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## Belongingness and Positivity: The Mediation Role of Problem Fields Among University Students

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### ABSTRACT

While university students are fulfilling their developmental tasks, they can both possess academic and professional gains and face some problems. In the current paper, an evaluation based on problem fields of university students was carried out. The main aim of the present study was to explore the mediation roles of problem fields in the association between belongingness and positivity among university students. The study group was composed of 330 university students. The General Belongingness Scale, Problem Fields Scale, and Positivity Scale were used as measures. Pearson product-moment correlation and mediation analysis (Process Macro, Model 4) were applied as well as descriptive analysis to obtain statistical outcomes. Correlational analysis revealed that belongingness and positivity were associated with problems with family structure, problems with body image, problems with social competence, and problems with academic life. Additionally, there was significant association between belongingness and positivity. According to the results of mediation analysis, the indirect effect of belongingness on positivity through problem fields (problems with family structure, problems with body image, problems with social competence, and problems with academic life) was significant. All problem fields partially mediated the association between belongingness and positivity. It was concluded that belongingness and problem fields of university students may have possible contribution to the maintenance of the positivity. Research findings would provide empirical evidence to the positivity literature, particularly, in terms of problem fields among university students.

**Keywords:** Belongingness, problem fields, positivity, university students

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## Introduction

Assumptions about what the determinants of psychological well-being were the focus of positive psychology (Seligman and Csikszentmihalyi, 2000). Different propositions were asserted regarding the structures that can explain well-being phenomenon (Caprara et al., 2012). It was known through relevant research on life satisfaction, self-esteem and optimism that these were important variables for explaining well-being (Carver and Scheier, 2002; Diener, Emmons, Larsen, and Griffin, 1985; Rosenberg, 1965). It can be thought that well-being, which can contribute to the cognitions positively, may be related to emotions and behaviours. Developing optimism, strengthening gratitude, and redefining life goals were among positive psychology interventions (Bolier et al., 2013; Huffman et al., 2014; Lyubomirsky and Layous, 2013). Being positive can be accepted as a driving force for individuals to reveal their worldview, mental energies, relationships and potentials (Fredrickson, 2001). The positivity dimension that strengthens the individual in the well-being phenomenon can play a role in determining the factors affecting the empowerment of individuals (Caprara et al., 2012). Positive psychology studies conducted in this focus have a preventive role with the effect of protecting individuals from possible problems (Peterson, 2000).

In recent years, research and field practices in the field of mental health have focused on preventive studies. Individuals exposed to developmental characteristics and similar environmental stimuli can be expected to have similar problem fields. University students identified as the research group in the present study may experience difficulties in many areas due to individual and environmental factors as well as developmental characteristics (Kacur and Atak, 2011). These individuals, who are in the process of preparing for adulthood, need to take on the responsibilities of an independent life when they start university. In addition to being equipped with the competencies of the chosen profession, individuals face a small representation of adult life. With the effect of individual and environmental factors, it may be possible to talk about the existence of problems that have not been encountered before. It can be assumed that the problem fields may vary in relation to the cultural aspects and time period. Studies on the main problem fields that university students may encounter included variables such as economic problems (Bojuwoye, 2002), academic difficulties (Hong and Wengboey, 2002), anxiety (Koç, Avşaroğlu, and Sezer, 2004; Erkan, Özbay, Çankaya and Terzi, 2012).

While examining the developmental characteristics among university students, information about the adolescence period may be used. From a biological perspective, adolescence can be considered as a normal process in growth dynamics (Nixon, 1961). Psychoanalytic advocates considered adolescence as the second oedipal period and emphasized the development of sexual tendencies (Freud, 1953). Developmental theorists, who define adolescence as one of the life-long processes, stated that the critical task in this period is the adolescent's effort to form an identity (Erikson, 1968). Finally, ecological theorists, who draw attention to the harmony between the individual and the environment during adolescence, assessed the relationship of the adolescent with the environment and the importance of future expectations (Pardeck, 1988). In light of the information presented by different theoretical assumptions, areas related to the problem fields of university students can be listed. Although the biological changes experienced were considered normal, examining how this change is perceived by the individual and its effect on their mental structure referred to the problem field in relation with body image.

University life can indeed be a period in which independent life is partially experienced. Determining the problems with family structure among university students, who are trying to create an identity, is crucial for them. The existence of unresolved problems with the family in the

past or the differentiation of expectations can be a problem field that needs a solution for university students. Additionally, it may be possible to state the existence of academic problems in this period when professional development and career-oriented plans mature together. Furthermore, in this period when associations with the environment develop, individuals are expected to establish relationships in different social roles. For university students, their ability to relate to their social environment can be considered as a problem field.

It was very important for individuals to feel valuable in an environment that is appropriate for their own self (Hagerty, Lynch-Sauer, Patusky, Bouwsema, and Collier, 1992). The individuals' perception of themselves as a part of the environment can be explained by the concept of belonging (Levett-Jones, Lathlean, Maguire, and McMillan, 2007). sense of belonging referred to sharing the close environment in a positive and satisfactory association beyond just establishing a social bond (Maslow, 1970). sense of belonging was also related to the effect of the nature of this relationship on the existence of the individual, rather than whether a relationship with others can be established. Belonging represented the individuals' seeing themselves as a part of the environment in social environment. Therefore, the existence of a positive attitude towards support mechanisms can be expressed (Goodenow, 1993). Belonging was a psychological factor that keeps the individuals away from exclusion, enables them to survive and be productive, and was a concept at the centre of human existence and culture (Baumeister and Leary, 1995). The sense of belonging basically had a protective effect on loneliness and social isolation (Ferguson, 2010). Thus, it can be stated that belonging has the potential to protect individuals from factors that may adversely affect psychological health. In processes such as depression, suicide, anxiety, and substance use etc., the sense of belonging can be considered as a protective quality for university students.

After the general presentation of the concepts included in the current research, this section presented the theoretical framework. The Broaden-and-Build Theory was developed as a result of a series of experimental studies reporting that students' perceptions of positivity offer adaptive results as a result of significant social support (Fredrickson, 2003). This theory reveals that positive emotions and orientations expand individuals' focus and thought patterns (Fredrickson, 2001; Kahn and Isen, 1993). It was reported that positive emotion experiences will help students to face anxiety-filled problems and create psychological and social resources that can help them cope with them successfully (Fredrickson, 2003). As stated in the theory, the concept of social resource, which was associated with positivity, could be in relation with the sense of belonging. Combining the Broaden-and-Build theory with a systems approach to understand the dynamics of complex emotions, Fredrickson and Losada (2005) stated that the prosperity of individuals can be represented by positivity. Clarifying the mediation role of problem fields in the association between belongingness and positivity indicates the originality and novelty of the current research. The present study was the initial effort to quantitatively explore the relationships among belongingness, problem fields, and positivity among university students. Additionally, this study was the first to examine an indirect association between belongingness and positivity through problem fields among university students. It was assumed that the current practice would have significant contribution to the relevant literature with regard to the role of belongingness in accounting for the positivity through problem fields among university students. To achieve research aims, the associations among belongingness, problem fields of university students, and positivity were explored by testing the mediation effects of problem fields.

## Method

### Research Model

This cross-sectional study was conducted based on correlational research design. Correlational research focuses on the associations among two or more variables. It is well known that human behaviors were handled in accordance with several identifications. In identification process, researchers would use the term of variables. Therefore, the further explanations and assessment would be applicable by variables. In correlational design, the predictors of human behaviors and cognitions would be explored by investigating associations among variables (Creswell, 2014).

### Study Group

The study group consisted of 330 university students (Mage = 20.02 years, SD = 1.71 years) in Turkey, of which 254 (77%) were females and 76 (23%) were males. Based on grade level, it was determined that 100 students (30.3%) were freshman, 110 students (33.3%) were sophomore, 64 students (19.4%) were junior, and 56 students (17%) were senior.

### Measures

*The Positivity Scale (PS)*: The PS was developed by Caprara et al. (2012). PS consisted of 8 items. The PS was a self-report-based 5-point Likert type measure (1 = Strongly disagree, ... 5 = Strongly agree). Example item: "I look forward to the future with hope and enthusiasm". The adaptation study into Turkish was conducted with Çıkrıkçı, Çiftçi, and Gençdoğan (2015). The PS had a single factor and revealed satisfactory internal consistency coefficients (Cronbach's Alpha = .73). Within the present study, the internal consistency coefficients were found as .80.

*Problem Field Scale (PFS)*: PFS was developed by Çıkrıkçı and Düzgün (2013) to determined problem fields among university students. The PFS consisted of 24 items. The PFS was a self-report-based 7-point Likert type measure (0 = Not reflect me at all, ..., 6 = Completely reflect me at all). Example item: "I think people judge me based on my appearance". The PFS revealed four-factor structure (problems with family structure, problems with body image, problems with social competence, and problems with academic life). The internal consistency coefficient of whole measure was found as to be .70. In present study, the internal consistency coefficients of problems with family structure, problems with body image, problems with social competence, problems with academic life sub-factors were .79, .83, .70, and .78, respectively.

*General Belongingness Scale (GBS)*: GBS was developed by Malone, Pillow and Osman (2012). The GBS consisted of 12 items. The GBS was a self-report-based 5-point Likert type measure (1 = Strongly disagree, ..., 5 = Strongly agree). Example item: "I have close bonds with family and friends". The adaptation study into Turkish was conducted with Çıkrıkçı (2015). The GBS had two sub-factors and revealed satisfactory internal consistency coefficients (Cronbach's Alpha = .86). Within the present study, the internal consistency coefficients were found as .88.

### Data Analyses

Several procedures were adopted in data analysis. At first, missing value analysis, outlier analysis, normal distribution, and linear analysis were performed (Field, 2013). Secondly, descriptive statistics were examined based on mean differences for measures. Thirdly, the associations among study variables were assessed via Pearson Product of Moments Correlation Coefficient technique. Finally, the mediation model (Model 4) was tested using Process macro (Hayes, 2018). Age and gender were included in all mediation analysis as covariate variables. The

direct and indirect effect of general belongingness on positivity were analysed based on bias-corrected bootstrapping (N = 5000).

### **Ethical Consideration and Procedure**

The current research was conducted in line with the necessary ethical procedures. Mainly, ethical rules of American Educational Research Association (2011) and American Psychological Association (2020) were adopted. Voluntary participation was provided. Data were collected from university students. While collecting data, participants were informed about the research and their rights. No descriptive information (name, surname etc.) was requested from the participants. Privacy, reputation, and participants' rights were taken into consideration. The researchers provided information to the participants that they could withdraw from the study at any stage without giving any reason. The authors analysed the data and reported them depending upon the principle of the transparency. Consequently, the authors attempted to reveal a qualified and responsible publication. Data were collected from pen-and-paper questionnaire. All questionnaires were filled out in classroom settings. Data collection process for each class took approximately 15 minutes.

## **Results**

### **Sample Characteristics**

The descriptive statistics of study variables (belongingness, problems with family structure, problems with body image, problems with social competence, problems with academic life, and positivity) based on gender and grade were presented in Table 1. For belongingness, there was significant difference between female ( $M = 69.74$ ,  $SD = 10.33$ ) and male ( $M = 64.32$ ,  $SD = 11.47$ ) mean scores ( $t_{(318)} = 3.68$ ,  $p < .001$ ; 95% CI [2.40, 7.90]). Additionally, it was determined that the mean score of belongingness did not differ based on grade ( $F_{(3, 308)} = .77$ ,  $p > .05$ ). There revealed a significant difference between female ( $M = 7.53$ ,  $SD = 6.01$ ) and male ( $M = 9.97$ ,  $SD = 5.99$ ) mean scores of problems with family structure ( $t_{(318)} = -3.07$ ,  $p < .01$ ; 95% CI [-3.99, -.87]). The mean score of problems with family structure did not differ based on grade ( $F_{(3, 308)} = .13$ ,  $p > .05$ ). It was found that there was no significant difference between female ( $M = 7.61$ ,  $SD = 6.19$ ) and male ( $M = 8.62$ ,  $SD = 6.98$ ) mean scores of problems with body image ( $t_{(318)} = 1.20$ ,  $p > .05$ ). In addition, the mean score of problems with body image did not differ based on grade ( $F_{(3, 308)} = 2.01$ ,  $p > .05$ ). As for problems with social competence, significant difference between female ( $M = 11.26$ ,  $SD = 6.67$ ) and male ( $M = 12.26$ ,  $SD = 7.17$ ) means was not found ( $t_{(318)} = 1.11$ ,  $p > .05$ ). The mean score of problems with social competence did not differ based on grade ( $F_{(3, 308)} = .62$ ,  $p > .05$ ). For problems with academic life, there was a significant difference between female ( $M = 17.43$ ,  $SD = 8.50$ ) and male ( $M = 20.68$ ,  $SD = 8.15$ ) mean scores ( $t_{(318)} = -2.91$ ,  $p < .01$ ; 95% CI [-5.43, -1.05]). Furthermore, the mean score of problems with academic life differed based on grade ( $F_{(3, 308)} = 13.38$ ,  $p < .001$ ). The fact that the mean score of the sophomore ( $M = 20.73$ ,  $SD = 8.78$ ) and junior ( $M = 20.98$ ,  $SD = 8.28$ ) students was higher than the mean score of the freshman ( $M = 15.83$ ,  $SD = 7.35$ ) and senior ( $M = 13.80$ ,  $SD = 7.15$ ) students can be considered as the source of the difference. Finally, for positivity, there was a significant difference between female ( $M = 29.35$ ,  $SD = 5.01$ ) and male ( $M = 27.70$ ,  $SD = 6.08$ ) mean scores ( $t_{(318)} = 2.31$ ,  $p < .05$ ; 95% CI [.28, 3.01]). It was also found that the mean scores of positivity differed based on grade ( $F_{(3, 308)} = 2.78$ ,  $p < .05$ ). The fact that the mean score of the freshman ( $M = 28.57$ ,  $SD = 4.73$ ) and sophomore ( $M = 28.00$ ,  $SD = 5.82$ ) students was lower than the mean score of the senior ( $M = 30.64$ ,  $SD = 5.05$ ) can be assessed as the source of the difference.

Table 1. Descriptive statistics for study variables

<b>Gender</b>					
	Female (n = 254)	Male (n = 76)	t	p	
	Mean (SD)	Mean (SD)			
GB	69.47 (10.33)	64.32 (11.47)	3.68	<.001	
FS_p	7.53 (6.01)	9.97 (5.99)	3.07	<.01	
BI_p	7.61 (6.19)	8.62 (6.98)	1.20	>.05	
SC_p	11.26 (6.67)	12.26 (7.17)	1.11	>.05	
AL_p	17.43 (8.50)	20.68 (8.15)	2.91	<.01	
POS	29.35 (5.01)	27.70 (6.08)	2.37	<.05	

<b>Grade Level</b>						
	Freshman (n = 100)	Sophomore (n = 110)	Junior (n = 64)	Senior (n = 56)	F	p
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
GB	67.78 (11.16)	67.38 (11.14)	69.82 (11.20)	68.88 (9.07)	.77	>.05
FS_p	8.19 (6.01)	8.21 (6.35)	7.65 (5.74)	8.02 (6.01)	.13	>.05
BI_p	8.76 (6.80)	7.47 (6.09)	8.35 (6.33)	6.13 (6.12)	2.01	>.05
SC_p	11.48 (6.48)	10.94 (6.62)	12.39 (6.82)	11.64 (7.37)	.62	>.05
AL_p	15.83 (7.35)	20.73 (8.78)	20.98 (8.28)	13.80 (7.15)	13.38	<.001
POS	28.57 (4.73)	29.44 (5.18)	28.00 (5.82)	30.64 (5.05)	2.78	<.05

Note: GB = General Belongingness, FS\_p = Problems with family structure, BI\_p = Problems with body image, SC\_p = Problems with social competence, AL\_p = Problems with academic life, POS = Positivity. Confidence intervals generated by means of bias corrected and bootstrapping (N = 5000).

**Preliminary Analysis**

To assess the associations among belongingness, problem fields (with family structure, body image, social competence, and academic life), and positivity, zero-order correlations were examined (Table 2). According to results of the correlation analysis, belongingness was associated with problems with family structure ( $r = -.35, p < .01$ ; %95 CI [-.45, -.25]), problems with body image ( $r = -.32, p < .01$ ; %95 CI [-.42, -.21]), problems with social competence ( $r = -.45, p < .01$ ; %95 CI [-.53, -.37]), and problems with academic life ( $r = -.33, p < .01$ ; %95 CI [-.43, -.23]). There was positive significant association between belongingness and positivity ( $r = .45, p < .01$ ; %95 CI [.35, .54]). Consequently, it was determined that positivity was associated with problems with family structure ( $r = -.30, p < .01$ ; %95 CI [-.41, -.19]), problems with body image ( $r = -.39, p < .01$ ; %95 CI [-.48, -.29]), problems with social competence ( $r = -.42, p < .01$ ; %95 CI [-.51, -.32]), and problems with academic life ( $r = -.36, p < .01$ ; %95 CI [-.46, -.26]).

Table 2. Descriptive statistics for study variables

<b>Variables</b>	<b>Mean</b>	<b>SD</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
(1)GB	60.82	10.81	1					
(2)FS_p	8.10	6.08	-.35**	1				
(3)BI_p	7.85	6.39	-.32**	.38**	1			
(4)SC_p	11.50	6.79	-.45**	.20**	.35**	1		
(5)AL_p	18.19	8.52	-.33**	.32**	.36**	.29**	1	
(6)POS	28.96	5.31	.45**	-.30**	-.39**	-.42**	-.36**	1

Note: \*\* $p < .01$ ; GB = General Belongingness, FS\_p = Problems with family structure, BI\_p = Problems with body image, SC\_p = Problems with social competence, AL\_p = Problems with academic life, POS = Positivity. Confidence intervals generated by means of bias corrected and bootstrapping (N = 5000).

## Mediation analysis

In the present study, the mediation role of problem fields of university students in the association between belongingness and positivity was examined. The recommended procedures by Hayes (2018) were applied to perform mediation analysis. Mediation analysis was conducted with the Process Macro (Model 4) application. Due to the fact that problem fields of university students were assessed in four dimensions, four different mediation analysis were tested and reported (Table 3). Age and gender included in all mediation analysis as covariate.

The mediation analysis was started with the examination of the mediation role of problems with family structure in the association between belongingness and positivity. According to the standardized regression coefficients, the direct effect of belongingness on problems with family structure ( $\beta = -.34, p < .001; 95\% \text{ CI } [-.25, -.13]$ , path a1) and positivity ( $\beta = .44, p < .001; 95\% \text{ CI } [.16, .26]$ , path c1) was significant. The total effect of problems with family structure on positivity was significant ( $\beta = -.16, p < .001; 95\% \text{ CI } [-.23, -.05]$ , path b1). When the mediation variable (problems with family structure) was included in the model, the direct effect of belongingness on positivity was decreased ( $\beta = .38, p < .001; 95\% \text{ CI } [.13, .24]$ , path c1i). This finding revealed that the association between belongingness and positivity was partially mediated by problems with family structure. The indirect effect of belongingness on positivity through problems with family structure was significant ( $\beta = .05, SE = .02; 95\% \text{ CI } [.02, .10]$ , ab1).

Secondly, the mediation role of problems with body image was explored. Results demonstrated that the total direct effect of belongingness on problems with body image ( $\beta = -.33, p < .001; 95\% \text{ CI } [-.25, -.13]$ , path a2) and positivity ( $\beta = .45, p < .001; 95\% \text{ CI } [.17, .27]$ , path c2) was significant. Problems with body image was associated with positivity ( $\beta = -.27, p < .001; 95\% \text{ CI } [-.31, -.14]$ , path b2). When mediation variable (problems with body image) was included in the model, the direct effect of belongingness on positivity was decreased ( $\beta = .36, p < .001; 95\% \text{ CI } [.12, .22]$ , path c2i). According to this finding, problems with body image had a partially mediation role in the association between belongingness and positivity. The indirect effect of belongingness on positivity through problems with body image was significant ( $\beta = .09, SE = .02; 95\% \text{ CI } [.05, .13]$ , ab2).

Mediation analysis continued with the mediation role of problems with social competence. Mediation analysis showed that the direct effect of belongingness on problems with social competence ( $\beta = -.45, p < .001; 95\% \text{ CI } [-.35, -.22]$ , path a3) and positivity ( $\beta = .45, p < .001; 95\% \text{ CI } [.17, .27]$ , path c3) was significant. The total effect of problems with social competence on positivity was found to be significant ( $\beta = -.26, p < .001; 95\% \text{ CI } [-.29, -.12]$ , path b3). When mediation variable (problems with social competence) was included in the model, the direct effect of belongingness on positivity was decreased ( $\beta = .32, p < .001; 95\% \text{ CI } [.10, .21]$ , path c3i). According to this finding, problems with social competence partially mediated the association between belongingness and positivity. The indirect effect of belongingness on positivity through problems with social competence was significant ( $\beta = .12, SE = .02; 95\% \text{ CI } [.06, .18]$ , ab3).

Table 3. Standardized coefficients for mediation models

		<b>Predictors</b>	<b>POS</b>	<b>FS_p</b>	<b>POS</b>
Mediation Model 1 (GB → FS_p → POS)	Gender		-.04	.10*	-.02
	Age		.03	-.05	.02
	GB		.44***	-.34***	.38***
	FS_p				-.16***
	R <sup>2</sup>		.20	.14	.22
	F		27.32***	17.93***	23.41***
		<b>Predictors</b>	<b>POS</b>	<b>BI_p</b>	<b>POS</b>
Mediation Model 2 (GB → BI_p → POS)	Gender		-.04	.01	-.04
	Age		.02	.08	.01
	GB		.45***	-.33***	.36***
	BI_p				-.27***
	R <sup>2</sup>		.21	.12	.28
	F		29.24***	14.79***	30.93***
		<b>Predictors</b>	<b>POS</b>	<b>SC_p</b>	<b>POS</b>
Mediation Model 3 (GB → SC_p → POS)	Gender		-.04	-.01	-.04
	Age		.02	-.10*	-.01
	GB		.45***	-.45***	.32***
	SC_p				-.26***
	R <sup>2</sup>		.21	.22	.27
	F		29.24***	31.24***	29.56***
		<b>Predictors</b>	<b>POS</b>	<b>AL_p</b>	<b>POS</b>
Mediation Model 4 (GB → AL_p → POS)	Gender		-.05	.10	-.02
	Age		.03	-.05	.02
	GB		.44***	-.32***	.36***
	AL_p				-.23***
	R <sup>2</sup>		.21	.13	.25
	F		23.01***	16.52***	27.25***

Note: \*\*p < .01; GB = General Belongingness, FS\_p = Problems with family structure, BI\_p = Problems with body image, SC\_p = Problems with social competence, AL\_p = Problems with academic life, POS = Positivity. Confidence intervals generated by means of bias corrected and bootstrapping (N = 5000).

Finally, the mediation role of problems with academic life was investigated. The direct effect of belongingness on problems with academic life ( $\beta = -.32, p < .001; 95\% \text{ CI } [-.34, -.17]$ , path a4) and positivity ( $\beta = .44, p < .001; 95\% \text{ CI } [.16, .27]$ , path c4) was significant. Problems with academic life was associated with positivity ( $\beta = -.23, p < .001; 95\% \text{ CI } [-.21, -.08]$ , path b4). When mediation variable (problems with academic life) was included in the model, the direct effect of belongingness on positivity was decreased ( $\beta = .36, p < .001; 95\% \text{ CI } [.12, .23]$ , path c4<sub>1</sub>). According to this finding, problems with social competence had a partially mediation role in the association between belongingness and positivity. The indirect effect of belongingness on positivity through problems with academic life was significant ( $\beta = .07, SE = .02; 95\% \text{ CI } [.03, .11]$ , ab4). The path diagrams for all mediation analysis were presented in Figure 1.

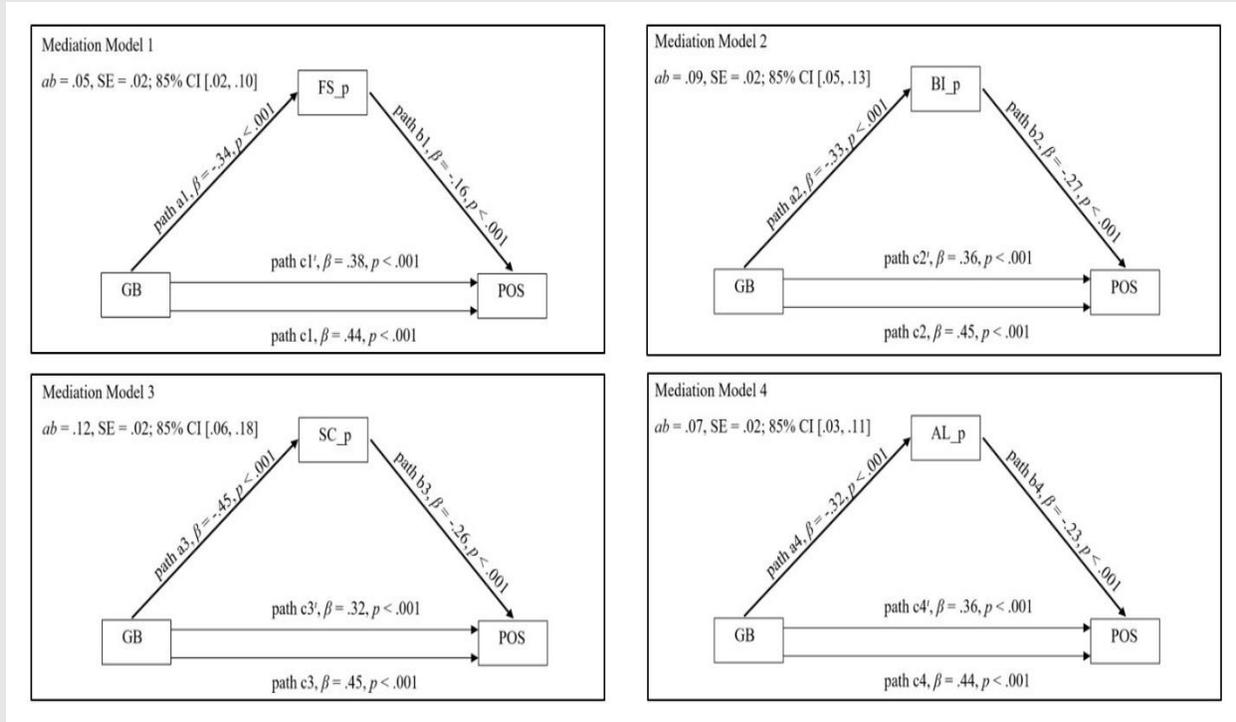


Figure 1. Mediation models from GB to POS through problem fields

### Discussion, Conclusion and Suggestions

Contrary to the general psychopathological approach, positive psychology focuses on improving the competencies and potentials of individuals (Hefferon and Boniwell, 2014). It was stated that cognitive evaluations towards life can be positive as a result of multifaceted empowerment of individuals who do not have a mental disorder (Seligman and Csikszentmihalyi, 2000). These cognitive assessments are known to have positive effects on positive psychology variables such as well-being, happiness, and life satisfaction (Caprara et al., 2012). Positivity has been among the important constructs that have been discussed in recent years (Barbaranelli, Paciello, Biagioli, Fida, and Tramontano, 2019; Vazquez, 2017; Yıldırım and Güler, 2021), and this study aimed to explore possible predictors of positivity. Researching the mediating role of university students' problem fields in the association between belongingness and positivity added novelty to present study. The present paper was the first study to quantitatively investigate the associations among belongingness, problem fields, and positivity among university students. Additionally, this was the first attempt to explore the mediation role of problem fields in the association between belongingness and positivity among university students.

Research findings showed that belongingness was directly related to positivity. In addition, it has been determined that belongingness was indirectly related to positivity through problems with family structure, problems with body image, problems with social competence, and problems with academic life. In other words, the association between belongingness and positivity was partially mediated by problems with family structure, problems with body image, problems with social competence, and problems with academic life. This finding showed that belongingness had an explanatory role on positivity together with the mediation variables (problem areas). Accordingly, an increase in the level of belongingness may lead a decrease in the problems experienced by university students. The reduction in problem fields can also contribute to the

development of positivity. Additionally, it can be stated that this study presented findings that support the Broaden-and-Build Theory (Fredrickson, 2001, 2013).

Before starting the discussion on mediation variable roles, the nature of the association between belongingness and positivity was focused. Human behaviors and motivations can be evaluated in line with social foundations (Çıkrıkçı, 2015). The need to belong was one of the factors that affect all personality processes (DeWall, Deckman, Pond, and Bonser, 2011). At the same time, belongingness had an explanatory role on the individual's cognitive evaluations and behaviors. The fact that the desire to belong to a group can positively affect the behaviors (Newman, Lohman, and Newman, 2007) can be given as an example of the cognitive processes used in the development and maintenance of belongingness. Meeting the need for belongingness regularly, adequately and satisfactorily was considered among the building blocks of physical, emotional, behavioral and spiritual well-being (Maslow, 1970). Çıkrıkçı and Gençdoğan (2020) reported the association of belongingness with life satisfaction, self-esteem and optimism, which were indicators of positive orientations. This finding supported the idea that belongingness can be effective on positive emotions and evaluations. It was suggested that the need to belong, which was also considered as an important need in the self-determination theory, can improve mental health and well-being (Baumeister and Leary 1995). It was known that belongingness can be classified based on different situations and experiences. For example, Arslan and Allen (2021) investigated the structures associated with school belongingness among adolescents in a longitudinal study and presented findings that school belonging can reduce emotional problems and increase psychological well-being. It may be assessed that belongingness can have positive effects on the individual. These positive effects can also contribute to the development of positive emotions. Diener and Lucas (2000) reported that high positive emotions and low negative emotions affect well-being. Similarly, Avey, Wernsing and Mhatre (2011) determined that positive emotions were associated with well-being in their study based on longitudinal design. Belongingness, which was considered as a basic motivator for developing positive relationships with other people (Baumeister and Leary, 1995), can lead an increase in the positivity through the processes it had and presented. In line with the theoretical and empirical findings, it can be stated that the development of general sense of belonging among university students may contribute significantly to positivity.

Another finding revealed in the research was that university students' problems have a mediation role in the association between belongingness and positivity. This finding can be interpreted as the perception of belonging can be evaluated as a factor that paves the way for the reduction of the problems experienced by university students. In other words, by strengthening the general sense of belonging of university students, their negative evaluations about the problems they experience can be reduced. The development of positivity can be shown as a possible positive outcome of this situation. Although university life offered rich new experiences, students sometimes stated that they experience various problems (Ceyhan and Ceyhan, 2011; Feist and Feist, 2006; İnanç, Savaş, Tutkun, Herken, and Savaş, 2004; Perrine and Lisle, 1995). In this study, PFS, which was used to determine the problems of university students sensitive to their developmental periods, focused on four basic problem fields. These problem fields included problems related to family life, body image, social competence and academic life. It was known that the problems experienced by university students can negatively affect their mood (Pedrelli, Nyer, Yeung, Zulauf, and Wilens, 2015; Yorgason, Linville, and Zitzman, 2008). It was considered that belongingness is a key structure in order to reduce the negative effects of the problems experienced. Because belongingness can make the individual strong and can prevent social

exclusion or isolation, which can be one of the possible consequences of the problems experienced (Hagerty et al., 1992). Thus, positive interaction with other people can be achieved and the problem can be solved or its negative impact can be reduced with new social support mechanisms. According to Çikrikçi and Gençdoğan (2020), belongingness was an important cognitive evaluation in terms of acceptance and approval of the individual in the environment. Realization of social acceptance can make the individual stronger and make it easier to deal effectively with the problems. According to Osterman (2000), individuals with a high sense of belongingness might evaluate themselves as more autonomous and competent. It was thought that these individuals, who were also developed in terms of intrinsic motivation, can deal with problems actively. An individual with a developed sense of belongingness can see themselves as a part of the social environment, independent of prejudices. It was reported that the psychological health of the individual may improve depending on the associations established with other people (Ernst and Cacioppo, 1999; Townsend and McWhirter, 2005). It was stated that individuals who can establish social bonds and thus maintain their close relationships adaptively can cope with difficulties more effectively and their well-being and happiness levels may increase as a cumulative result of this process (Baumeister and Leary, 1995). As a result, it can be assumed that belongingness has an important role in coping effectively with the problems of university students. Positive emotions, which can penetrate the individual with the constructive effect, can both combat problems and improve positivity.

This study had some limitations. First of all, since the present study was a cross-sectional, the bi-directional association between the variables was evaluated and it was not possible to make a cause-effect assumptions between the variables. It was recommended that future studies should be designed in an experimental and longitudinal research design in order to determine the causal relationships between variables and to determine their time-based interactions. Secondly, convenience sampling method was used in the present study, and it was recommended to carry out further studies using different sampling methods in order to generalize the findings to the population. Third, the data used in the study were obtained from self-report measures. Conducting studies based on a qualitative research approach may enable a more comprehensive definition of the links between variables. As the fourth limitation, response bias can be expressed. Although participation in the study was voluntary, respondents may not have responded sincerely. Social desirability was another limitation that needs to be addressed. Some respondents may have rated the measures in a way that could be validated by others as inaccurate.

Increasing the well-being of individuals was the focus of mental health studies. This model, which was tested on university students, was recommended to be tested in different samples in future studies. Due to the emphasis, placed on ensuring the well-being of individuals, in the focus of positivity studies, it was recommended to test the positivity model in disadvantaged groups in society. Modelling positivity and determining its relations with different concepts is very important. It was recommended to investigate different psycho-social variables related to belongingness and positivity in future studies. Additionally, it was suggested that the associations identified in the present study should be assessed in the preparation of the contents of the experimental interventions carried out with the aim of improving positivity. It was also recommended to carry out studies to improve the positivity of students in institutions that serve university students and to create loyalty development programs in institutions. Finally, it can be suggested to implement functional procedures in universities so that the problems of university students can be dealt with comprehensively, regularly and systematically.

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### **Supplementary materials**

Supplementary material associated with this article can be found, in the online version, at <https://osf.io/p732r/> (doi: 10.17605/OSF.IO/P732R).