



The relationships between positive schemas and psychological well-being in university students: An investigation of the mediating variable role of self-esteem

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Abstract

This study aims to investigate whether or not self-esteem plays a significant mediating role in the relationship between positive schemas and psychological well-being in university students. The research, which has a correlational model, was designed on the basis of the quantitative research methodology. The study group of the research consists of 515 university students who participated in the research voluntarily and who were studying at three different state universities in the Black Sea, Eastern Anatolia, and Marmara regions of Turkey. Of these students, 384 (=74.6%) were female, and 131 (=25.4%) were male. In addition, the ages of the students in the study group ranged from 18 to 40, and the mean age was calculated as $x=21.62$ ($SD=2.98$). The research data were collected using a battery of four different measurement tools: Personal Information Form, Positive Schemas Scale, Two-Dimensional Self-Esteem Scale, and Psychological Well-Being Scale. In the analysis of the data, first of all, erroneous and/or missing data were examined, and then normality analyzes were carried out. Then, descriptive statistics and correlation analysis were performed, respectively. Finally, in line with the main problem of the research, whether self-esteem has a significant mediating role in the relationship between positive schemas and psychological well-being in university students was tested with a regression-based mediation model. The results obtained from the research revealed that all the variables discussed within the scope of the study were positively and significantly related to each other, and that self-esteem was a significant mediating variable in the relationship between positive schemas and psychological well-being in university students.

Keywords: Positive schemas; psychological well-being; self-esteem

1. Introduction

1.1. Introduce the problem

Theoretical and applied studies based on positive psychology are becoming more and more widespread in the current literature. Gable and Haidt (2005) define positive psychology as the study of conditions and processes that contribute to the development or optimal functioning of individuals, groups, and institutions. The overwhelming focus on psycho-pathological conditions and disorders has been strongly criticized in the positive psychology orientation, which opposes to limiting the ultimate goal of psychological studies to the absence of psychological problems and disorders and argues that being truly healthy means much more than the absence of pathology (Moneta, 2014). From this point of view, it can be said that the main focus of the positive psychology orientation is the strengths and positive experiences of individuals rather than their problems, disorders, and diseases. These positive experiences are examined in three different time perspectives and nodes. Time perspectives are: (i) past, (ii) present, and (iii) future. Nodes, on the other hand, consist of: (i) subjective node, (ii) individual node, and (iii) group node. Among these, the subjective node encompasses positive experiences and situations throughout the past, present, and future; happiness, optimism, etc. The individual node focuses on the characteristics of being a "good person"; talent, wisdom, love, courage, and creativity, etc. The third one, the group node, examines positive organizations, citizenship, and communities; altruism, tolerance and work ethic, etc. (Hefferon and Boniwell, 2011, pp.3).

One of the centrally important concepts in the subjective node of positive psychology is the concept of well-being (Satici, 2016). This concept has attracted the attention of researchers and practitioners for a long time, and research and studies on it are still increasing. This increase has brought with it the conceptualization, measurement, and evaluation of well-being in different ways. As a result, there are different well-being models and theories in the literature. Hefferon and Boniwell (2011) mention that in these models and theories, well-being is mainly handled based on two basic approaches; the *hedonic approach* and the *eudaimonic approach*. The hedonic approach includes subjective well-being-based orientations. Subjective well-being is concerned with how individuals evaluate their own lives emotionally and cognitively. Accordingly, in the subjective well-being conceptualization, a high level of well-being of individuals means high positive emotions and mental state, low negative emotions and mental state, and high life satisfaction of the individual (Lucas and Diener, 2008; Diener and Ryan, 2009; Gallagher, 2009; Diener, 2012).

The second approach, which is widely adopted in the conceptualization of well-being, is expressed as the eudaimonic approach, which includes orientations based on psychological well-being. This approach emphasizes that well-being is more than how the individual feels, how he/she evaluates himself/herself, and how much satisfaction he/she gets from his/her life. This approach suggests that psychological functionality is one of the important determinants of well-being (Ryff, 1995), and that well-being can be achieved not through pleasure but by living and expressing virtues (Ryan & Deci, 2001). Keyes, Shmotkin, and Ryff (2002) define psychological well-being as the whole of the skills to set personal goals, to maintain these personal goals, and to establish meaningful relationships with people. Ryff (1989) defined six sub-factors that he thought were the determinants of psychological well-being, which are (i) autonomy, (ii) environmental mastery, (iii) personal growth, (iv) positive relationships with others, (v) purpose in life, and (vi) self-acceptance (Gallagher, 2009). In addition to these basic orientations in well-being, multidimensional and holistic well-being models also occupy a place in the literature. These models suggest that well-being has a multidimensional structure in general, and that more than one component need to come together to form the “structure” of well-being (Seligman, 2011). In the present study, well-being is evaluated on the basis of the conceptualization of *psychological well-being*.

1.2. Describe relevant scholarship

Various factors associated with psychological well-being are mentioned in the literature. According to previous studies, some of these factors are positively related to psychological well-being, while others have a negative association with it. In other words, while some factors act as protective and enhancing factors for psychological well-being, others may function as a risk factor and threat. One of the factors related to the psychological well-being of individuals is schemas (Beck, 2005). Schemas are defined as cognitive structures that organize the information overload that individuals constantly encounter. It is also suggested that schemas help individuals make sense of the stimuli they come across (Murdock, 2014). However, schemas can be compatible/incompatible, positive/negative, or functional/non-functional, and can function positively or negatively depending on the quality of individuals' emotions, thoughts, and behaviours. In this research, schemas are examined and evaluated with their positive aspects. With the concept of positive schema, it is tried to conceptualize positive permanent cognitive structures that are at the core of the individual's cognitive system and contribute to the psychological functionality of individuals and their effective implementation of daily life tasks (Zauszniewski et al., 2002; Keyfitz et al., 2013). Keyfitz (2010), in his scale development study, defined five positive schema areas as *self-efficacy*, *success*, *confidence*, *optimism*, and *worthiness*. In the present study, positive schemas are evaluated based on this conceptualization. Although their number is relatively low in the literature, various studies reveal that there are significant relationships between these schema areas and

the well-being of individuals. For example, Kılıç (2018) found in her study that there are positive and significant relationships between positive schemas and well-being, and so positive schemas are positive and significant predictors of well-being. Similarly, the relationship between positive schemas and positive psychological outcomes is emphasized by different studies (Videler et. al., 2020; Tomlinson et. al., 2017). Moreover, it is stated that there are negative significant relationships between positive schemas and various psychological problems, especially depression (Lumley and McArthur, 2016).

Besides the results obtained from the present study, which show that there are positive relationships between positive schemas as a general structure and well-being and positive psychological outcomes, some other studies reveal positive relationships between the sub-domains that make up the positive schemas structure and psychological well-being. It was found in various studies that there are positive and significant relationships between optimism and psychological well-being (Günay and Çelik, 2019; Kardaş et. al, 2019; Krok and Telka, 2019). It is also stated that there are positive and significant relationships between self-efficacy and psychological well-being, which is one of the sub-domains that make up positive schemas (Alkhatib, 2020; Kılınc, 2017). Furthermore, the worthiness schema includes behavioural indicators such as self-worth, confidence schema includes behavioural indicators such as trust in other people, and success schema includes behavioural indicators such as believing that one can succeed if she/he makes the necessary effort. Based on these indicators, it can be stated that success, confidence, and worthiness schemas are positively related to psychological well-being, which reflects the psychological functionality of individuals. When all these theoretical propositions and research results about psychological well-being and positive schemas are considered, it could be argued that the positive schemas of individuals are positively related to their psychological well-being. In line with this, the first hypothesis tested in the study is as follows: *“Positive schemas are a positive and significant predictor of psychological well-being.”*

Various strengths and protective factors thought to be associated with psychological well-being are also described in the literature, one of which is self-esteem (Sarkova et. al., 2013; Sarıçam, 2021). In a general sense, self-esteem refers to the degree to which the qualities and features in the individual's self-perception are perceived positively by the individual. To be more precise, the more positive the person's perception is, the higher his/her self-esteem will be. Moreover, reasonable self-esteem is accepted to be an important component of mental health (APA, 2022). Consistent with these theoretical explanations about self-esteem, some other studies propose that there are positive and significant relationships between self-esteem and psychological well-being (Beydoğan-Tangör and Curun, 2016; Akdağ and Cihangir-Çankaya, 2015; Çelenk and Peker, 2020; Doğan, Totan and Sapmaz, 2013). Considering these theoretical propositions and research results on the relationships between self-esteem and well-being, it is possible to put forward that as the level of positive evaluation of one's self (self-esteem) increases,

his/her psychological well-being will also increase. Accordingly, the second hypothesis of the research is as follows: *“Self-esteem is a positive and significant predictor of psychological well-being.”*

In addition to their direct effect on positive outcomes such as well-being, happiness, and life satisfaction, positive schemas, with their constructive features, can also strengthen positive outcomes by developing some positive aspects and protective factors for individuals. At this point, it seems very important to examine the indirect effect of positive schemas on psychological well-being through various variables. One of the positive aspects or protective factors that positive schemas will develop is thought to be self-esteem. One can say that individuals who have positive cognitive structures (positive schemas) that direct their emotions, thoughts, and behaviours will evaluate their own characteristics and capacities more positively. In other words, it is believed that positive schemas will increase self-esteem by making one’s evaluation and judgment of oneself more positive. Concordantly, the third hypothesis of the research is as follows; *“Positive schemas are a positive and significant predictor of self-esteem.”*

When these three hypotheses thoroughly explained above are taken together, it might be said that positive schemas will have a positive and indirect effect on psychological well-being by increasing self-esteem, as well as their direct and positive effect on it. This proposition forms the basis of the first hypothesis. In other words, in addition to their direct effect on psychological well-being, positive schemas are expected to indirectly increase psychological well-being by increasing self-esteem. From this point of view, the fourth and final hypothesis of the research is as follows: *“Self-esteem has a significant mediating role in the relationship between positive schemas and psychological well-being.”*

1.3. State hypotheses and their correspondence to research design

To summarize, the current study examines the relationships between positive schemas, self-esteem, and psychological well-being. While examining these relationships, positive schemas function as the independent variable, psychological well-being as the dependent variable, and self-esteem as the mediator variable. Furthermore, this study aims to examine the mediating role of self-esteem in the relationship between positive schemas and psychological well-being. The hypothetical model established for this purpose is presented in Figure 1.

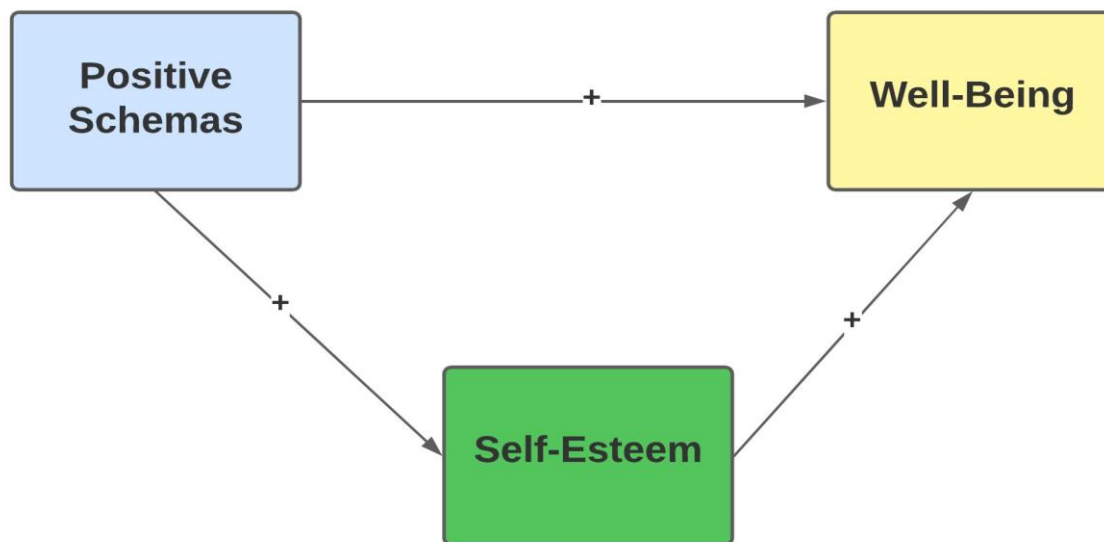


Figure 1. The hypothetical mediation model tested within the scope of the research

It is seen that the studies on positive schemas are quite limited in the literature, especially in the Turkish literature. These studies generally focus on early maladaptive schemas (eg. Yalçın et. al., 2018; Kömürcü and Gör, 2016; Gökçe et. al., 2017). Therefore, it is thought that this research will contribute to the increasing the interest in positive schemas and to enriching the knowledge about positive schemas. Moreover, in studies examining the relationships between self-esteem and psychological well-being in the literature, it is seen that self-esteem is mostly evaluated only with the role of the independent variable. Thus, the evaluation of self-esteem as an important mediator variable that can be functional in supporting well-being is regarded as one of the strengths of this study. Also, the positive schemas and self-esteem variables discussed in this research can be developed with various psychological interventions and practices. In this respect, it is thought that the data obtained from the research will provide important information, especially to practitioners who are working on improving well-being.

2. Method

2.1. Research Model

This research, which aims to examine whether self-esteem has the role of a mediating variable in the relationship between positive schemas and psychological well-being in university students, was designed in a quantitative research design and as correlational research (Creswell, 2012). In correlational studies, the existence and degree of a covariance between at least two variables are examined, and the change in the dependent

variable is tried to be estimated based on the independent variable(s) (Fraenkel, Wallen, and Hyun, 2011). In accordance with the nature of correlational research, positive schemas play the role of the independent variable, psychological well-being plays the role of dependent variable, and self-esteem plays the role of both dependent and independent (mediating) variables in this research.

2.2. Participant (subject) characteristics

The study group of the research consists of university students studying at three different state universities in the Black Sea, Eastern Anatolia, and Marmara regions of Turkey. A total of 515 university students voluntarily participated in the present study. Of these students, 384 (74.6%) were female and 131 (25.4%) were male. Moreover, their ages ranged from 18 to 40, and their mean age was calculated as $x=21.62$ ($SD=2.98$). Finally, 52 (10.1%) individuals in the study group were university students who had received a psychological diagnosis and/or treatment before, while 463 (89.9%) were university students who had not received any psychological diagnosis and/or treatment before.

2.3. Sampling procedures

Convenience sampling method was used while choosing the research participants, since the COVID-19 pandemic made data collection processes difficult. This can be considered as a limitation of the study in terms of the study group.

2.3.1. Measures

To collect data within the scope of the research, a scale battery consisting of four different data collection tools was used. Detailed information about each data collection tool that makes up this battery is presented below, respectively.

2.3.1.1. 1. Personal Information Form (PIF)

Personal Information Form (PIF) was created within the scope of this research to obtain information about the demographic characteristics of university students participating in the research. In the form, there are questions about the university, age, gender, and whether or not they received psychological diagnosis/help before.

2.3.1.2. 2. Positive Schemas Scale (PSS)

The Positive Schemas Scale (PSS), which was used to gather information about the positive schemas of university students participating in the research, was developed by Keyfitz (2010) and adapted to the Turkish language by Kılıç (2018). This 6-point Likert scale, consisting of a total of 17 items, measures the positive schemas of university students in a five-dimensional structure expressed as “*self-efficacy*”, “*success*”,

“confidence”, “optimism” and “worthiness”. Higher scores obtained from the scale mean that individuals' positive schemas increases

The validity of the scale was tested by confirmatory factor analysis in the adaptation study, and it was found to be statistically valid in measuring positive schemas ($\chi^2/df=2.057$, $p<.01$, RMSEA=.051, CFI=.97, GFI=.938, AGFI=.913, SRMR=.041). Within the scope of the adaptation study, the reliability of the scale was investigated by calculating the reliability coefficient based on internal consistency, and the coefficient was found to be $\alpha=.89$ for the whole scale. The reliability of the scale was re-examined in the context of reliability based on internal consistency within the scope of this research. The reliability coefficient (Cronbach Alpha), which reflects the reliability of the scale based on internal consistency, is given in Table 1.

2.3.1.3. 3. Two-Dimensional Self-Esteem Scale (TSES)

The Two-Dimensional Self-Esteem Scale (TSES), which was used to obtain information about the self-esteem levels of university students participating in the study, was developed by Tafarodi and Swann (2001) and adapted to the Turkish language by Doğan (2011). The scale, consisting of a total of 16 items in a 5-point Likert form, measures university students' self-esteem levels under two components conceptualized as “self-liking” and “self-competence”. After the reverse-scored items are converted, higher scores obtained from the scale mean that individuals' self-esteem increases.

The validity of the scale was tested with confirmatory factor analysis within the scope of the adaptation study, and the goodness of fit index values were calculated as CFI=.97, GFI=.94, NFI=.95, TLI=.97, and RMSEA=.049. Thus, it has been demonstrated that this two-dimensional structure is statistically valid in measuring self-esteem. Within the scope of the adaptation study, the reliability of the scale was examined by calculating the reliability coefficient based on internal consistency, and the internal consistency coefficients of the scale were reported as $\alpha=.83$ for self-liking and $\alpha=.74$ for self-competence. The reliability of the scale was re-examined in the context of reliability based on internal consistency. The reliability coefficient (Cronbach Alpha), which reflects the reliability of the scale based on internal consistency, is given in Table 1.

2.3.1.4. 4. Psychological Well-Being Scale (PWBS)

The Psychological Well-Being Scale (PWBS), which was used to collect information about the psychological well-being levels of university students participating in the research, was developed by Diener et al. (2009) and adapted to the Turkish language by Telef (2013). The 7-point Likert scale, consisting of a total of 8 items, measures the well-being of individuals in a one-dimensional structure. Higher scores obtained from the scale mean that individuals' psychological well-being levels increases.

The validity of the scale was tested with both exploratory and confirmatory factor analyses within the scope of the adaptation study. It was found that the scale consisting of a one-dimensional structure consisting of 8 items explained 41.94% of the total variance in well-being, and this structure was statistically valid (CFI=.95, GFI=.96, NFI=.94, IFI=.95 and RMSEA=.08). Within the scope of the adaptation study, the reliability of the scale was examined by calculating the reliability coefficient based on internal consistency, and this coefficient was found to be $\alpha=.80$ for the whole scale. The reliability of the scale was re-examined in the context of reliability based on internal consistency. The reliability coefficient (Cronbach Alpha), which reflects the reliability of the scale based on internal consistency, is given in Table 1.

2.3.2. Data Collection Procedure and Data Analysis

All stages of this research were carried out in accordance with the 1964 Declaration of Helsinki. Accordingly, the data collection process of the research was started by obtaining the necessary legal permissions, after which the data collection phase of the research was started.

The measurement tools used in this study were converted into an online form by the researcher, meaning that the research data were collected online. An informed consent form, which included information about the purpose, importance, and design of the research and the protection of personal information during the research process, was added to the online scale battery. However, personal identifying information such as students' names and surnames, birth dates, identity, and student numbers were not collected and recorded to avoid researcher bias, that is, in order to prevent the researcher from having the opportunity to identify a particular participant. Moreover, the students were asked to confirm that they participated in the research voluntarily, and the research was carried out only with students who volunteered to participate in the data collection process. At the end of all these processes, data collection tools were conducted with 538 students.

After the data collection process of the research was completed and the research data were transferred to the computer, the analysis of the data was first started by examining the missing and/or incorrect data in the data set. In the evaluation of missing data, the acceptable number of unresponsive items was determined as 5%, and the scale battery of 17 students with unresponsive items above this limit was excluded from the data set of the study (Tabachnick & Fidell, 2012). After examining the missing data, the extreme values in the data set and the normality of the distribution were examined. At the end of these examinations, the scale battery belonging to a total of 6 students who were determined to be extreme values was also removed from the data set of the research. Subsequently, the kurtosis and skewness coefficients, which provide evidence for the

normal distribution of the research variables and whose details are presented in Table 1, were examined over the data set of the remaining 515 students. As a result, the scores of the research variables were decided to have a normal distribution. After this, the study group of 515 people was determined as the final study group of the research, and the analysis of the data was carried out on this study group in line with the research hypotheses.

In the process of data analysis, descriptive analyses of the research variables were first carried out, and then the relationships between the variables were examined with Pearson Product-Moment Correlation Analysis. After determining that there were significant relationships between the research variables, whether self-esteem has a significant mediating role in the relationship between positive schemas and psychological well-being in university students was tested by establishing a regression-based mediation model. While testing this model, the process suggested by Baron and Kenny (1986), which is expressed as the traditional method, and the procedure expressed as the contemporary approach put forward by Preacher and Hayes (2004) were taken as the basis, instead of the Sobel test. The bootstrapping procedure proposed by Preacher and Hayes (2004) was also used to provide evidence for the significance of the indirect effect revealed by the tested mediation model. Within the scope of the research, the bootstrap sample size was set to be 10,000 and the confidence intervals for the indirect effect obtained in the replicated sample of 10,000 people were calculated. The aforementioned analyses were carried out using IBM SPSS 22 and the PROCESS v.3.5 plug-in based on this program.

3. Results

In this section, first of all, descriptive statistics regarding the research variables and the results of the Pearson product-moment correlation analysis performed to reveal the relationships between these variables are given. Then the findings regarding the mediation model, which was established in line with the main hypothesis of the research and aimed to examine whether self-esteem has a mediating role in the relationship between positive schemas and psychological well-being in university students, are presented. Finally, the results of the bootstrapping (resampling) procedure carried out to strengthen the significance of the indirect effect (mediation effect) revealed by the tested mediation model are provided.

3.1. Descriptive Statistics and Correlation Analysis Results

Descriptive statistics regarding the variables in the regression-based mediation model established to examine whether self-esteem has the role of a mediating variable in the relationship between positive schemas and psychological well-being in university students, and the results of Pearson product-moment correlation analysis performed to reveal the relationships between these variables are presented below in Table 1.

Table 1. Correlation values between variables and descriptive statistics

	1	2	3
(1) Positive Schemas	---	.65**	.68**
(2) Self-Esteem		---	.70**
(3) Psychological Well-Being			---
\bar{X}	71.18	56.24	40.25
Sd	12.28	10.12	8.57
Kurtosis	-.03	-.08	.02
Skewness	-.15	-.18	-.45
Cronbach Alpha	.91	.89	.90

** $p < .01$

As seen in Table 1, which is presented above, all of the research variables are positively and significantly related to each other. As a result, it could be argued that the positive schemas variable, which is the independent variable of the research, is positively and significantly correlated with the self-esteem ($p < .01$, $r = .65$), which is the mediating variable of the research, and psychological well-being ($p < .01$, $r = .68$), which is the dependent variable of the research. In addition, the results of the correlation analysis in Table 1 reveal that, similar to the positive schemas variable, the self-esteem variable, which is the mediator variable of the research, is positively and significantly related to the dependent variable, the psychological well-being variable. The results of the correlation analysis shown in Table 1 also show that the self-esteem variable, which is the mediator variable of the research, is positively and significantly related to the psychological well-being ($p < .01$, $r = .70$). In addition to this, the kurtosis and skewness coefficients seen in Table 1 demonstrate that the scores in the data set regarding the research variables have normal distribution characteristics (George & Mallery, 2019). Finally, the Cronbach Alpha coefficients given in Table 1 provide statistical evidence that the measurement tools used to measure research variables are reliable (Kline, 1998).

3.2. Results of Testing the Mediation Model

In the present research, whether self-esteem has a mediating role in the relationship between positive schemas and psychological well-being in university students was tested by establishing a regression-based mediation model, with which both the direct effect of positive schemas on psychological well-being and the indirect effect through self-esteem were tried to be examined. The diagram showing the mediating role of self-esteem in the relationship between positive schemas and psychological well-being based on the mediation model tested is presented in Figure 2.

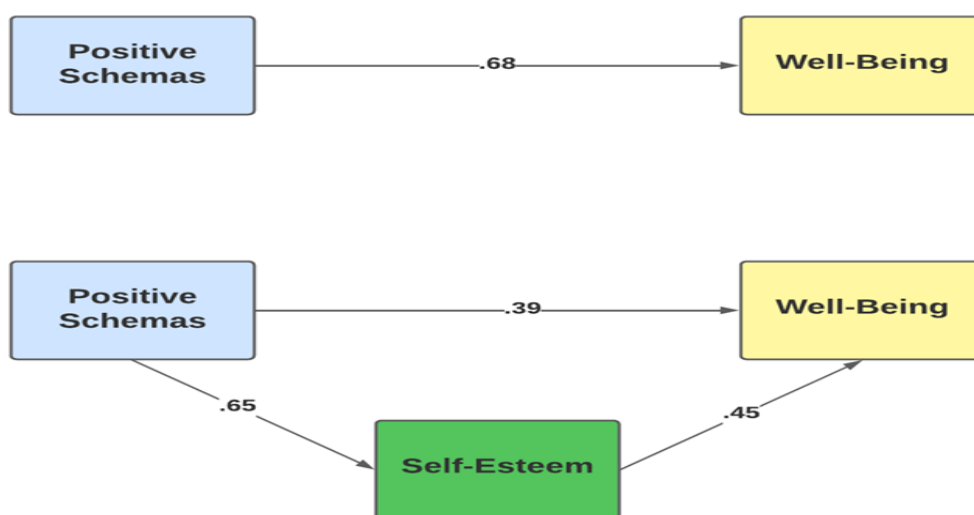


Figure 2. The mediating role of self-esteem

It is seen in Figure 2 that, as expected in the research hypotheses, positive schemas, which have the role of the independent variable in this research, positively and significantly predict psychological well-being ($\beta=.68$, $t=20.96$), which is the dependent variable of the research, and self-esteem ($\beta=.65$, $t=19.12$), which is the mediator variable of the research. Besides, the standardized regression coefficients (β) in Figure 2 reveal that the mediating variable of the research, which is self-esteem, predicts the independent variable of well-being ($\beta=.45$, $t=12.12$) positively and significantly. In addition to all these, as seen in Figure 2, the standardized regression coefficient value, which represents the predictive effect of positive schemas on well-being, decreased from $\beta=.68$ to $\beta=.39$ ($p<.001$, $t=10.33$) after the mediating variable, self-esteem, was entered into the equation in the established mediation model. This regression shows that self-esteem has a mediating role in the relationship between positive schemas and psychological well-being.

3.3. Results of the Bootstrapping Procedure

The results of the regression-based mediation model presented in Figure 2 demonstrate that the mediating variable role of self-esteem in the relationship between positive schemas and psychological well-being was significant in the study group of the current research. The bootstrapping procedure proposed by Preacher and Hayes (2004) was used to provide evidence for this mediating variable role of self-esteem. The reproduced sample size was determined as 10,000 people, and the confidence intervals for the total, direct and indirect effects in the model were calculated in the reproduced sample consisting of 10,000 people. The bootstrap coefficients obtained as a result of the bootstrapping procedure, the lower and upper limit values in the confidence interval, and the fully standardized indirect effect size are given in Table 2.

Table 2. Bootstrapping results of the mediation model

Model Paths	Bootstrap Values		Bias % 95 CI		K ²
	Coefficient	SE	Lower Limit	Upper Limit	
Total Effect					
PS → PWB	.47	.02	.43	.52	
Direct Effect					
PS → PWB	.27	.03	.22	.32	.29
Indirect Effect					
PS → SES → PWB	.20	.02	.16	.25	

*K² = Fully Standardized Indirect Effect Size

**PS: Positive Schemas, PWB: Psychological Well-Being, SES: Self-Esteem

Table 2 shows that the indirect effect coefficient representing the mediating role of self-esteem in the relationship between positive schemas and psychological well-being is $d=.20$ [CI:LO.16, HI.25]. According to Preacher and Hayes (2004), for the total, direct, and indirect effect coefficients to be considered significant in the study group derived from the bootstrapping procedure, the lower and upper limit values of the 95% confidence interval (CI) calculated for these coefficients should not include 0.

It is seen that the lower and upper limit values of the indirect effect coefficient given in Table 2 do not include 0. Considering this, it can be stated that self-esteem has a mediating role in the relationship between positive schemas and psychological well-being in university students, and this mediator role is significant both in the study group of the research and in the reproduced study group of 10,000 people.

Another important parameter to consider when evaluating the results obtained with the bootstrapping procedure is the fully standardized indirect effect size (K^2). When interpreting the fully standardized indirect effect size, the K^2 value is thought to be low when it is close to .01, medium when it is close to .09, and high when it is close to .25 (Preacher & Kelley, 2011). As Table 2 shows, the fully standardized indirect effect size representing the mediating variable role of self-esteem in the relationship between positive schemas and psychological well-being is $K^2=.29$. As a result, it might be suggested that the indirect effect of positive schemas on the dependent variable of psychological well-being is high. In other words, this finding can be interpreted as proof that self-esteem plays a high and significant mediating variable in the relationship between positive schemas and psychological well-being.

4. Conclusion and Discussion

Considering all the findings obtained from the analyses, it is seen that all the hypotheses tested within the scope of the research are confirmed. In other words, positive schemas were seen to predict self-esteem and psychological well-being positively and significantly. Moreover, it was observed that self-esteem predicted psychological well-being in a positive and significant way, just as positive schemas did. Finally, it was also concluded that self-esteem has a significant mediating role in the relationship between positive schemas and psychological well-being. When all the results obtained from the research are evaluated, it can be said that positive schemas positively affect and increase psychological well-being both by themselves and directly, and indirectly through a positive effect on self-esteem. The results obtained for each hypothesis tested within the scope of the research are discussed below, based on the literature, respectively.

The findings obtained as a result of testing the first hypothesis of the study reveal that positive schemas predicted university students' psychological well-being positively and significantly. As a result, it could be argued that as the positive schemas used by university students in the process of making sense of life, events, and the stimuli they encounter increase, their psychological well-being levels also increase. In other words, as individuals engage in more cognitive functions with positive schemas, their psychological well-being is positively affected by this. In this research, positive schemas are evaluated as a five-component construct that is conceptualized as "self-efficacy", "success", "confidence", "optimism", and "worthiness". The increase in positive schemas indicates that the individual's positive mental representations of his/her own competence, success,

confidence in his/her potential, optimistic perspective on events, and self-worth are increased in this research. Therefore, it is expected that the psychological well-being of the individual who sees himself/herself as competent and successful, who trusts his/her potential, who is optimistic about the events in daily life, and who sees his/her own existence as valuable, will also be positively affected by these evaluations. The findings obtained by testing the first hypothesis showed that this expectation was met. In fact, various studies in the literature confirm the supportive role played by the positive schemas of individuals in increasing their psychological well-being, although their number is relatively small. For instance, Kılıç (2018), in her study with university students, found that there are positive significant relationships between positive schemas and the holistic well-being construct put forward by Seligman (2011). Besides this, Cherry, McArthur, and Lumley (2020) concluded in their study that there are positive relationships between positive schemas and life satisfaction and happiness, which are conceptualized as important determinants of well-being. Similar results were obtained from the study conducted by Tomlinson et. al (2017). In her study with young adults studying at university, Bowers (2015) also found that there is a positive relationship between life satisfaction, which is one of the important components of well-being, and positive schemas. It is also stated that there are negative significant relationships between positive schemas and depression, anxiety and stress, and positive relationships between psychological resilience (Keyfitz et. al, 2013).

There are other studies that reveal the relationships between various negative psychological states and problems and negative schemas. For example, Evans et. al. (2005) found that negative schemas increase depression. Similarly, early maladaptive schemas were found by Sağ (2016) to be positively related to depression and negatively related to psychological well-being and resilience. Sarıtaş-Atalar and Gençöz (2016) also state that early maladaptive schemas increase anxiety and depression, which is a finding put forward by Yıldız (2017), as well.

In summary, considering the results obtained from the studies revealing the positive relationships between positive schemas and various positive outcomes, especially well-being, and the positive relationships between negative and/or maladaptive schemas and various mental outcomes, especially depression, it is seen that the findings obtained from the present study are supported by the research results in the literature. Consequently, it might be concluded that positive schemas increase well-being and positive psychological outcomes, whereas negative and/or maladaptive schemas facilitate various psychological negativities, especially depression, which can be regarded as an important risk factor for individuals' psychological well-being.

With the second hypothesis tested within the scope of the research, it was concluded that self-esteem positively and significantly predicts psychological well-being in university students. Self-concept is defined as a person's own being, what makes him/her himself, self, and personality (TDK, 2022). Hence, self-esteem expresses the perception of how much a person values herself/himself and whether she/he finds herself/himself valuable as a whole (Rosenberg, 1965). Based on this finding, it can be said that university students who value themselves more and see themselves as more valuable as a whole, in other words, who have higher self-esteem, have higher psychological well-being. This positive relationship between self-esteem and psychological well-being revealed by the current study is also supported by various study results in the literature. In one of them, which is a meta-analysis study, Seki and Dilmaç (2020) concluded that there is a positive and significant relationship between self-esteem and life satisfaction, which is one of the important components of well-being. In addition, it has been revealed by various studies that self-esteem is positively related to psychological well-being (Aydın, 2019; Şahin, 2019). Neff (2011), on the other hand, states that self-esteem is related to psychological well-being, but draws attention to the fact that a search for high self-esteem has the potential to be problematic at this point.

In addition to these studies, which reveal the relationships between self-esteem and well-being, studies showing the relationships between self-esteem and various psychological problems and negativities, especially depression, are thought to be important in evaluating the findings for this hypothesis. In such a study, Seki and Dilmaç (2020) concluded that there are negative and significant relationships between self-esteem and depression, anxiety, and stress. In another study, Aydoğan and Özbay (2012) came to the conclusion that there is a negative and significant relationship between self-esteem and anxiety. Tuncel (2018), on the other hand, found a significant negative relationship between self-esteem and depression in the study she conducted with university students aged 18-25. In a way which is consistent with the results obtained from these studies, Özcan et al. (2013) revealed that there is a negative relationship between depression, anxiety, social appearance anxiety, and self-esteem. Finally, in their meta-analysis study, Sowislo and Orth (2012) found out that self-esteem is a significant predictor of depression and anxiety, and that as self-esteem rises, depression and anxiety tend to decrease. All in all, the findings obtained from this study are supported by the research results in the literature. Therefore, it can be asserted that self-esteem increases positive psychological outcomes such as well-being and life satisfaction, while it helps to reduce various psychological negativities, especially depression, which can be considered as an important risk factor for individuals psychological well-being.

As the third hypothesis was tested, it was concluded that positive schemas are a significant predictor of self-esteem in university students. As stated before, positive schemas are evaluated in this study as a five-component construct that is conceptualized as “self-efficacy”, “success”, “confidence”, “optimism”, and “worthiness”. In this context, it is seen that as individuals' positive schemas increase, they evaluate themselves as more competent and successful, trust their existing potential more, approach events with a more optimistic point of view, and see themselves as more valuable. All these are expected to increase the self-esteem of individuals. Thus, it can be said that the findings obtained by testing of the third hypothesis of the research are consistent with the propositions about positive schemas and self-esteem in the literature.

In addition, various research results in the literature also support the findings obtained as a result of testing this hypothesis. For instance, Seki and Dilmaç (2020) revealed in their research that there are significant relationships between self-esteem and self-efficacy. Hutz et al. (2014), similarly, found positive and significant relationships between self-esteem and optimism. Akın (2007) states that there are significant and highly positive relationships between self-esteem and self-confidence. Regarding success, which is another component of positive schemas, Zhang et al. (2018) revealed in their study that self-esteem is negatively and significantly related to fear of failure. As a result, it might be proposed individuals who are less afraid of failing and being evaluated as unsuccessful tend to evaluate themselves as more successful. This, in turn, positively affects the self-esteem of these individuals. Finally, Mruk (2006) states that worthiness, which is the fifth component of positive schemas, is significantly and positively related to self-esteem. To put it in a nutshell, it is seen that the findings obtained from this research are supported by the research results in the literature. Therefore, it can be put forward that positive schemas have a significant function in increasing self-esteem.

With the fourth and last hypothesis tested within the scope of the research, it was investigated whether self-esteem in university students has a significant mediating variable role in the relationship between positive schemas and psychological well-being. As a result of the analysis, it was found out that this hypothesis was confirmed. Moreover, many studies in the literature reveal that self-esteem plays a significant mediator role in various studies focused on the well-being and in which well-being is an independent variable (Çelenk & Peker, 2020; Tagay & Baltacı, 2017; Kong, Zhao & You, 2013; Lin, 2015; Bajaj, Gupta & Pande, 2016). These results reveal that self-esteem is an important instrument in supporting the well-being of individuals. Findings from this study also support these results. As discussed in detail in the previous sections, it is stated in the literature that positive schemas have a direct effect on well-being. In addition, the direct predictive effect of self-esteem on well-being has been discussed in detail above. In this study, it was tried to determine whether positive schemas have an indirect effect on psychological well-being by increasing self-esteem in addition to this direct effect. Several studies discussed in detail indicate that positive schemas increase self-esteem. In this

case, it is expected that positive schemas will not only have a direct effect on well-being but also indirectly be effective by increasing self-esteem. This indirect effect of positive schemas has been confirmed by the analyses made. This is considered to be statistical evidence that self-esteem plays a mediating role in the relationship between positive schemas and psychological well-being. From this point of view, it can be suggested that positive schemas have a positive effect on psychological well-being both directly and indirectly through self-esteem by increasing self-esteem.

5. Limitations and Recommendations

In this study, it was found that self-esteem has a significant mediating role in the relationship between positive schemas and psychological well-being in university students. In this respect, although it has revealed important findings regarding the relationships between positive schemas, self-esteem, and psychological well-being variables, the study also has some limitations. The limitations of the research and suggestions to overcome them are presented below, respectively.

The first limitation of the study is related to the determination of the sample group and the group from which the data were collected. The research was conducted with students studying at three different universities in three different regions. Moreover, while determining the study group of the research, the convenience sampling method was used. This is considered as a limitation of the research. To eliminate this limitation, the generalizability of the results can be increased by repeating the research with a study group consisting of students studying at different universities in different regions. Moreover, the representative power of the research data can be strengthened in future studies by using different sampling methods such as stratified sampling.

Another limitation of the study is that the study was conducted with cross-sectional data, using self-report measurement tools, and based only on the quantitative research paradigm. To elaborate on the findings of the research, more detailed data on the hypotheses can be obtained by seeking support from the qualitative research paradigm. For example, the relationship between positive schemas and well-being can be supported with phenomenological and in-depth qualitative data by using techniques such as interviews.

The third limitation of the study is concerned with using the correlational method and performing regression-based analyses. In search for a solution for this limitation, causal comparison studies can be conducted to more clearly reveal the relationships between positive schemas, self-esteem, and well-being variables. In this way, it will be possible to evaluate the predictive relationships more precisely.

In addition, the present study is limited to university students who are in the young adult developmental period. Therefore, individuals from different developmental stages (for example, adolescence) can be added to the study group, and it can be examined whether the hypotheses of the research differ according to their developmental periods. In this way, information on the relationships between positive schemas, self-esteem, and psychological well-being can be obtained at different developmental stages.

In the current study, well-being was conceptualized based on the psychological well-being perspective. By using holistic well-being models, research hypotheses can be tested based on different conceptualizations of well-being. Hence, the relationship between self-esteem and positive schemas with different well-being structures can be examined.

Finally, both self-esteem and positive schemas refer to constructs that can be improved through various interventions. With this aspect, especially psychological counselling and guidance specialists working in the field can develop various intervention programs to support positive schemas and self-esteem. At this point, various applications, especially psycho-education and group guidance, can be used. It is recommended to start these practices at the earliest possible level (for example, primary or secondary school), so that the opportunity to support the development of self-esteem and positive schemas can be obtained from the early stages, and so that it may be possible to support the well-being of individuals in a way that is consistent with contemporary psychological counselling and guidance orientation.

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