




Examining the Relationships between Basic Psychological Needs and Wellness in College Students: The Mediating Role of Stress Coping Styles

Mehmet AVCI¹, Abdi GÜNGÖR²

¹ Faculty of Education, Recep Tayyip Erdoğan University, Rize, Türkiye  0000-0002-8298-8985

² Faculty of Education, Düzce University, Düzce, Türkiye  0000-0002-7945-0906

ARTICLE INFO

Article History

Received 13.04.2022

Received in revised form
29.10.2022

Accepted 17.11.2022

Article Type: Research
Article

ABSTRACT

College students face a diverse range of difficulties that risk their wellness. Therefore, understanding factors affecting college students' wellness would be important for preventing and intervening strategies. This study examined the mediating role of coping styles on the relationships between basic psychological needs and wellness in Turkish college students. A total of 599 college students participated in the study by filling out self-reported questionnaires on basic psychological needs, coping styles, and wellness. A path analysis was conducted to test the hypotheses. The findings showed positive direct effects of basic psychological needs on wellness. The results also revealed that self-confident, optimistic, and helpless coping styles were partial mediators between basic psychological needs and wellness. However, social support-seeking and submissive coping styles did not play any significant mediation role. Specifically, satisfaction of basic psychological needs was associated with self-confident and optimistic styles, which is in turn positively associated to college students' wellness. These findings advance our understanding of the association of basic psychological needs with wellness via coping styles. The limitations and practical implications, along with the future research directions, were discussed.

Keywords:

Basic psychological needs, coping styles, wellness, college students, mediating

1. Introduction

The concept of wellness has received considerable attention in literature. The World Health Organization (1948) defined wellness as "complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (p.24). Therefore, wellness is a multidimensional and holistic concept embracing physical, mental, emotional, social, psychological, and spiritual well-being (Adams et al., 1997; Crose et al., 1992; Edlin & Golanty, 2010; Harari et al., 2005; Myers et al., 2000). A substantial body of literature has shown that wellness plays a vital role in achieving and maintaining mental health (e.g., Keyes 1998; Merril et al., 2011; Rosenthal et al., 2008; Russel et al., 2020).

Wellness is also essential for college students since they might encounter a diverse range of difficulties such as risk-taking behaviors (Laska et al., 2009), negative emotions and stress (Clabaugh et al., 2021), economic challenges, and a lack of good relationships (Bektas, 2004). Furthermore, college students who cannot cope with these difficulties encounter psychological (Lee et al., 2004), academic, emotional, and spiritual problems (Dagdag et al., 2019). In addition, they are in the emerging adulthood developmental period, which brings additional challenges to their lives (Arnett, 2000; Arnett et al. 1., 2014). Similarly, the literature revealed that Turkish college students' wellness was found to be related to anxiety, negative affect (Öztürk & Çetinkaya, 2015), family and peer relationships (Doğan, 2006), career stress (Günay & Çelik, 2019), and a lack of college

¹Corresponding author's address: Recep Tayyip Erdoğan University, Faculty of Education, Çayeli/Rize/Türkiye
e-mail: mehmet.avci@erdogan.edu.tr

Citation: Avci, M, & Güngör, A. (2023). Examining the relationships between basic psychological needs and wellness in college students: The mediating role of stress coping styles. *International Journal of Psychology and Educational Studies*, 10(1), 113-126.
<https://dx.doi.org/10.52380/ijpes.2023.10.1.891>

belongingness and social support (Arslan, 2021). Thus, college students' wellness is at risk due to their developmental issues and life challenges. Understanding such factors influencing wellness in college students may thus contribute to the development of preventive and intervention strategies to improve wellness. In this sense, we examined basic psychological needs in this study as potential predictors of Turkish college students' wellness.

Basic psychological needs refer to psychological and social nutrients that facilitate a person's development, growth, integrity, and well-being in interpersonal and cultural contexts. On the contrary, when these needs are not met or prevented, people tend to have severe negative psychological consequences (Deci & Ryan, 2000). Ryan and Deci (2000) defined three psychological needs, namely autonomy, relatedness, and competency, and pointed out that satisfying those needs is a determinant of psychological wellness. Autonomy is defined in the self-determination theory (Deci & Ryan, 2000) as the tendency to self-regulate and the individuals' self-approval of actions. Competence is defined as feeling useful in life by using an individual's capacity and abilities. Finally, relatedness refers to a sense of belonging and establishing meaningful connections with people and the environment (Deci & Ryan, 2000).

The literature clearly demonstrates the links between basic psychological needs and mental health and wellness. Meeting basic psychological needs, for example, has been linked to lower stress and anxiety and higher academic performance (Faye & Sharpe, 2008; Guay et al., 2010; Lu et al., 2017). In addition, autonomy predicted subjective well-being (Morsünbül & Çok 2011), and meeting the basic psychological need was vital in reducing stress and activating adaptive coping mechanisms (Weinstein & Ryan, 2011). In another study, the satisfaction of basic psychological needs among students contributed to emotional and cognitive components of well-being (Tian et al., 2014). Basic psychological needs, in addition to having a direct effect on optimal functioning and well-being, also played mediating roles in stress-related mental and physical problems (Yang et al., 2018; Bartholomew et al., 2014).

Wellness and its relationships to various variables in Turkish college students have also been studied in the literature. For example, Gürkan (2014) found that the wellness scores of first- and second-year students were lower than other grades. Doğan (2006) found support from family and friends, physical exercise, and having positive thoughts about the future to be positive predictors of Turkish college students' wellness. Furthermore, satisfaction of basic psychological needs was found to be positively related to the wellness of Turkish college students (Cihangir-Çankaya, 2009). Similarly, the satisfaction of autonomy, competence, and relatedness was found to be positively related to well-being (Eryılmaz, 2011).

College students become more open to risks and negative influences with the versatile and rapid changes experienced in college life. In the process of emancipation in college life, which comes with separation from family and individualization, students begin to make their own decisions with their own will. However, they may experience stress due to helplessness, hopelessness, insecurity, and loneliness (Faye & Sharpe, 2008; Lu et al., 2017). Considering the importance of social and academic development during this period, it is thought that students will have more successful and healthy processes if their autonomy, competence, and relatedness needs are met (Tian et al., 2014). Although high levels of self-determination are critical to students' well-being, it cannot be overlooked that environmental factors have an impact on them. In this respect, basic psychological needs determine how and to what extent different social environments, such as university life, affect the behavior of college students (Deci & Ryan, 2000). Despite the fact that wellness has been studied to some extent in Turkish college students and the literature has well documented the relationships between basic psychological needs and wellness, examining the potential mediating variables on those associations would deepen understanding of wellness in college students. In this regard, we considered and investigated the roles of coping styles in mediating the effects of basic psychological needs on wellness. The following section explains coping styles and their hypothesized mediating roles.

1.1. Coping Styles

Coping refers to the process of dealing with stressful situations, which enables people to overcome the hurdles they face. A coping style can be adaptive, such as exercise and relaxation techniques (Austin et al., 2005), support seeking (Seiffge-Krenke, 2004), and rational problem solving (Rippeto & Rogers, 1987). On the other hand, maladaptive coping styles can be avoidance, wishful thinking (Rippeto & Rogers, 1987), substance use (Seiffge-Krenke, 2004), escape, and emotional numbing (Thompson et al., 2010).

Stress coping skills can be observed in cognitive, emotional, and behavioral forms, and people use one or more of those when they face stressful situations (Montgomery & Rupp, 2005). For example, controlling oneself and making one's own decisions in a stressful situation is seen as a cognitive coping strategy. Maintaining a positive perspective in a stressful situation is an emotional coping strategy. In addition, seeking advice and help from others and taking action against stress can be behavioral coping skills, and people determine coping skills based on the level of benefit and need (DeLongis et al., 1988). Though coping styles are classified differently, Şahin and Durak (1995) identified five coping styles within problem-focused and emotion-focused coping styles: *self-confident*, *optimistic*, *helpless*, *submissive*, and *seeking social support*. Self-confident represents an active and conscious endeavor; optimistic represents the exhibition of a positive attitude toward stressful situations; helpless refers to a lack of self-confidence towards the solution of stressful situations; submissive refers to seeking a solution from supernatural powers; and seeking social support refers to getting help from the environment to cope with stressful situations (Şahin & Durak, 1995; İhtiyaroğlu & Ateş, 2018). In addition, the literature has documented that coping styles are related to depression (Iavarone et al., 2014; Sun & Hodge, 2014), anxiety (Garnefski et al., 2002; Tuncay et al., 2008), emotional distress, and mental health (Ghazanfari, 2008; Mahmoud et al., 2012; Yan et al., 2021).

Previous studies also pointed out that stress coping styles affected people's physical, psychological, and emotional well-being (Christopher & Kulig, 2000; Greenglass & Fiksenbaum, 2009; Malkoç & Yalçın, 2015). For example, problem-focused coping styles affected physical and psychological well-being as indicators of quality of life (Englbrecht et al., 2012). Diong and Bishop (1999) found that while active and support-seeking coping styles were positively associated with psychological well-being, avoidant coping styles were negatively related to psychological well-being. In another study, Khoo and Bishop (1997) found that stress indirectly affected well-being through coping styles, besides the direct effect of stress on psychological and physical well-being. Overall, effective coping styles and healthy life skills seem to substantially impact human mental health and wellness (Lee et al., 2019).

Coping styles are also crucial for college students to handle their problems and fulfill the quality of their lives. For example, in a college student sample, Calicchia and Graham (2006) indicated that lifestyle-related problems mainly occur due to a lack of stress coping skills that cause poor academic performance and a high dropout rate among college students. Coping and life satisfaction were parts of well-being (Bridges, 2003; McIntosh, 2001). In addition, Bakracheva (2019) found that proactive and reflective coping, planning, and emotional and instrumental support positively affected life satisfaction. Furthermore, problem-focused coping styles were positively associated with life satisfaction among college students (Deniz, 2006). İhtiyarolu and Ateş (2018) discovered that while seeking social support and building self-confidence were the most commonly used stress coping styles among college students, helpless and submissive styles were not. Malkoç and Yalçın (2015) found that effective coping styles significantly affected Turkish college students' well-being. Specifically, while adaptive coping styles (e.g., self-confident) had positive effects on mental well-being, maladaptive coping styles (e.g., helpless, submissive) had negative effects on Turkish college students' well-being (Otrar et al., 2002).

1.2. The Mediating Role of Coping Styles

A mediating variable explains and clarifies the associations between independent and dependent variables (Preacher & Hayes, 2004, 2008). This study hypothesized the potential mediating roles of coping styles in the relationships between basic psychological needs and wellness. More specifically, this study asserted that meeting psychological needs leads to functional coping styles, which in turn lead to higher levels of wellness. In this sense, coping styles would explain the relationship between satisfaction of psychological needs and wellness.

The relationship between basic psychological needs and wellness has already been documented in the literature (e.g., Cihangir-Çankaya, 2009; Eryılmaz, 2011; Morsünbül & Çok, 2011; Neufeld et al., 2020; Tian et al., 2014). Satisfaction of basic psychological needs was related to higher levels of wellness. However, when considering coping styles as mediators, psychological needs would predict wellness through coping styles. Greenglass & Fiksenbaum (2009), Odacı & Çıkrıkçı (2012), Özbay et al. (2012) have all found strong links between coping styles and wellness. More functional coping styles were related to higher levels of wellness. In addition, theoretically and empirically speaking, meeting basic psychological needs is expected to escalate

levels of functional stress coping. For example, Bakracheva (2019) found that autonomy, competence, and relatedness positively correlated with proactive, reflective, and preventive coping, and emotional support seeking. Thus, meeting basic psychological needs would lead college students to develop and use more functional coping styles. As the literature documents, more functional coping styles would lead to wellness. Therefore, we expect that higher levels of meeting basic psychological needs are related to higher levels of adaptive coping styles and lower levels of maladaptive coping styles, which in turn lead to higher levels of wellness.

1.3. The Present Study

In this study, as in line with the literature, we expect that satisfaction of basic psychological needs (autonomy, competence, and relatedness) is positively related to wellness. However, we also hypothesize that coping styles significantly mediate those associations. The fact that coping styles are also associated with negative psychological problems such as depression (Sun & Hodge, 2014), anxiety (Tuncay et al., 2008), emotional distress, and mental health (Ghazanfari, 2008; Yan et al., 2021) was effective in the emergence of the model tested in this study. Following the findings revealing the negative effects of maladaptive coping styles on wellness (Diong & Bishop, 1999; Otrar et al., 2002), it was assumed in the current study that coping styles might affect wellness adversely. As explained above (Şahin & Durak, 1995), self-confidence, optimism, and seeking social support were defined as adaptive coping styles, whereas helplessness and submissiveness were defined as maladaptive coping styles. More specifically, higher levels of satisfaction of needs would be positively related to self-confidence, optimism, and seeking social support and negatively related to helpless and submissive coping styles, which in turn lead to a higher level of wellness. This assumption formed the basis of the hypothetical model. The hypothesized model is shown in Figure 1.

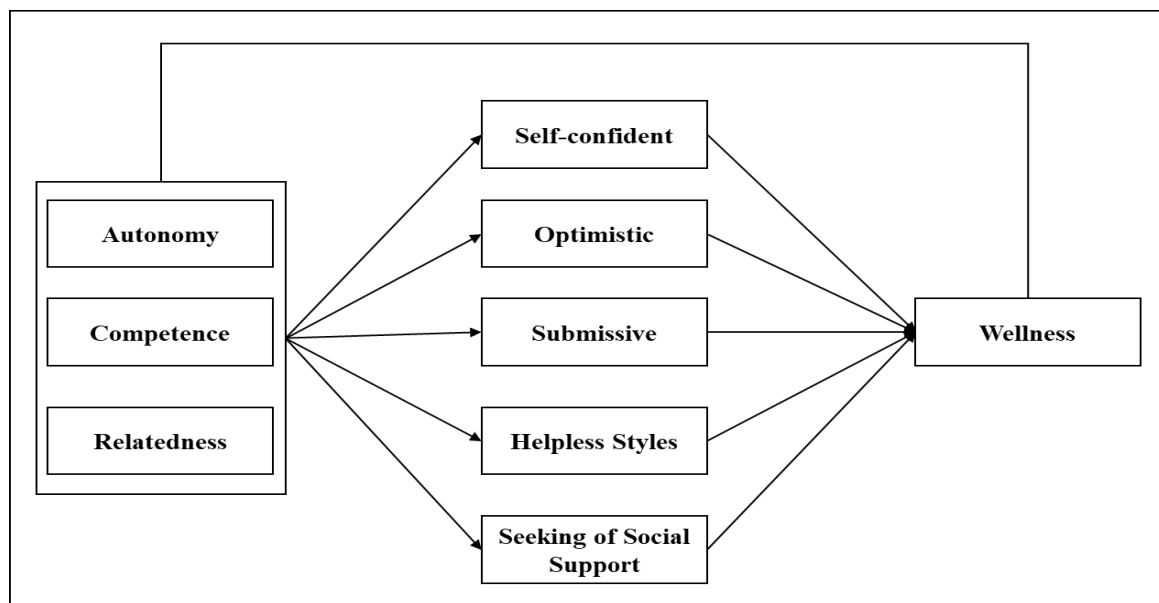


Figure 1. Hypothesized Path Model

2. Method

2.1. Research Model

The dependent variable of this study is wellness, and its independent variables are autonomy, competence, and relatedness. The current study is a survey model aiming to find relations between these variables. Also, this study hypothesized the potential mediating roles of coping styles in the relationships between basic psychological needs and wellness. A mediating variable explains and clarifies the associations between independent and dependent variables (Preacher & Hayes, 2004, 2008).

2.2. Participants and Data Collection Procedure

The participants of the study comprised a sample of 599 Turkish college students, ages ranging from 18 to 35 ($M = 20.62$, $SD = 2.06$). The data were collected during the 2019 spring and 2022 fall semesters. Instruments

came in the form of 108 items and demographic questions. There were 424 (70.78%) female and 175 (29.22%) male participants. Most of the participants were freshmen (234, 39.06%), followed by seniors (178, 29.72%), juniors (100, 16.69%), sophomores (86, 14.36%), and one (.17%) did not indicate grade level. The participants' program includes early childhood education, English teaching, psychology, the teaching of math & science, guidance and psychological counseling, elementary teaching education, and more.

First, permission for data collection was obtained from the local Institutional Review Board. Then, all questionnaires were distributed to the participants in person and via an online link. Participants were provided packs of questionnaires in person immediately preceding or following class time. Regarding online data collection, participants were provided a link, which was created using a Google Forms web-based application. Participants were invited to participate in the study by posting a link on social media and in classroom communication groups. Before participants proceeded to the questionnaires, they were provided informed consent explaining the purpose of the study and asked a yes/no question to consent to the study. No personal information such as name or ID was asked, and it took 5-10 minutes to complete the surveys.

2.3. Measurements

Coping Styles Scale: Şahin and Durak (1995) developed the Coping Styles Scale to assess people's coping styles in difficult situations. The scale consists of 30 items on a 4-point Likert scale ranging from 0 (%0) to 4 (%100). The Coping Styles Scale has five subscales: self-confident (seven items), optimistic approach (five items), helpless approach (eight items), submissive approach (six items), and seeking social support (4 items). Internal consistency coefficients of the subscales ranged from .47 to .80, according to Şahin and Durak (1995). Internal consistency coefficients were found to be .82 for a self-confident approach, .76 for an optimistic approach, .76 for a helpless approach, .56 for a submissive approach, and .67 for seeking social support in the current study.

Basic Psychological Needs Scale: Deci and Ryan (2000) developed the basic Psychological Needs Scale, and Bacanlı and Cihangir-Çankaya (2003) adapted it into Turkish. The Basic Psychological Needs Scale with three subscales consists of 21 items to evaluate satisfaction levels of autonomy (six items), competence (six items), and relatedness (nine items). Items are on a 7-point Likert scale ranging from 1 (not at all true) to 7 (very true); higher scores indicate higher satisfaction levels. The total scale internal consistency coefficient was reported to be .83, the autonomy subscale .71, the competence subscale .60, and the relatedness subscale .74 (Bacanlı and Cihangir-Çankaya, 2003). The internal consistency coefficients were found to be .87, .73, .67, and .78, respectively.

Perceived Wellness Scale: The original form of the Perceived Wellness Scale was developed by Adams et al. (1997) and adapted into Turkish by Memnun (2005). The Perceived Wellness Scale consists of 36 items on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). The scale has six dimensions (psychological, emotional, social, physical, spiritual, and intellectual), but only total scores were used to be consistent with this study's purpose. A total score can range from 36 to 216; higher scores indicate a greater degree of perceived wellness. The survey's Cronbach's alpha value was found to be .91. In the current sample, the Cronbach's alpha coefficient was found to be .89 for the entire scale.

2.4. Data Analysis

First, a preliminary data analysis was conducted to examine missing values, outliers, and the suitability for multivariate analyses. Then, based on the literature, a hypothesized model was developed, as given in Figure 1. In the model, autonomy, competence, and relatedness (basic psychological needs) were defined as exogenous variables, whereas self-confident, optimistic, submissive, helpless styles, and seeking of social support (coping styles), and wellness were endogenous variables. We hypothesized that there are direct effects of basic psychological needs on wellness. We also hypothesized that coping styles mediate the effects of basic psychological needs. However, we had to modify the hypothesized model to address model fit problems. The new model was the selected model, shown in Figure 2. Both models were analyzed using Mplus software version 7 (Muthén & Muthén, 1998-2012) with 5,000 bootstrapping iterations.

2.5. Ethical

Approval from Duzce University's Institutional Review Board was obtained before starting the data collection procedures and all ethical research practices were followed. Ethical Review Board Name: Duzce University Ethics Committee. Date of Ethics Evaluation Decision: 14.03.2019. Document Number: 16338

3. Findings

First, the missing value analysis revealed that missing values in the data set were completely at random (The Little's MCAR test; $\chi^2 = 154.57$, $df = 136$, $p > .05$). Then, using Mahalanobis distance measures ($D^2 \leq .001$; Hair et al., 2010), we identified and removed 22 outliers. Correlations between variables, means, standard deviations, and the absolute values of kurtosis and skewness of the variables are presented in Table 1.

Table 1. Descriptive Statistics and Correlations among the Variables

	1	2	3	4	5	6	7	8	9
1. Autonomy	-								
2. Competence	.58**	-							
3. Relatedness	.48**	.58**	-						
4. Self-confident	.42**	.47**	.32**	-					
5. Optimistic	.28**	.34**	.29**	.65**	-				
6. Submissive	-.34**	-.30**	-.26**	-.18**	-.03	-			
7. Helpless Styles	-.52**	-.51**	-.37**	-.39	-.46**	.43**	-		
8. Seeking of Social Support	.20**	.20**	.42**	.18**	.10*	-.15**	-.09*	-	
9. Wellness	.66**	.69**	.59**	.57**	.48**	-.35**	-.59**	.28**	-
M	5.07	4.76	5.22	3.04	2.73	2.00	2.45	2.89	150.10
SD	.99	.92	.89	.54	.59	.48	.57	.57	21.58
Skew	-.54	-.28	-.24	-.23	-.19	.48	.16	-.32	-.45
Kurtosis	.31	.17	-.33	-.39	-.38	.52	-.42	.07	.52

Note. * $p < .05$, ** $p < .01$

3.1. Results of Model

The fit indices of the hypothesized model were $\chi^2(10) = 404.11$ and $p < .01$, Comparative Fit Index (CFI) = .76, Tucker-Lewis index (TLI) = .22, Root Mean Square Error of Approximation (RMSEA) = .26 and Standardized Root Mean Square Residual (SRMR) = .09. Since some of the model fit indices were not acceptable, we modified the model. More specifically, we removed all insignificant direct and indirect effects from the hypothesized model. The fit indices of the selected model were $\chi^2(10) = 15.60$ and $p > .01$, CFI = .99, TLI = .99, RMSEA = .03 with a 90% CI of [.00, .06], and SRMR = .02. The amount of variance explained by the endogenous variable of wellness was .68. The amounts explained by variances for the mediator variables self-confident, optimistic, submissive, helpless styles, and seeking of social support were .24, .13, .13, .33, and .18, respectively.

3.2. Results of Total, Direct and Indirect Effects from Exogenous Variables

Autonomy: Autonomy had significant total effects on self-confident, submissive, helpless styles, and wellness. The effects on self-confident, submissive, and helpless styles were entirely direct effects, as specified in the model. The effect of autonomy on wellness was partially direct (5.18), partially indirect (1.79). As shown in the selected model (Figure 2), the indirect effects were through self-confident (.65) and helpless styles (1.15). Therefore, self-confident and helpless styles partially mediated the effects of autonomy on wellness, whereas other coping styles did not play a significant mediation role.

Competence: Competence had total and significant effects on self-confident, optimistic, submissive, helpless styles, and wellness. As specified in the model, competence had significant direct effects on all coping styles except seeking of social support. The effect of competence on wellness was partially direct (5.99) and partially indirect (3.28). The indirect effects were through self-confident (1.38), optimistic (.63), and helpless

styles (1.27). These findings revealed that self-assurance, optimism, and helplessness played important mediating roles in the effects of competence on wellness, whereas other coping styles did not.

Relatedness: Relatedness had significant, entirely total effects on optimism and the seeking of social support. The significant total effect of relatedness on wellness was partially direct (4.64) and partially indirect (.25). The indirect effect was through optimistic (.25), indicating that optimistic played a significant partially mediating role.

Table 2. *The Bootstrapped Sizes of Total, Direct and Indirect Effects of Exogenous Variables on Endogenous Variables*

Exogenous Variable	Endogenous Variables					
	Self-confident	Optimistic	Submissive	Helpless Styles	Seeking of Social Support	Wellness
Autonomy	.09***	--	-.11***	-.18***	--	5.18***
	--	--	--	--	--	1.79***
Competence	.09***	--	.11***	-.18***	--	6.98***
	.21***	.18***	-.09***	-.20***	--	5.99***
Relatedness	--	--	--	--	--	3.28***
	.21***	.18***	-.09***	-.20***	--	9.28***
Wellness	--	.08***	--	--	.27***	4.64***
	--	--	--	--	--	.25*
Total	--	.08***	--	--	.27***	4.89***
	--	--	--	--	--	--

Note. Direct effects in regular text, indirect effects in *italics*, total effects in **bold text**. The symbol -- means the effect is not significant in the model; * $p < .05$, *** $p < .001$; all effects are unstandardized effects.

3.3. Results of Total, Direct and Indirect Effects on Endogenous Variables

Wellness was affected by self-confident, optimistic, and helpless styles. All effects were direct effects. Self-confident and helpless styles partially mediated the effects of autonomy and competence on wellness. In addition, optimistic style played a significant, partially mediating role in the association between competence, relatedness, and wellness. The other coping styles, submissive and seeking of social support, did not affect wellness. Thus, submissive and seeking of social support did not play any significant mediation roles.

Table 3. *The Bootstrapped Sizes of Total, Direct and Indirect Effects from Endogenous Variables to Endogenous Variables*

Endogenous Variable	Endogenous Variables
	Wellness
Self-confident	6.56***
Optimistic	3.47*
Submissive	--
Helpless Styles	-6.24***
Seeking of Social Support	--

Note. All effects are unstandardized direct effects. The symbol -- means the effect is not significant in the model; * $p < .05$, *** $p < .001$.

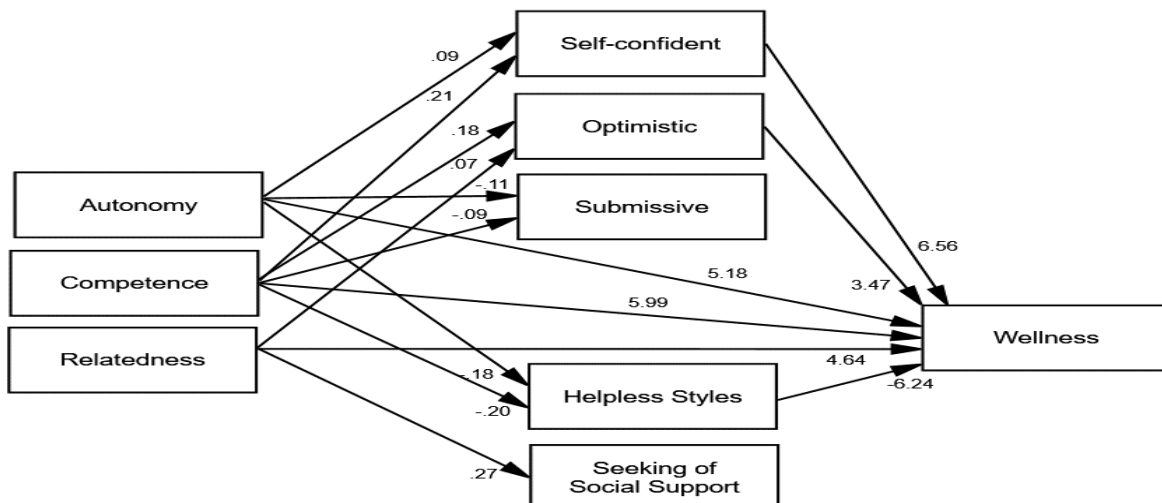


Figure 2. *Unstandardized Coefficients of the Paths in the Selected Path Model*

4. Conclusion and Discussion

This study aimed to examine the direct and indirect effects of basic psychological needs on wellness through coping styles in Turkish college students. Regarding the direct effects, the basic psychological needs of autonomy, competence, and relatedness positively predicted wellness. This result means that as the satisfaction of basic psychological needs increases, wellness also increases. This result is consistent with the literature (Bartholomew et al., 2014; Campbell et al., 2018; Faye & Sharpe, 2008; Morsunbül & Cok, 2011; Schenkenfelder et al., 2020; Tian et al., 2014; Ümmet, 2015). In addition, the findings related to the direct effects of psychological needs were theoretically supported as Ryan and Deci (2000) emphasized that autonomy, competence, and relatedness are essential in promoting wellness. Failure to satisfy these needs can cause challenges in people's motivational functioning. Motivation, which is necessary for individuals to be successful in a field, is vital to the success of university students' academic and social lives. According to Deci and Ryan (2000), individuals have a set of basic psychological needs satisfaction serves as a nutrient for growth and mental health. If any of these needs are not satisfied, wellbeing will suffer, and motivation is likely to dip. Contrarily, when college students feel autonomous, competent, and related to others in any area of their lives, they are likely to feel autonomously motivated to pursue that behavior. This study provided evidence suggesting that promoting the basic psychological needs of college students is crucial to improving their wellness.

Regarding the effects of coping styles on college students' wellness, the results revealed that self-confident and optimistic positively, and helpless style negatively predicted wellness. Consistent with previous findings, while active coping styles were positively related to well-being, maladaptive coping styles negatively affected wellness (Cicognani, 2011; Kausar, 2010; Kaya et al., 2007; Otrar et al., 2002). Though coping styles are essential elements of well-being, internalized coping styles are mostly related to specific situations (Lazarus & Folkman, 1984). Furthermore, adaptive styles (e.g., self-confident, optimistic) alleviate stress and promote affirmative outcomes, whereas others (e.g., helpless, denial, submissive) exacerbate stress and decreased wellness (Smith et al., 2016). Thus, the findings related to the direct effects of self-confident, optimistic, and helpless styles on wellness were theoretically and empirically expected. The findings revealed that seeking social support and adopting submissive coping styles were unrelated to wellness. There may be several possible reasons for this finding. First, the intrusive social support might not be effective and create a feeling of oppression to abide by advice (Schumaker & Hill, 1991). Second, group harmony and connectedness with social groups have been emphasized as core elements of collectivistic cultures. As a result, Turkish college students may consider undermining their friendships by telling or imposing personal problems (Taylor et al., 2004). Thus, it may be valuable for future research to explore the impact of culture on coping styles within the relationship between wellness and coping.

Regarding mediational roles, the results revealed that self-confident and helpless styles partially mediated the effects of autonomy and competence on wellness. Individuals who consider themselves competent are more likely to feel helpful in using their capacity (Deci & Ryan, 2000) and use a self-confident style than those who feel inadequate (Şahin & Durak, 1995), which reduces wellness. As expected, people with higher levels of competence feel helpful and use less helpless coping styles, which in turn leads to higher levels of wellness. Similarly, autonomous people believe that they are the masters of their behaviors (Deci & Ryan, 2000), and they do not show any escape inclination from stressful situations (Hodgins et al., 2006). Therefore, a self-confident style might serve as an intensifier of wellness by satisfying the need for autonomy. Coping styles are identified as problem-solving and behavioral attitudes (DeLongis et al., 1988) that may be chosen to amplify autonomous and competency behaviors to compensate for the negative impact of stressors on wellness.

The optimistic coping style also partially mediated the effects of competence and relatedness on wellness. More specifically, higher levels of competence and relatedness were associated with higher levels of optimistic coping style, which in turn leads to increased wellness. In addition, optimistic people tend to seek social support and have a positive sense of competence for the future (Scheier et al., 1986). Competence refers to feeling confident in using one's capacity, and relatedness refers to the feeling of belonging and meaningful connections (Deci & Ryan, 2000). Therefore, it was expected that as people satisfy competence and relatedness, they are prone to use optimistic coping styles when facing stressful situations.

4.1. Implications

The current study, which was designed in accordance with self-determination theory, contributed to a better understanding of the direct and indirect effects of basic psychological needs on wellness via coping styles. First, results showed that satisfaction with autonomy, competence, and relatedness directly and positively predicted wellness. Regarding autonomy needs, an emotionally supportive classroom environment may enable students to act autonomously and promote peer relationships. Also, emotional support from teachers, tutoring, and supplemental instruction might support the need for competence. Several programs (e.g., peer mentoring, supervisory mentoring) might be developed to target college students' relatedness and competence needs, and these programs may improve academic outcomes and wellness. Institutions can concentrate on creating a new curriculum instead of a traditional curriculum based solely on improving basic skills and focusing on achievement. This new curriculum based upon basic psychological needs would include clear rules and positive feedback to support the need for competence, demonstrating interests and care for students to support relatedness needs, and emphasizing independence to make individual decisions to promote autonomy.

Second, the results also revealed the partial mediating roles of self-confident, optimistic, and helpless coping styles. School counselors may create a therapeutic module (e.g., psychoeducational or skills development groups) that focuses on educating members about their conditions and providing them with new coping styles. For example, while encouraging people to talk about their feelings and instilling hope can help them develop self-confidence and optimism, a sense of belonging to a group can counteract the negative effect of a helpless personality on relatedness needs.

5. Recommendations and Future Studies

Limitations of this study should also be noted as they provide directions for future research. First, wellness involves various aspects and dimensions, and total wellness is attributed to the combination of these dimensions. In this study, only total scores were used so that future studies could examine the effects on dimensions. Second, the level of wellness and students' needs might vary in different periods. Therefore, one of the limitations of the current study is using a cross-sectional design. In addition, it is not entirely possible to make a cause-and-effect relationship in cross-sectional designs. Future studies can use longitudinal data (from first grade to graduation) to better determine the influences of coping styles and basic psychological needs on wellness. Third, the current study's generalizability may be limited by a lack of gender diversity (70.78% female). Studies also revealed gender differences in well-being and coping (Akhtar & Kroener-Herwig, 2019) and satisfaction of basic psychological needs (Neufeld et al., 2020). Thus, further studies could use a more diverse sample to increase generalization. Finally, coping styles were examined as mediators in the link between basic psychological needs and total wellness. Future studies might include dimensions of wellness and how other variables (e.g., wealth, happiness, resilience, and college belongingness) mediate the positive effect of satisfaction of basic psychological needs on wellness.

6. References

- Adams, T., Bezner, J., & Steinhardt, M. (1997). The conceptualization and measurement of perceived wellness: Integrating balance across and within dimensions. *American Journal of Health Promotion*, 11(3), 208-218. <https://doi.org/10.4278/0890-1171-11.3.208>
- Akhtar, M., & Kroener-Herwig, B. (2019). Coping styles and socio-demographic variables as predictors of psychological well-being among international students belonging to different cultures. *Current Psychology*, 38(3), 618-626. <https://doi.org/10.1007/s12144-017-9635-3>
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480. <https://doi.org/10.1037/0003-066X.55.5.469>
- Arnett, J. J., Žukauskienė, R., & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18-29 years: Implications for mental health. *The Lancet Psychiatry*, 1(7), 569-576. [https://doi.org/10.1016/S2215-0366\(14\)00080-7](https://doi.org/10.1016/S2215-0366(14)00080-7)

- Arslan, G. (2021). Psychological maltreatment and spiritual wellbeing in Turkish college young adults: exploring the mediating effect of college belonging and social support. *Journal of Religion and Health*, 60(2), 709-725. <https://doi.org/10.1007/s10943-021-01211-y>
- Austin, V., Shah S., & Muncer, S. (2005). Teacher stress and coping strategies used to reduce stress. *Occupational Therapy International*, Vol. 12(2), 63- 80. <https://doi.org/10.1002/oti.16>
- Bacanlı, H., Cankaya-Cihangir, Z. (2003). *İhtiyaç doyum ölçeği uyarlama çalışması*. VII. Ulusal Psikolojik Danışma ve Rehberlik Kongresinde Sunulmuş Bildiri. İnönü Üniversitesi, Malatya
- Bakracheva, M. (2019). Coping effects on life meaning, basic psychological needs and well-being. *Psychology*, 10(10), 1375. <http://creativecommons.org/licenses/by/4.0/>
- Bartholomew, K. J., Ntoumanis, N., Cuevas, R., & Lonsdale, C. (2014). Job pressure and ill-health in physical education teachers: The mediating role of psychological need thwarting. *Teaching and Teacher Education*, 37, 101-107. <https://doi.org/10.1016/j.tate.2013.10.006>
- Bridges, L. J. (2003). Coping as an element of developmental well-being. In M. H. Bornstein, L. Davidson, C. L. M. Keyes, & K. A. Moore (Eds.), *Crosscurrents in contemporary psychology. Well-being: Positive development across the life course* (p. 155–166). Lawrence Erlbaum Associates Publishers.
- Bektaş, D. Y. (2004). *Psychological adaptation and acculturation of the Turkish students in the United States*. [Doctoral dissertation]. Middle East Technical University.
- Calicchia, J. A., & Graham, L. B. (2006). Assessing the relationship between spirituality, life stressors, and social resources: Buffers of stress in graduate students. *North American journal of psychology*, 8(2).
- Campbell, R., Soenens, B., Beyers, & Vansteenkiste, M. (2018). University students' sleep during an exam period: The role of basic psychological needs and stress. *Motivation and Emotion*, 42(5), 671-681. <https://doi.org/10.1007/s11031-018-9699-x>
- Christopher, K. A., & Kulig, J. C. (2000). Determinants of psychological well-being in Irish immigrants. *Western Journal of Nursing Research*, 22(2), 123-143. <https://doi.org/10.1177/019394590002200203>
- Cicognani, E. (2011). Coping strategies with minor stressors in adolescence: Relationships with social support, self-efficacy, and psychological well-being. *Journal of Applied social psychology*, 41(3), 559-578. <https://doi.org/10.1111/j.1559-1816.2011.00726.x>
- Cihangir-Çankaya, Z. (2009). Öğretmen adaylarında temel psikolojik ihtiyaçların doyumu ve iyi olma [The satisfaction of basic psychological needs and subjective wellbeing of teacher candidates]. *Türk Eğitim Bilimleri Dergisi*, 7(3), 691-711.
- Clabaugh, A., Duque, J. F., & Fields, L. J. (2021). Academic stress and emotional well-being in United States college students following onset of the COVID-19 pandemic. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.628787>
- Cruse, R., Nicholas, D. R., Gobble, D. C., & Frank, B. (1992). Gender and wellness: A multidimensional systems model for counseling. *Journal of Counseling & Development*, 71, 149–156. <https://doi.org/10.1002/j.1556-6676.1992.tb02190.x>
- Dagdag, J. D., Cuizon, H. G., & Bete, A. O. (2019). College students' problems and their link to academic performance: Basis for needs-driven student programs. *Journal of Research, Policy & Practice of Teachers and Teacher Education*, 9(2), 54-65. <https://doi.org/10.37134/jrpptte.vol9.no2.5.2019>
- Deci, E. L., & Ryan, R. M. (2000). The " what" and " why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01
- DeLongis, A., Folkman, S., & Lazarus, R. S. (1988). The impact of daily stress on health and mood: psychological and social resources as mediators. *Journal of Personality and Social Psychology*, 54(3), 486. <https://doi.org/10.1037/0022-3514.54.3.486>

- Deniz, M., 2006. The relationships among coping with stress, life satisfaction, decision-making styles and decision self-esteem: An investigation with Turkish university students. *Social Behavior and Personality: An International Journal*, 34(9): 1161-1170. <https://doi.org/10.2224/sbp.2006.34.9.1161>.
- Diong, S. M., & Bishop, G. D. (1999). Anger expression, coping styles, and well-being. *Journal of Health Psychology*, 4(1), 81-96 <https://doi.org/10.1177/135910539900400106>
- Doğan, T. (2006). Üniversite öğrencilerinin iyilik halinin incelenmesi [The investigation of the wellness of university students]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 30(30), 120-129.
- Edlin, G., & Golanty, E. (2010). *Health & wellness*. (10th ed.). Jones and Bartlett Publishers.
- Englbrecht, M., Gossec, L., DeLongis, A., Scholte-Voshaar, M., Sokka, T., Kvien, T. K., & Schett, G. (2012). The impact of coping strategies on mental and physical well-being in patients with rheumatoid arthritis. *Seminars in Arthritis and Rheumatism*, 41(4), 545-555. <https://doi.org/10.1016/j.semarthrit.2011.07.009>
- Eryilmaz, A. (2012). A model for subjective well-being in adolescence: Need satisfaction and reasons for living. *Social Indicators Research*, 107(3), 561-574. <https://doi.org/10.1007/s11205-011-9863-0>
- Faye, C., & Sharpe, D. (2008). Academic motivation in university: The role of basic psychological needs and identity formation. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, 40(4), 189-199. <https://doi.org/10.1037/a0012858>
- Garnefski, N., Legerstee, J., Kraaij, V., van Den Kommer, T., & Teerds, J. A. N. (2002). Cognitive coping strategies and symptoms of depression and anxiety: A comparison between adolescents and adults. *Journal of adolescence*, 25(6), 603-611. <https://doi.org/10.1006/jado.2002.0507>
- Ghazanfari, F. (2008). The relationship between mental health and coping strategies in citizenship of Khoramabad city. *Journal of Fundamentals of Mental Health*, 10(37), 47-54. <https://doi.org/10.22038/jfmh.2008.1775>
- Greenglass, E. R., & Fiksenbaum, L. (2009). Proactive coping, positive affect, and well-being: Testing for mediation using path analysis. *European Psychologist*, 14(1), 29-39. <https://doi.org/10.1027/1016-9040.14.1.29>
- Guay, F., Ratelle, C. F., Roy, A., & Litalien, D. (2010). Academic self-concept, autonomous academic motivation, and academic achievement: Mediating and additive effects. *Learning and Individual Differences*, 20(6), 644-653. <https://doi.org/10.1016/j.lindif.2010.08.001>
- Günay, A. & Çelik, R. (2019). Kariyer stresinin psikolojik iyi oluş ve iyimserlik değişkenleriyle yordanması [Predicting the career stress with psychological health and goodwise variables: Examples of public relations and publicity students]. *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 2(33), 205-218.
- Gürgân, U. (2014). Üniversite öğrencilerinin yılmazlık ve iyilik halinin bazı değişkenlere göre incelenmesi [The investigation of the resilience and wellness of university students according to some variables]. *Education Sciences*, 9(1), 19-35. <http://dx.doi.org/10.12739/NWSA.2014.9.1.1C0603>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis*. Pearson.
- Harari, M. J., Waehler, C. A., & Rogers, J. R. (2005). An Empirical investigation of a theoretically based measure of perceived wellness. *Journal of Counseling Psychology*, 52(1), 93-103. <https://doi.org/10.1037/0022-0167.52.1.93>
- Hodgins, H. S., Yacko, H. A., & Gottlieb, E. (2006). Autonomy and nondefensiveness. *Motivation and Emotion*, 30(4), 283-293. <https://doi.org/10.1007/s11031-006-9036-7>
- Iavarone, A., Ziello, A. R., Pastore, F., Fasanaro, A. M., & Poderico, C. (2014). Caregiver burden and coping strategies in caregivers of patients with Alzheimer's disease. *Neuropsychiatric disease and treatment*, 10, 1407. <https://doi.org/10.2147/NDT.S58063>

- Ihtiyaroglu, N., & Ates, Ö. T. (2018). Analyzing the relationship between the students' stress-coping styles and school attachment. *Asian Journal of Education and Training*, 4(4), 371-379. <https://doi.org/10.20448/journal.522.2018.44.371.379>
- Kausar, R. (2010). Perceived stress, academic workloads and use of coping strategies by university students. *Journal of behavioural sciences*, 20(1).
- Kaya, M., Genç, M., Kaya, B., & Pehlivan, E. (2007). Tıp fakültesi ve sağlık yüksekokulu öğrencilerinde depresif belirti yaygınlığı, stresle başa çıkma tarzları ve etkileyen faktörler [Prevalence of depressive symptoms, ways of coping, and related factors among medical school and health services higher education students]. *Türk Psikiyatri Dergisi*, 18(2), 137-146.
- Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly*, 121-140. <https://doi.org/10.2307/2787065>
- Khoo, S. A., & Bishop, G. D. (1997). Stress and optimism: Relationships to coping and well-being. *Psychologia*, 40(1), 29-40.
- Laska, M. N., Pasch, K. E., Lust, K., Story, M., & Ehlinger, E. (2009). Latent class analysis of lifestyle characteristics and health risk behaviors among college youth. *Prevention Science*, 10(4), 376-386. <https://doi.org/10.1007/s11121-009-0140-2>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.
- Lee, J. S., Koeske, G. F., & Sales, E. (2004). Social support buffering of acculturative stress: A study of mental health symptoms among Korean international students. *International Journal of Intercultural Relations*, 28(5), 399-414. <https://doi.org/10.1016/j.ijintrel.2004.08.005>
- Lee, T. S., Tzeng, W. C., & Chiang, H. H. (2019). Impact of coping strategies on nurses' well-being and practice. *Journal of Nursing Scholarship*, 51, 195-204. <https://doi.org/10.1111/jnu.12467>
- Lu, M., Walsh, K., White, S., & Shield, P. (2017). The associations between perceived maternal psychological control and academic performance and academic self-concept in Chinese adolescents: The mediating role of basic psychological needs. *Journal of Child and Family Studies*, 26(5), 1285-1297. <https://doi.org/10.1007/s10826-016-0651-y>
- Mahmoud, J. S. R., Staten, R. T., Hall, L. A., & Lennie, T. A. (2012). The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction, and coping styles. *Issues in mental health nursing*, 33(3), 149-156. <https://doi.org/10.3109/01612840.2011.632708>
- Malkoç, A., & Yalçın, İ. (2015). Relationships among resilience, social support, coping, and psychological well-being among university students. *Turkish Psychological Counseling and Guidance Journal*, 5(43), 35-43.
- McIntosh, C. N. (2001). Report on the construct validity of the temporal satisfaction with life scale. *Social Indicators Research*, 54, 37-56. <https://doi.org/10.1023/A:1007264829700>
- Memnun, S. (2006). Algılanan esenlik ölçeğinin (perceived wellness scale) geçerlilik ve güvenilirlik çalışması ve beden eğitimi öğretmenlerinin esenlik algıları [Validity and reliability study of Perceived Wellness Scale and teacher's wellness perceptions] [Doctoral dissertation]. Marmara Üniversitesi, İstanbul.
- Merrill, R. M., Aldana, S. G., Garrett, J., & Ross, C. (2011). Effectiveness of a workplace wellness program for maintaining health and promoting healthy behaviors. *Journal of occupational and environmental medicine*, 53(7), 782-787. <https://doi.org/10.1097/JOM.0b013e318220c2f4>
- Montgomery, C., & Rupp, A. A. (2005). A meta-analysis for exploring the diverse causes and effects of stress in teachers. *Canadian Journal of Education/Revue canadienne de l'éducation*, 458-486. <https://doi.org/10.2307/4126479>
- Morsünbül, Ü. Y., & Çok, F. T. D. (2011). *Ergenlikte özerkliğin ve kimlik biçimlenmesinin öznel iyi oluş üzerindeki etkisi* [The effect of autonomy and identity formation on subjective well-being in adolescence] [Doctoral dissertation]. Ankara Üniversitesi.

- Muthén, L. K., & Muthén, B. O. (1998-2012). *Mplus user's guide*. Muthén & Muthén.
- Myers, J. E., Sweeney, T. J., & Witmer, J. M. (2000). The Wheel of Wellness: A holistic model for treatment planning. *Journal of Counseling & Development, 78*, 251-266. <https://doi.org/10.1002/j.1556-6676.2000.tb01906.x>
- Neufeld, A., Mossière, A., & Malin, G. (2020). Basic psychological needs, more than mindfulness and resilience, relate to medical student stress: A case for shifting the focus of wellness curricula. *Medical Teacher, 42*(12), 1401-1412. <https://doi.org/10.1080/0142159X.2020.1813876>
- Odacı, H., & Çıkrıkçı, Ö. (2012). University students' ways of coping with stress, life satisfaction and subjective well-being. *The Online Journal of Counselling and Education, 1*(3), 117-130.
- Otrar, M., Ekşi, H., Dilmaç, B., & Şirin, A. (2002). Türkiye'de öğrenim gören Türk ve akraba topluluk öğrencilerinin stres kaynakları, başa çıkma tarzları ile ruh sağlığı arasındaki ilişki üzerine bir araştırma [The sources of stress, coping, and psychological well-being among Turkic and relative societies' students in Turkey]. *Kuram ve Uygulamada Eğitim Bilimleri, 2*(2), 473-506.
- Özbay, Y., Palancı, M., Kandemir, M., & Çakır, O. (2012). Üniversite öğrencilerinin öznel iyi oluşlarının duygusal düzenleme, mizah, sosyal öz-yeterlik ve başa çıkma davranışları ile yordanması [Prediction of subjective well-being of university students via self-regulation, humour, social self-efficacy and stress-coping strategies]. *Türk Eğitim Bilimleri Dergisi, 10*(2), 325-345.
- Öztürk, A., & Çetinkaya, R. S. (2015). Eğitim fakültesi öğrencilerinin öznel iyi oluş düzeyleri ile tinsellik, iyimserlik, kaygı ve olumsuz duygu düzeyleri arasındaki ilişki [Relationship between education faculty students' subjective well-being, spirituality, optimism, anxiety, and negative affectivity]. *Marmara Üniversitesi Atatürk Eğitim Fakültesi Eğitim Bilimleri Dergisi, 42*(42), 335-356. <https://doi.org/10.15285/ebd.98899>
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*(4), 717-731. <https://doi.org/10.3758/BF03206553>.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891. <https://doi.org/10.3758/BRM.40.3.879>.
- Rippetoe, P. A., & Rogers, R. W. (1987). Effects of components of protection-motivation theory on adaptive and maladaptive coping with a health threat. *Journal of Personality and Social Psychology, 52*(3), 596-604. <https://doi.org/10.1037/0022-3514.52.3.596>
- Rosenthal, D. A., Russell, J., & Thomson, G. (2008). The health and wellbeing of international students at an Australian university. *Higher Education, 55*(1), 51. <https://doi.org/10.1007/s10734-006-9037-1>
- Russell, R. D., Black, L. J., Pham, N. M., & Begley, A. (2020). The effectiveness of emotional wellness programs on mental health outcomes for adults with multiple sclerosis: a systematic review and meta-analysis. *Multiple sclerosis and related disorders, 44*. <https://doi.org/10.1016/j.msard.2020.102171>
- Ryan, R. M., & Deci, E. L. (2000). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry, 11*(4), 319-338. https://doi.org/10.1207/S15327965PLI1104_03
- Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: Divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology, 51*(6), 1257-1264. <https://doi.org/10.1037/0022-3514.51.6.125>
- Schenkenfelder, M., Frickey, E. A., & Larson, L. M. (2020). College environment and basic psychological needs: Predicting academic major satisfaction. *Journal of counseling psychology, 67*(2), 265-273. <https://doi.org/10.1037/cou0000380>
- Shumaker, S. A., & Hill, D. R. (1991). Gender differences in social support and physical health. *Health Psychology, 10*(2), 102-111. <https://doi.org/10.1037/0278-6133.10.2.102>

- Seiffge-Krenke, I. (2004). Adaptive and maladaptive coping styles: Does intervention change anything? *European Journal of Developmental Psychology*, 1(4), 367-382. <https://doi.org/10.1080/17405629.2004.11453396>
- Smith, M. M., Saklofske, D. H., Keefer, K. V., & Tremblay, P. F. (2016). Coping strategies and psychological outcomes: The moderating effects of personal resiliency. *The journal of psychology*, 150(3), 318-332. <https://doi.org/10.1080/00223980.2015.1036828>
- Sun, F., & Hodge, D. R. (2014). Latino Alzheimer's disease caregivers and depression: Using the stress coping model to examine the effects of spirituality and religion. *Journal of Applied Gerontology*, 33(3), 291-315. <https://doi.org/10.1177/0733464812444462>
- Şahin, N. H., & Durak, A. (1995). Stresle başa çıkma tarzları ölçeği: Üniversite öğrencileri için uyarlanması [A brief of coping styles inventory for university students]. *Türk Psikoloji Dergisi*, 10(34), 56-73.
- Taylor, S. E., Sherman, D. K., Kim, H. S., Jarcho, J., Takagi, K., & Dunagan, M. S. (2004). Culture and social support: Who seeks it and why?. *Journal of Personality and Social Psychology*, 87(3), 354-362. <https://doi.org/10.1037/0022-3514.87.3.354>
- Thompson, R. J., Mata, J., Jaeggi, S. M., Buschkuhl, M., Jonides, J., & Gotlib, I. H. (2010). Maladaptive coping, adaptive coping, and depressive symptoms: Variations across age and depressive state. *Behaviour Research and Therapy*, 48(6), 459-466. <https://doi.org/10.1016/j.brat.2010.01.007>
- Tian, L., Han, M., and Huebner, E. S. (2014). Preliminary development of the adolescent students' basic psychological needs at school scale. *Journal of Adolescence*, 37(3), 257-267. <https://doi.org/10.1016/j.adolescence.2014.01.005>
- Tuncay, T., Musabak, I., Gok, D. E., & Kutlu, M. (2008). The relationship between anxiety, coping strategies and characteristics of patients with diabetes. *Health and quality of life outcomes*, 6(1), 1-9. <https://doi.org/10.1186/1477-7525-6-79>
- Ümmet, D. (2015). Self esteem among college students: A study of satisfaction of basic psychological needs and some variables. *Procedia-Social and Behavioral Sciences*, 174, 1623-1629. <https://doi.org/10.1016/j.sbspro.2015.01.813>
- Weinstein, N., & Ryan, R. M. (2011). A self-determination theory approach to understanding stress incursion and responses. *Stress and Health*, 27(1), 4-17. <https://doi.org/10.1002/smi.1368>
- World Health Organization (1948). *First World Health Assembly*. WHO, Geneva.
- Yan, L., Gan, Y., Ding, X., Wu, J., & Duan, H. (2021). The relationship between perceived stress and emotional distress during the COVID-19 outbreak: Effects of boredom proneness and coping style. *Journal of anxiety disorders*, 77. <https://doi.org/10.1016/j.janxdis.2020.102328>
- Yang, Y., Zhang, Y., & Sheldon, K. M. (2018). Self-determined motivation for studying abroad predicts lower culture shock and greater well-being among international students: The mediating role of basic psychological needs satisfaction. *International Journal of Intercultural Relations*, 63, 95-104. <https://doi.org/10.1016/j.ijintrel.2017.10.005>