



Investigation of the mediator role of life satisfaction in the relationship between pre-service teachers' cognitive flexibility and psychological well-being

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ABSTRACT

The aim of this study is to examine the mediating role of life satisfaction in the relationship between pre-service teachers' cognitive flexibility levels and psychological well-being. In this study, which was designed in the relational research model, which is one of the quantitative research types, psychological well-being of pre-service teachers was determined as the dependent variable, cognitive flexibility levels as the independent variable, and life satisfaction as the mediating variable. In addition, the study group of the research consists of 173 pre-service teachers studying at Akdeniz University Faculty of Education in the 2021-2022 academic year and participating in the research voluntarily. Research data were collected with *Life Satisfaction Scale*, *Cognitive Flexibility Scale* and *Psychological Well-Being Scale*. The problem situation was determined by the researchers for the data obtained from the aforementioned scales and it was tested by conducting mediation analysis. SPSS 25 and LISREL 8.80 programs were used to analyze the data. Besides, the hypotheses determined by the researchers were tested using the Process Macro developed by Hayes. Within the scope of the research, it was concluded that the cognitive flexibility level of pre-service teachers has a significant effect on psychological well-being and life satisfaction has a mediating role in this effect. In this context, it can be said that it is possible to improve the psychological well-being of pre-service teachers by increasing their cognitive flexibility levels. Also, suggestions have been made to guide the researchers in future studies. As a result, hypotheses regarding the relationship between pre-service teachers' cognitive flexibility levels and life satisfaction were confirmed and the tested model was presented based on the literature.

Keywords: Pre-service teacher, cognitive flexibility, psychological well-being, life satisfaction

INTRODUCTION

Teachers, who are the implementers of the education system, are in constant communication with students, parents, school administrators and other stakeholders of education while managing the education and training process. Cognitive flexibility skills, psychological well-being and life satisfaction of teachers are important factors in establishing this communication in a healthy way and conducting the education and training process effectively. The same is true for pre-service teachers in the process of preparing for the profession. While preparing for the profession during their university life, pre-service teachers also experience situations such as getting satisfaction from life, thinking flexibly, and having a positive outlook on life. These experiences of the pre-service teachers who will be the teachers of the future during their university life enable them to prepare for the profession affectively. In this direction, the cognitive flexibility, psychological well-being and life satisfaction elements of pre-service teachers were discussed within the scope of this research.

Cognitive flexibility is a term used to refer to a person's ability to change their own thought patterns or approach to a task (Cox, 1980). The complexity of daily life reinforces the need to be cognitively flexible. Cognitive flexibility refers to a person's awareness of communication alternatives, their willingness to adapt to the situation, and their self-efficacy to be flexible (Martin & Anderson, 1998). Flexibility is the ability to change according to certain conditions. Cognitive flexibility includes the ability to change tasks, adapt to new rules, and produce flexible solutions with the support of creativity and thinking skills (Star and Seifert, 2006). Cognitive flexibility is the ability to restructure knowledge to solve a new situation or problem, and to find different solutions when new situations are encountered (Carvalho, 2000; Feltovich, Spiro and Coulson, 1997, Ionescu, 2011).

Individuals with high cognitive flexibility make these changes more easily and spontaneously than those with low cognitive flexibility. Individuals with greater cognitive flexibility are less rigid in their thinking (Cox,

1980). People who can accept the necessity of possible behavioral adjustments based on situational factors are more cognitively flexible than those who only see appropriate or correct behavioral responses. Cognitively flexible people are willing to try new ways of communication, encounter unfamiliar situations, and adapt behaviors to meet contextual needs (Martin and Anderson, 1998). Cognitive flexibility is highly dependent on attentional processes. In detecting that a situation has changed and a non-routine solution is required, a higher level of attentional control is required, in which the person evaluates the new situation and plans the solution. To be cognitively flexible, the individual must perceive environmental conditions that may interfere with the current situation (Canas, Fajardo, & Salmeron, 2006). In the study by Spiro et al., in which the cognitive flexibility theory was first introduced, a series of teaching practices were carried out that allowed students to adapt the knowledge they acquired in formal school environments to informal, real-life environments. In the study, it was emphasized that individuals should gain more cognitive flexibility in learning processes in order to get rid of learning difficulties (Spiro, Vispoel, Schmitz, Samarapungavan, & Boerger, 1987).

Cognitive flexibility is a theory developed to address four main goals. These goals are determined as to (1) help people learn important but difficult topics, (2) encourage adaptive flexible use of knowledge in real life, (3) change underlying ways of thinking, (4) developing multimedia learning environments to promote complex learning and flexible knowledge application (Spiro, Collins, Thota ve Feltovich; 2003).

Cognitive flexibility is considered as a factor affecting life satisfaction in the literature (Metzl, 2009; Keith, Velezmoro and O'Brien, 2015; Küçüker, 2016; Çikrikçi, 2017; Yelpeze and Yakar, 2019). According to Neugarten, Havighurst, and Tobin (1961), who examined life satisfaction as a concept for the first time, life satisfaction refers to the situation or result obtained as a result of comparing the expectations/desires of the individual with what they have. Life satisfaction includes the individual's past, present and future satisfaction, as well as the desire to continue his/her life in a different way and the opinions of others on the individual's life (Diener, Suh, Lucas and Smith, 1999).

In order for the individual to express his/her life satisfaction, he/she must first determine some criteria for his/her own life in line with his/her wishes and needs, then make a comparison about how suitable his/her current situation is with these criteria and state how satisfied he/she is with himself/herself and his/her life as a result of this comparison (Küçüker, 2016). Having a flexible perspective on the problems faced by the individual, realizing the available options regarding the situation he/she is in, and being able to produce different solutions contribute positively to life satisfaction (Ciarrochi, Said and Deane, 2005). Life satisfaction is one of the indicators of 'apparent' quality of life. Along with mental and physical health indicators, it shows the positive development of individuals' lives. Data on life satisfaction are used for the purposes of measuring quality of life, monitoring social development, policy-evaluation, determining good living conditions (Veenhoven, 1996).

There are studies in the literature to determine the factors affecting life satisfaction. According to these studies, life satisfaction; in addition to personal factors such as economic income, marital status, social status, socioeconomic level, education level, academic achievement, gender and age (Luttmer, 2005; Dost, 2007; Behlau, 2010; Şimşek, 2011; Koçak, 2016, Yelpeze and Yakar, 2019), which are the demographic characteristics of the people, it is affected by social factors such as the welfare level of the society, the quality of health services, cultural harmony and educational opportunities (Diener, 2000; Diener and Seligman, 2004; Mahmud and Schölmerich; 2011). In the study of Tuzgöl-Dost (2007), it was determined that university students' levels of life satisfaction differ according to gender, perceived academic success, perceived economic status, future expectations, religious belief and loneliness. Parvizi (2021) found that university students' cognitive flexibility levels predict students' psychological well-being and life satisfaction.

The concept of "well-being", which we encounter within the framework of life satisfaction, is evaluated from two different perspectives in the literature as pleasure (hedonic) and psychological functionality (eudaimonic) (Ryan and Deci, 2001). According to the hedonist point of view, "well-being" is defined as satisfaction and happiness. Psychological functionality perspective defines well-being as "self-actualization and full functioning of the individual" (Waterman, 1993). In the process of reaching the definition of well-being, whether to approach this concept from an objective or subjective point of view, or in other words, the criterion to be set by the person who evaluates the well-being of the person is the point that separates these two approaches. Subjective and psychological well-being has been subjected to different evaluations by researchers due to these differences (Göcen, 2013). Subjective and psychological well-being are related concepts, although they express different aspects of psychological health (Keyes, Smotkin and Ryff, 2002). In order to explain the definitions of subjective and psychological well-being in a more understandable way, scientists dealing with social sciences evaluate situational and individual characteristics together with various models; they tried to understand more about the structure of well-being. There are many concepts that correspond to the state of human well-being. Concepts such as well-being, subjective well-being, psychological well-being, life satisfaction, quality of life, positive and negative affectivity are largely interrelated. Because all of these concepts are related to the conditions that ensure the positive functionality and well-being of the individual (Özen, 2010).

Psychological well-being means that the individual recognizes himself/herself realistically and is aware of his/her strengths and limitations and makes his/her life meaningful and autonomous (Ryff and Keyes, 1995).

Bradburn (1969) in his work titled “The Structure of Psychological Well-Being” first discussed “psychological well-being” as a concept and explained it as the superiority of positive emotions over negative emotions. American psychologist Carol D. Ryff, who had a great influence on the concept's taking place in the literature, determined the scope of the concept with her studies and presented a model consisting of six dimensions.

Dimensions of psychological well-being model are listed as; positive evaluations of the individual about himself/herself and his/her past life (self-acceptance), a feeling of constantly growing and developing as an individual (individual growth), belief that one's life is meaningful and purposeful (life purpose), ability to establish positive relationships with other individuals, to direct the individual's life and environment (environmental mastery) and the sense of self-determination (autonomy) (Ryff and Keyes, 1995). When the dimensions of the model are examined, it is seen that Ryff's psychological well-being model consists of the common points of the views of western theorists who are interested in positive functioning. For this reason, the psychological well-being model is a combination of theories that examine the characteristics of people in positive functioning (Ozen, 2010).

The basis of research on psychological well-being in the literature is Ryff's (1989) study in which she developed the Psychological Well-Being Scale. In this study, it was concluded that there is a positive relationship between psychological well-being, life satisfaction, balance between emotions, self-esteem, spirituality and internal control, but there is a negative relationship between chance control and depression (Ryff, 1989). Psychological well-being has been discussed together with subjective well-being in many studies. In a study by Ryff and Heidrich (1997), in which the effect of adult life experiences on well-being was investigated, it was concluded that life experiences significantly predicted current and future well-being. In the study of Cenkseven (2004), in which he examined the predictors of subjective and psychological well-being in university students, it was found out that resourcefulness, extraversion, neuroticism, perceived satisfaction with dating and friends, external locus of control belief, gender, perceived satisfaction with parents and leisure activities were significant predictors of psychological well-being. Moe (2012) in his study aimed to determine the factors that affect the psychological well-being of women concluded that there is a strong and negative relationship between high stress and psychological well-being, and that women's education level, economic income level and perceived social support predict psychological well-being significantly and positively. It was determined that self-esteem and psychological well-being were significantly related to self-acceptance, and students' participation in social groups and social relations affect psychological well-being positively and significantly. Sarı and Çakır (2016) found in their study with pre-service teachers that as the level of fear of happiness increased, the level of well-being decreased. Doğan, Kaya, and Eren (2016) found a low-level negative relationship between high school students' psychological well-being and risk-taking; high level of positive relationship between psychological well-being and life satisfaction and risk-taking behaviors negatively affect life satisfaction and psychological well-being. Esigül and Cenkseven-Önder (2017) as a result of the research in which they examined the mediator and regulatory role of social problem solving skills, which is a style of coping with stress, in the relationships between pre-service teachers' perceived stress levels and their psychological well-being levels; found negatively significant relationships between perceived stress and psychological well-being; negatively significant relationships between social problem solving skills and stress; and positive significant relationships between social problem solving and psychological well-being. They determined that social problem solving has a partial mediator role in the relationship between perceived stress and psychological well-being however, it does not have a regulatory role. In his study with pre-service teachers, Zümbül (2019) stated that individuals with high levels of forgiveness also have high levels of psychological well-being. Cenkseven and Akbaş (2007) conducted a study in which they aimed to determine the predictors of subjective and psychological well-being in university students. They concluded that perceived health status, socio-economic status, and perceived satisfaction with academic achievement were not significant predictors of psychological well-being, while gender was predictive of both subjective and psychological well-being, and socioeconomic level was only predictive of subjective well-being.

Life satisfaction is the cognitive component of subjective well-being, which deals with the concept of happiness (Diener, 1984). Subjective well-being is a broad phenomenon that includes individuals' emotional reactions, areas of satisfaction and general judgments about life satisfaction (Diener, Lucas, Suh and Smith, 1999). Situations that have an effect on the subjective well-being of individuals have been examined in different studies in the literature. According to these studies, it was determined that there is a significant relationship between subjective well-being and friendship relations and social activities (Harlow and Cantor, 1996; Argyle and Lu, 1990; Diener and Ryan, 2009), positive communication with parents (Young and Miller, 1995; Shek, 1999; Cheng and Furnham, 2003; Doğan, 2006;), personal spirituality / religiosity (Fabricatore, Handal and Fenzel, 2000; Vitale, 2001; Tuzgöl-Dost, 2006; Arvas, 2017; İsgör, 2017) income level / financial opportunities, (Moller, 1996; Paolini, Yanez ve Kelly, 2006; Kaplan, Shema ve Leite, 2008; Türkdoğan, 2010), academic achievement, perceived satisfaction with leisure activities Cenkseven and Akbaş, 2007), health (Pavot and Diener, 2013) and job satisfaction (Calaguas, 2017; Joo and Lee, 2017; Malik, Iqbal and Sheikh 2020).

Although the methods and definitions of well-being models are different from each other, they have the purpose of contributing to the happiness and health of individuals. When looking at the studies based on positive psychology, it is seen that both approaches are used, but psychological well-being is used more in terms of structurally addressing utility/psychological functionalism and including sub-scales such as individual development and meaning of life (Göcen, 2013). Within the scope of this research, the concept of well-being was discussed as “psychological well-being” on the basis of positive psychology.

The Purpose of the Research

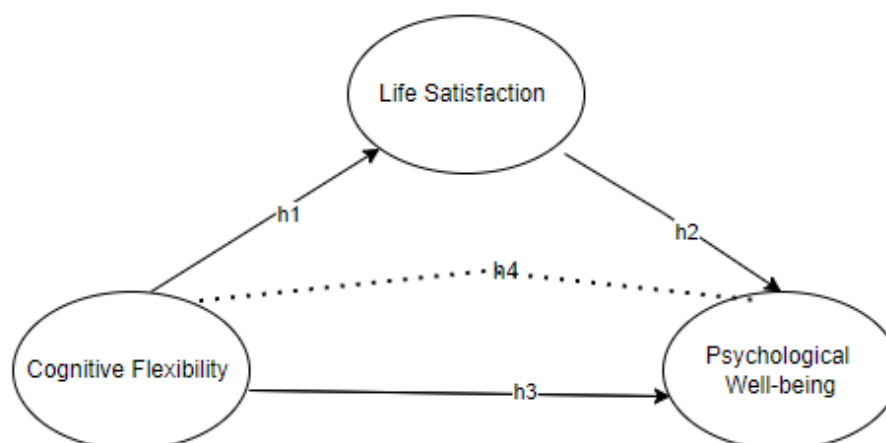
The subject of human happiness is examined within the framework of concepts such as psychological well-being, subjective well-being, quality of life, life satisfaction and positive affect (Tuzgül-Dost, 2007). It is thought that the concept of cognitive flexibility is important in terms of being able to cope effectively with the stress experience of university life for young people and to lead a happy life by adapting to the university environment (Asıcı and İkiz, 2015). Life satisfaction refers to the cognitive side of subjective well-being; the university period has a great effect on the individual's positive attitude towards his/her life by being satisfied with his/her own life (Veenhoven, 1996). While pre-service teachers continue their university life, they are also preparing for a profession that requires specialization in many skills. In order for them to be cognitively and affectively ready for the teaching profession they will have in the future, it is extremely important to provide the necessary support by determining their current experiences, emotional states and views on life. At this point, the main purpose of the research is to examine the mediating role of life satisfaction in the relationship between pre-service teachers' cognitive flexibility and psychological well-being. For this purpose, the sub-problems of the research are as follows:

1. Is there a significant relationship between pre-service teachers' cognitive flexibility and life satisfaction?
2. Is there a significant relationship between pre-service teachers' life satisfaction and psychological well-being?
3. Is there a significant relationship between pre-service teachers' cognitive flexibility and psychological well-being?
4. Does life satisfaction have a mediating role in the relationship between pre-service teachers' cognitive flexibility and psychological well-being?

METHOD

Research model

The aim of this study is to examine the relationship between psychological well-being, life satisfaction and cognitive flexibility levels of pre-service teachers continuing their undergraduate education at Akdeniz University Faculty of Education. In this study, which is in the relational research model, which is one of the quantitative research types, the mediating role of life satisfaction in the effect of pre-service teachers' cognitive flexibility levels on psychological well-being was examined. The tested structural model is given in Figure 1



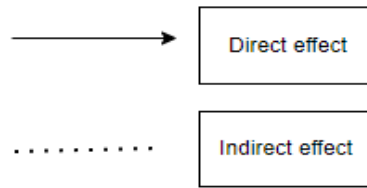


Figure 1: Tested analysis model

The hypotheses created within the scope of this study are given below:

Hypothesis 1: There is a significant relationship between pre-service teachers' cognitive flexibility and life satisfaction.

Hypothesis 2: There is a significant relationship between pre-service teachers' life satisfaction and psychological well-being.

Hypothesis 3: There is a significant relationship between pre-service teachers' cognitive flexibility and psychological well-being.

Hypothesis 4: Life satisfaction has a mediating role in the relationship between pre-service teachers' cognitive flexibility and psychological well-being.

Study Group

The study group of the research consists of 173 pre-service teachers studying at Akdeniz University Faculty of Education in the 2021-2022 academic year. Demographic information of the students participating in the research is given in Table 1.

Table 1: Demographic Information

Variables		Frequency	Percentage
Gender	Female	50	28,9
	Male	120	69,4
Class	1	68	39,3
	2	32	18,5
	3	41	23,7
	4	30	17,3

According to Table 1, 28.9% of the students participating in the research are female and 69.4% are male. On the other hand, 39.3% of the students are 1st year students, 18.5% are 2nd year students, 23.7% are 3rd year students and 17.3% are 4th grade students.

Data Collection Tools

Life Satisfaction Scale, Cognitive Flexibility Scale and Psychological Well-Being Scale were applied to the students in the study group within the scope of the research. In addition, information about the class level and gender of the students was collected using the demographic information form.

Life Satisfaction Scale. The Life Satisfaction Scale, which was developed by Diener, Emmons, Larsen, and Griffin (1985) and adapted into Turkish by Dağlı and Baysal (2016), was used to measure students' life satisfaction. In the process of adapting the scale made by Dağlı and Baysal into Turkish, exploratory and confirmatory factor analysis techniques were used. As a result of the exploratory factor analysis, the KMO coefficient was found to be 0.869, and the Bartlett test χ^2 value was found to be 528,329 ($p < 0.001$, $Sd = 10$). In addition, the Cronbach Alpha coefficient was calculated as 0.88 in the reliability analysis performed as a result of the adaptation of the Life Satisfaction Scale into Turkish. The Life Satisfaction Scale consists of one dimension and five items. The answers given to the items in the scale are as "I strongly disagree (1), I slightly agree (2), I agree moderately (3), I mostly agree (4) and I totally agree (5)". The validity and reliability analyzes of the Life Satisfaction Scale were performed again by the researchers. According to the values obtained as a result of the confirmatory factor analysis performed on the Life Satisfaction Scale ($\chi^2 = 26.12$, $sd = 5$, $p > .05$, $\chi^2 / sd =$, $RMSEA = 0.15$, $CFI = 0.93$, $NNFI = 0.85$) it is seen that the model-data fit of the scale is good.

Cognitive Flexibility Scale. The Cognitive Flexibility Scale, which was developed by Martin and Rubin (1995) and adapted into Turkish by Çelikkaleli (2014), was used to measure the cognitive flexibility of students within the scope of the research. In the process of adapting the scale made by Çelikkaleli into Turkish, exploratory and confirmatory factor analysis techniques were used. As a result of the exploratory factor analysis, the KMO coefficient was found to be 0.819, and the Bartlett test χ^2 value was found to be 840.823 ($p < 0.001$, $Sd = 10$). However, in the reliability analysis performed on the scale, the Cronbach Alpha coefficient was calculated as

0.74. The Cognitive Flexibility Scale consists of one dimension and twelve items. The answers given to the items in the Cognitive Flexibility Scale are “strongly disagree” (1) and “strongly agree” (6). The validity and reliability analyzes of the Cognitive Flexibility Scale were repeated by the researchers. According to the values obtained as a result of the confirmatory factor analysis performed on the Cognitive Flexibility Scale ($\chi^2 = 394.54$, $sd=44$, $p>.05$, $\chi^2 /sd =$, $RMSEA= 0.27$, $CFI=0.77$, $NNFI=0.71$), the model-data fit of the scale appears to be good (Tabachnick and Fidell, 2007).

Psychological Well-Being Scale. In this study, the Psychological Well-Being Scale developed by Diener et al. (2009) and adapted into Turkish by Telef (2013) was used to measure students' psychological well-being levels. In the process of adapting the scale made by Telef to Turkish exploratory and confirmatory factor analysis techniques were used. As a result of the exploratory factor analysis, the KMO coefficient was found to be 0.84, and the Bartlett test χ^2 value was found to be 1007.633 ($p<0.01$, $Sd=28$). However, in the reliability analysis of the scale, the Cronbach Alpha coefficient was calculated as 0.80. The Psychological Well-Being Scale consists of one dimension and eight items. The answers given to the items of the scale are as “I strongly disagree (1) to I strongly agree (7)”. The validity and reliability analyzes of the Psychological Well-Being Scale were repeated by the researchers. According to the values obtained as a result of the confirmatory factor analysis performed on the Psychological Well-Being Scale ($\chi^2 =96.08$, $sd=20$, $p>.05$, $\chi^2 /sd =$, $RMSEA= 0.14$, $CFI=0.85$, $NNFI=0.79$), it is seen that the model-data fit of the scale is good.

Data Analysis

The data collection tools used in the research were applied to the pre-service teachers studying at Akdeniz University Faculty of Education in the 2020-2021 academic year via Google Form. In addition, the permissions for the data collection tools determined within the scope of the research were obtained from the people who developed the scales via e-mail.

The scales used in the research are one-dimensional and Psychological Well-Being Scale is added to the model as dependent variable, Cognitive Flexibility Scale as independent variable, and Life Satisfaction Scale as mediator variable.

SPSS 25 and Lisrel 8.80 programs were used to analyze the data. In addition, the hypotheses determined within the scope of the research were tested using the Process Macro developed by Hayes (2013). In order to determine whether the items belonging to the scales used within the scope of the research show a normal distribution, the skewness and kurtosis coefficients were examined. According to the findings, it was concluded that the skewness and kurtosis values of the data were in the range of +2 and -2 values. According to Kline (1998), these values are a proof that the data show a normal distribution. However, the existence of extreme values was examined with Mahalanobis distance and the data outside the limit values were extracted. In addition, the CI and VIF values of the data set were calculated and it was concluded that there was no multicollinearity problem.

Findings

Within the scope of this study, which examines the mediating role of life satisfaction in the effect of pre-service teachers' cognitive flexibility levels on psychological well-being, firstly, descriptive statistics and correlation values calculated on life satisfaction, cognitive flexibility and psychological well-being variables are given in Table 2.

Table 2: Descriptive statistics and correlation values of life satisfaction, cognitive flexibility and psychological well-being variables

Variables	Average	Standard deviation	Life Satisfaction	Cognitive flexibility	Psychological well-being
Life Satisfaction	3,00	,95	-	0,35*	0,49*
Cognitive flexibility	4,02	,49		-	0,31*
Psychological well-being	5,16	1,11			-

When Table 2 is examined, it can be said that the life satisfaction of the students is at a moderate level, and the average of their cognitive flexibility and psychological well-being is high. In addition, as a result of the correlation analysis it was found out that there was a moderate and significant relationship between students' life satisfaction and cognitive flexibility levels ($r=.35$, $p<.05$), there was a moderate and significant relationship between life satisfaction and psychological well-being ($r=.49$, $p<.05$) and there was also a moderate and significant relationship between cognitive flexibility and psychological well-being ($r=.31$, $p<.05$).

The result of the regression analysis performed to test the hypothesis of "There is a significant relationship between cognitive flexibility and life satisfaction of pre-service teachers ", which is the first of the hypotheses determined within the scope of the research, is given in Table 3.

Table 3: Regression analysis results for the mediation test

Prediction variables	Result variables				Y: PWB average			
	M: LS				Y: PWB average			
		b	s.h.	p		b	s.h.	p
Cf: X	a	,30	,149	,04	C'	,55	,149	,00
Ls: M					b	,53	,076	,00
Stable		1,79	,601	,00		1,37	,612	,02
	R ² = ,02				R ² = ,30			
	F(1;169) = 4,136				F(2,168) = 35,61			
Cf: Cognitive Flexibility Scale, Ls: Life Satisfaction Scale, PWB: Psychological Well-Being Scale								

Table 3 shows the results of the regression analysis showing the effect of the predictive variable cognitive flexibility levels on the mediating variable life satisfaction (path a). Accordingly, cognitive flexibility, life satisfaction affect positively (b=.30, 95% CI [.01, .59], t=2.03, p<.05). However, cognitive flexibility explains 2% (R²=.02) of the change in life satisfaction.

The combined effects of the mediating variable, life satisfaction, and cognitive flexibility, on the outcome variable, psychological well-being, are given in Table 3. Accordingly, it can be said that cognitive flexibility has a significant positive effect on psychological well-being (b=.55, 95% CI [.25, .84], t=3.67, p<.05). In addition, it was concluded that life satisfaction has a similarly significant positive effect on psychological well-being (b=.53, 95% CI [.38, .68], t=6.94, p<.05). Cognitive flexibility and life satisfaction explain 30% (R²=.30) of the change in psychological well-being. The total-direct and indirect effects of students' cognitive flexibility levels on life satisfaction are given in Table 4.

Table 4: Total-direct and indirect effect values

Total effect	Direct effect	Indirect effect	Bootstrap confidence interval
,7068	,5470	,158	.111, .360
Note: Analyzed with Bootstrap 5000 technique.			

When Table 4 is examined, it is concluded that the indirect effect of students' cognitive flexibility levels on life satisfaction is significant and their psychological well-being mediates this relationship (b= .158, 95% BCA CI [.001, .360]). It can be said that the student whose cognitive flexibility level is one unit higher than two students with an indirect effect value (.158) has a higher life satisfaction by 158 units.

Based on these findings, it was concluded that the indirect effect of students' cognitive flexibility levels on life satisfaction was significant and their psychological well-being mediated this effect. In addition, as a result of the Bootstrap analysis, since the adjusted bias and accelerated confidence interval values do not include the zero value (Zhao et al., 2010), it is concluded that the mediating role of the life satisfaction variable is significant in this model.

RESULTS AND DISCUSSION

In this study, which aimed to examine the mediating role of life satisfaction in the relationship between pre-service teachers' cognitive flexibility and psychological well-being, it was concluded that cognitive flexibility had a significant effect on life satisfaction in general and psychological well-being had a mediating role in this effect. According to the descriptive statistics and correlation values calculated on the variables of life satisfaction, cognitive flexibility and psychological well-being, it was concluded that the life satisfaction of the pre-service teachers was at a moderate level, while the average of their cognitive flexibility and psychological well-being was high. In addition, it was determined that there was a moderate and significant relationship between pre-service teachers' levels of life satisfaction and cognitive flexibility, between life satisfaction and psychological well-being, and between cognitive flexibility and psychological well-being.

Studies examining life satisfaction and cognitive flexibility together are limited in the literature. Yelpaze and Yakar (2020) also determined in their study that cognitive flexibility is an important predictor of life satisfaction. When the results of the research are evaluated together with the studies in the literature, it can be said that the cognitive flexibility of pre-service teachers has a positive effect on their life satisfaction. Cognitive flexibility is an extremely important concept for teachers and pre-service teachers due to the structure of the teaching profession that requires adapting to many different situations, solving problems, adapting to new situations, gaining communication awareness, using creativity and thinking skills effectively, and being solution-oriented. The result that individuals with cognitive flexibility have high life satisfaction has been revealed by studies in the literature and this research.

In this study, a moderate and significant relationship was found between the life satisfaction of pre-service teachers and their psychological well-being. Similarly, Demir, Tanhan, Çiçek, Yerlikaya, Kurt & Ünverdi (2021) found a positive and moderate relationship between pre-service teachers' life satisfaction and psychological well-being. Considering that psychological well-being is affected by individuals' life experiences (Ryff & Heidrich, 1997) and happiness levels (Diener, 1984), it is concluded that the concept of life satisfaction is at the basis of psychological well-being. Therefore, positive changes to be made on the individual's life satisfaction will also support their psychological well-being.

In the study, a moderate and significant relationship was found between the cognitive flexibility and psychological well-being of pre-service teachers. Similar to this result, Parvizi (2021) found a statistically significant, moderately positive relationship between pre-service teachers' cognitive flexibility and psychological well-being. As a result of their research, İmroğlu, Demir and Murat (2021) determined a positive and significant relationship between the psychological well-being of adults and their cognitive flexibility. Similarly, Malkoç and Mutlu (2019) concluded in their study that cognitive flexibility is a significant predictor of psychological well-being.

When the studies in the literature were examined within the scope of the research, it was seen that there was a significant relationship between the cognitive flexibility levels of pre-service teachers and their psychological well-being. On the other hand, the life satisfaction of pre-service teachers has a mediating effect on the said relationship. In this context, life satisfaction and cognitive flexibility level are among the factors that play an active role in the individual's psychological well-being (Parvizi, 2021; Özen, 2010). On the other hand, individuals with high cognitive flexibility being less rigid in their thoughts (Cox, 1980) and being open to changing their behaviors to meet their needs (Martin & Anderson, 1998) will increase life satisfaction by meeting the expectations of the individual. In this case, it can be said that the cognitive flexibility of the individual will affect his life satisfaction and change his/her psychological well-being. When this situation is evaluated in terms of pre-service teachers, it can be stated that the ability to adapt to new situations, to overcome problems, to produce solutions and to have cognitive flexibility during the preparation process for the profession will have an effect on increasing life satisfaction, and this will also improve their psychological well-being positively.

SUGGESTIONS

Based on the results obtained from the research findings, the following suggestions can be made:

- This research was conducted with pre-service teachers. In determining the mediating role of life satisfaction in the relationship between cognitive flexibility and psychological well-being of pre-service teachers, research can be conducted on other stakeholders of the education system such as students, teachers, parents, school administrators.
- Relational research model, one of the quantitative research methods, was used in this study. The results of the research can be deepened by qualitative studies on the cognitive flexibility, life satisfaction and psychological well-being of pre-service teachers.
- Studies can be conducted to examine the factors affecting the relationship between pre-service teachers' life satisfaction, cognitive flexibility and psychological well-being.
- In addition, studies can be conducted to examine the relationships between these variables by using different multivariate statistical methods.
- Besides, the study can be done again on students at different education levels.

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