanswered with

the present study. Second, the present study does not provide a cause-effect relationship because it relies on a correlational analysis. That means, it is impossible to draw the directionality of any of the hypothesized paths in the mediation models tested with the present design. Future studies may conduct an experimental study to test the causality. Further, future studies may search the effects of optimism-pessimism on psychological health with other dependent variables such as depression, hopelessness, burnout, and happiness. Finally, other samples like clinical samples or adults may be preferred to test the association between the personality variables and psychological health.

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