

University Students' Loneliness, Anxiety and Mental Well-Being during COVID-19 Pandemic: The Mediation Role of Self-Control

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Abstract

How the mental health of individuals is affected by the living conditions brought about the COVID-19 pandemic has become an important research topic. Education has been one of the most affected areas in this period, and educational activities have started to be carried out using distance education tools. In the online learning environments, students' ability to manage their behavior and take responsibility for their behavior has come to the fore in terms of protecting their mental health due to the decrease in teacher control. This study aimed to examine the mediating role of self-control in the relationship between loneliness, anxiety and mental well-being. Four hundred twenty-five university students, 304 (71.5%) females and 121 (28.5%) males participated in the study. The mean age of the participants was 21.39, the standard deviation was 2.61, and the ages ranged from 18 to 39. Research data were collected by using the Turkish version of the Warwick-Edinburgh Mental Well-Being Scale, Brief Self-Control Scale, Generalized Anxiety Disorder-7 Scale, and UCLA Loneliness Scale. In the study, descriptive statistics, reliability coefficients and correlation coefficients were calculated to examine the relationships among the variables. Two-step structural equation modeling was used to investigate the mediating role of self-control between loneliness and anxiety and mental well-being. The results of the correlation analysis showed that all the variables in the study were significantly related to each other. It was found that the data validated the measurement model tested in the first step. As a result of the structural model analysis performed in the second step, it was found that loneliness and anxiety negatively predicted self-control and mental well-being. In addition, self-control was found to mediate the relationship between loneliness, anxiety and mental well-being. Within the framework of these findings, it can be stated that loneliness and anxiety lead to a decrease in mental well-being by reducing self-control.

Keywords: Mental well-being, Self-control, Loneliness, Anxiety



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INTRODUCTION

Scientists around the world have been investigating how COVID-19 has affected the mental health of individuals as well as its physical effects. The pandemic has posed various threats to mental health, as suggested by several research studies regarding the effects of COVID-19 on the psychology and feelings of individuals (Albertova & Bolekova, 2022; Brooks et al., 2020; Çiçek et al., 2021; Sani et al., 2020). Especially in the educational environments, the psychological effects of the disease were experienced rather bitterly. Researchers claim that COVID-19 have posed an unprecedented threat to the educational systems, and it will be a cause of anxiety and fear for the students (Daniel, 2020; Dempsey & Burke, 2021; Livana et al., 2020). Because losing one's routine, diminishing social relationships, and prolonged social isolation can lead to boredom, frustration and depression. As a result, high levels of distress and mental disorders such as anxiety and stress could be experienced (Pakpour & Griffiths, 2020; Sani et al., 2020). Additionally, stress and anxiety caused by coronavirus have negatively associated with positive characteristic such as psychological adjustment, meaning in life, psychological flexibility (Arslan & Allen, 2022; Arslan et al., 2022). These negative states of mind might bring about a decrease in self-control (Krasnov et al., 2021; Martínez-López et al., 2021) and well-being (Arslan & Allen, 2022; González-Sanguino et al., 2020). In terms of ensuring well-being and self-control, the feeling of anxiety caused by such restrictions as social distancing and home quarantine is considered a crucial element (Brooks et al., 2020; Brydsten et al., 2019). In addition, losing the opportunities for collective experiences might intensify the negative consequences and, as a result, induce loneliness. Thus, it is essential to comprehend the reciprocal relations among anxiety, loneliness, self-control and well-being in educational settings.

Well-being

According to a broad definition offered by Diener et al. (2009), well-being means “the fact that the person subjectively believes his or her life is desirable, pleasant, and good” (p. 1). The concept of well-being, involving ideal experience and effectiveness, is a sign of psychological health (Ryan & Deci, 2000). Well-being highlights life enjoyment, satisfaction and happiness and the components of positive psychology (Seligman, 2002), unlike such symptoms as depression and anxiety portraying the negative psychology and centering on the troubles and difficulties (Derogatis & Cleary, 1977; Gao, et al., 2021). Therefore, whether an individual is satisfied with their life and living conditions and whether they believe their living conditions are perfect can be understood as a component of well-being (Diener et al., 1985). Along with good health and positive social relationships, such psychological constructs as loneliness and anxiety might be assumed components or determinants of well-being (Keyes & Waterman, 2003).

According to subjective well-being (SWB), the concept is defined within the framework of an individual's enjoyment of life (Diener, 1984; Myers et al., 2017). However, psychological well-being (PWB) indicates that well-being both focuses on pleasure and is related to the functionality of the individual's behaviors (Waterman, 1993). Unlike these two concepts, mental well-being (MWB) has a structure that combines psychological and subjective well-being (Keyes, 2002). In this study, MWB was preferred because it was more inclusive than the other concepts. According to the World Health Organization (2007), mental well-being, which is used to describe mentally healthy individuals, is the individual's ability to be productive and useful in life, to be aware of their own skills, to overcome the stressful situations they encounter by making the right decisions, to establish positive relationships with others and to feel supported. It also includes the individual's inner peace, satisfaction, happiness and benefiting the society by fulfilling his social duties. Mental well-being is a multidimensional construct consisting of positive emotion, satisfaction and psychological activity (Vaingankar et al., 2011). Ryff's Six-factor Model of Psychological Well-being (1989) also affirms that the concept is based on six dimensions. Autonomy, one of the dimensions, is closely related to an individual's self-control skills. It is characterized as being self-governing, resistant to outside factors independent, and grounding the self-attitudes on individual standards rather than the socially determined ones.

The quality of an individual's social contacts is also related to well-being (Birditt & Antonucci, 2007). Whether face-to-face or online, the quality of relationships becomes more important as people's

opportunities to engage with other individuals diminish. Brooks et al. (2020) specified several aspects that positively or negatively affect the well-being of individuals during catastrophic incidents such as pandemics. According to the researchers, boredom, which emerged from loneliness, is related to well-being (Farmer & Sundberg, 1986; McCurdy et al., 2022). Other researchers examining the studies on loneliness and well-being concluded that there are associations between the two constructs (Arslan, 2021; Ben-Zur & Michael, 2016). Moreover, as reported in some other studies, by, loneliness acts as a predictor of well-being (Chen & Feeley, 2014; Çiçek, 2021; Kayis et al. 2021). Therefore, well-being can be considered one of the most related constructs to loneliness.

Loneliness

Loneliness, defined as a personal experience stemming from a deficiency in the quality or amount of social intercourse and associated with a deficiency in meaningful relationships (Peplau & Perlman, 1982; Subathevan et al., 2022; Vaux, 1988; Zammuner, 2008), stands out as one of the grave concerns in the course of the pandemic (Killgore et al., 2020). Since the social bonds among the individuals have eroded owing to the requisite precautions taken to stop the spread of the virus, they have bitterly experienced the feeling of loneliness. Loneliness can act as a leading agent in the arousal of several psychological problems and might be a painful feeling for the individuals (Perlman & Peplau, 1981). Additionally, one of the main predictors of mental health problems that may occur in the future is expressed as long-term loneliness (Qualter et al., 2010).

Loneliness appears to have a significant adverse effect on health and well-being. Demir et al. (2021) suggest that factors such as individuals' social relationships and family relationships can have an impact on their well-being. Although the research on loneliness mostly underlines the issues regarding the elderly (Hawkey & Kocherginsky, 2018; Newall & Menec, 2019), one could experience loneliness at any age (Luhmann & Hawkey, 2016). Indeed, Cigna (2018) asserts that individuals from 18 to 24 years (also referred to as Generation Z) are the loneliest age group. Research also revealed that individuals might experience depression (Cacioppo et al., 2010) and a decline in well-being (Kearns et al., 2015) as a result of loneliness. Moreover, other studies displayed that loneliness acts as a mediator between psychological constructs such as self-confidence (He et al., 2014) and social support (Chen & Feeley, 2014) and well-being. Loneliness also predicted stress indicating that lonely people might suffer more from distress-related situations (Hawkey et al., 2003). As a matter of fact, several recent studies put forth that in a case of crisis, loneliness act as a catalyst for anxiety and depression (Killgore et al., 2020; Tso & Park, 2020).

Various other studies tried to reveal the associations between loneliness and such other variables as social status and age (Bowling et al., 1989; Ernst et al., 2021; Vandewater et al., 1997). Especially, living in challenging life situations and significant shifts are related to elevated loneliness (Wang et al., 2001). Since loneliness mirrors a deficiency in terms of intimate relations, it might delineate an inadequacy in communicative contexts, a crucial component of well-being (Zammuner, 2008). Furthermore, the feeling of loneliness is documented as a hazardous agent for stress and anxiety (McHugh & Lawlor, 2013). To this end, loneliness is associated positively with anxiety (Ebesutani et al., 2015) and associated negatively with life enjoyment and well-being in all age groups (Salimi, 2011).

Anxiety

Emotions that affect health and well-being significantly impact the emergence of behavior. While positive emotions motivate individuals to achieve their goals, emotions such as anxiety can become a significant concern when they last beyond their beneficial effects (Spielberger & Reheiser, 2009). Today, anxiety is one of the important psychological factors and common mental disorders that cause long-term and functional disorders (Baxter et al., 2013). The conceptualization of anxiety in a variety of means has made it a vague construct. The construct is defined "as an emotional state, with the subjectively experienced quality of fear as a closely related emotion" (Lewis, 1970, p. 77). Anxiety, both a physical and psychological disorder, is also seen as an emotion that individuals define as restlessness, nervousness and excessive worry (Andrews et al., 2010).

According to Lewis (1970) and Çolakoğlu et al. (2021), in the case of anxiety, the individual is faced with an unpleasant, negative, future-oriented, disproportionate feeling of threat, and the feeling includes

subjective angles along with significant physical discomforts. In addition, the emergence of anxiety can be caused by external or internal stimuli, and anxiety is related to the individual's perception and the duration of the anxiety-provoking situation (Gonçalves et al., 2019; Spielberger, 1972). There are several types of anxiety. Generalized Anxiety Disorder (GAD), determined as one of the most common anxiety disorders by the researchers (Muñoz-Navarro et al., 2017; Snyder et al., 2000), is likely to severely interfere with an individual's activities (Doria et al., 2015; Wittchen, 2002). GAD, associated with restlessness, irritability, sleep disturbance, tiring quickly, difficulty in concentrating, and muscle tension, is defined as a state of extreme anxiety and worry lasting at least six months (American Psychiatric Association, 2013).

According to Weinstein et al. (2009), if the level of well-being of individuals is high, their awareness in social environments is higher. Such awareness facilitates individuals to respond positively to stressful situations they encounter and reduce harmful emotions (Garland et al., 2011). The studies carried out also support the negative association. For example, several studies revealed that anxiety predicted well-being (Liu et al., 2009; Steinmayr et al., 2016). In addition, the studies show that there is a negative relationship between anxiety and well-being (Dias Lopes et al., 2020; Hoelterhoff, 2010).

Self-control as a mediator

GAD might also have other effects on the individual's experiences and proper functioning. For instance, some researchers maintain that since individuals with negative emotions can focus heavily on their own emotional states, their self-control levels may decrease (Chester et al., 2016; Sinha, 2009; Ward & Mann, 2000). The findings of other research also confirmed that a low level of self-control is predicted by negative feelings (Özdemir et al., 2014).

Self-control is a process in which individuals endeavor to adapt their reactions to outside stimuli rather than trying to alter the external reality to purposefully control their actions (Hirschi & Gottfredson, 1990; Pathak, 2021). Self-control is also defined as a scheme comprised of the goals driven by mental experiences that allow individuals to accomplish their goals and direct disturbing opinions and feelings, put off satisfaction, and handle stressful circumstances (Rosenbaum, 1998). The self-control process contributes to individuals' awareness of both their own behavior and the impact of these behaviors on themselves, others and the environment (Özdemir et al., 2014). Employing self-control also allows the individuals to tolerate better situations where there are too many stimuli in the environment and stressful situations that reduce attention span (Strayhorn, 2002).

In addition, the competencies related to self-control help individuals confront demanding and unpleasant conditions (Lazar, 2021; Rosenbaum, 1993). High self-control is associated with focusing on long-term results rather than momentary distractions and being less affected by stressful situations (Baumeister & Heatherton, 1996; Muraven & Baumeister, 2000). A person with self-control skills might postpone or completely avoid a satisfying action to achieve a behavior compatible with their long-run objectives (Duckworth et al., 2019; Mahoney & Thoresen, 1972). In addition, the capability to gain control over an incident and feel the incident as controlled is an essential asset for adapting to the environment and reducing the resulting stress (Hamama et al., 2000). Because of this, on the one hand, self-control skills, as an antecedent, can be linked with contributing to well-being. On the other hand, as a successor, it helps to reduce the risk of negative factors such as aggression and anxiety (Agbaria et al., 2012).

When an individual has the required skills to utilize self-control, they might direct the abilities to alter both their internal and external environments by using self-evaluation and self-reinforcement (Rosenbaum, 1993). For this reason, self-control, a cognitive coping agent, comes to the fore in stressful life events but is also frequently applied in daily life, and well-being increases as the level of self-control increases (Agbaria et al., 2012; Rosenbaum & Rolnick, 1983). Tu & Yang (2015) argued that self-control indicates the presence of wellbeing and has a critical role in the promotion of positive emotions. Furthermore, increasing anxiety signals a decrease in the individual's level of self-control, and vice versa (Thoits, 1986).

Studies revealed that self-control impacts performance and individuals with high self-control outperform, no matter what underlying conditions are (Gal-Or et al., 1985; Iranmanesh et al., 2021; Rosenbaum, 1980). In addition, high self-control is associated with positive psychological factors such

as better psychological adjustment, academic performance and personal relationships, while low self-control is associated with aggression and guilt. The ability to plan more effectively for the future, face disturbing thoughts, respond more tolerant to negative stimuli and control impulses and behaviors is also associated with a high level of self-control (Heatheron, 2011; Rosenbaum, 1980). Wen et al. (2022) also revealed that self-control mediated the relationship between subjective well-being and insecurity

All individuals have self-control skills, but some individuals are more inclined towards losing their self-control than others (Baumeister & Heatheron, 1996). According to the researchers, feelings such as anxiety and depression may cause individuals to focus on these feelings and consequently decrease the level of self-control (Sinha, 2009; Ward & Mann, 2000). Furthermore, when individuals have low self-control skills, they may have difficulty controlling their behavior, which predisposes them to negative consequences. Low self-control is related to the impulsiveness of the behaviors and not taking into account the possible adverse outcomes of the actions (Wiers et al., 2007). Therefore, self-control could be a crucial mediating agent between loneliness and anxiety and well-being.

Present Study

The coronavirus (COVID-19) pandemic has caused individuals to experience depression and grief at an unprecedented level. The risk of transmission, along with the uncertainty about the future and social distance as a precaution against the pandemic, affected both people's emotions, daily habits, and social relationships (Çiçek et al., 2020). The research results have revealed that practices such as social distance and quarantine are among the critical factors to be considered in managing well-being (Assary et al., 2018; Brydsten et al., 2019). These restrictions, especially the quarantine, have escalated feelings of loneliness and anxiety (Banerjee & Rai, 2020; Porcelli, 2020). Studies conducted in various countries have also confirmed that prolonged exposure to stressful emotions causes the experience of enormous feelings of anxiety associated with depressive symptoms (Çeri & Çiçek, 2021; Pakpour & Griffiths, 2020; Satıcı et al., 2020) and a tendency towards a decline in terms of well-being (González-Sanguino et al., 2020; Pierce et al., 2020). However, investigating the mentioned variables independently from each other may not be accurate considering the reciprocal and complex relationships between these variables. For example, it is less informative to directly associate well-being with anxiety or loneliness because both constructs are negatively associated with well-being. For this reason, it is imperative to investigate the relationships between the variables from a more holistic perspective and to examine the role that self-control will play in this relationship.

According to the integrative perspective, one of the latest points of view on well-being, the construct is in a dynamic interaction with and is affected by other variables such as the person's emotional condition, experiences, expectations and social comparisons (Suh et al., 1998). To this end, Bandura (1986), based on social cognitive theory, asserted that depressive feelings could lead to a deterioration in self-controlled behaviors due to negativity bias. He further stated that the individuals affected by the bias might have difficulty employing self-control to get rid of such negative feelings as depression and loneliness.

The research also supports the links among loneliness, anxiety, self-control, and well-being. For instance, Galinha and Pais-Ribeiro (2012) concluded that among the variables of their research, depression stood out as the first predictor of well-being. In addition, other studies revealed that loneliness predicts well-being (Landmann & Rohmann, 2021; Özdogan, 2021; Shahidi et al., 2019). It is also pointed out that while self-regulation has a high positive relationship, depression and anxiety have a high negative relationship with well-being (Low, 2011; Luszczynska et al., 2005). Furthermore, a lower level of well-being was associated with anxiety, depression and other mental disorders (Dunn & Shelton, 2007; Kinderman et al., 2015). In sum, previous studies have indicated that anxiety and loneliness are negative predictors of self-control, and self-control is a negative predictor of well-being. The direction of relationships among the variables suggested that self-control might mediate relationships between anxiety/loneliness and mental well-being.

Consequently, we propose that anxiety and loneliness might predict well-being through the mediation of self-control based on the findings mentioned earlier and grounds regarding the theory and research indicating a predicting relationship from anxiety and loneliness to self-control and self-control to well-being. To this end, this study aimed to test the following hypotheses:

H₁: Loneliness negatively predicts mental well-being.

H₂: Anxiety negatively predicts mental well-being.

H₃: Loneliness negatively predicts self-control.

H₄: Anxiety negatively predicts self-control.

H₅: Self-control mediates the relationship between anxiety/loneliness and mental well-being.

METHOD

1-Participants and procedures

A total of 425 university students, 304 (%71.5) of whom were female, and 121 (%28.5) were male, participated in the study. The ages of the participants ranged from 18 to 39 ($M = 21.39$ years, $SD = 2.61$). A cross-sectional design was used to collect data in the study, and a convenient sampling method was used to select the sample population. A total of 84 (19.8%) participants were freshman, 202 (47.5%) were sophomore, 71 (16.7%) were junior, and 68 (16%) were senior. Detailed information about the participants is presented in Table 1.

The data were gathered through Google Forms in the spring term of 2020-2021 academic year, and the link was shared with the students via the distance education system. The form included the purpose and content of the research and written informed consent was received from the participants. Participants anonymously completed self-report measures related to the variables to avoid biased responses.

Table 1. *Participants characteristics*

Variable	Frequency (n)	%
<i>Gender</i>		
Female	304	71.5
Male	121	28.5
<i>Grade Level</i>		
Freshman	84	19.8
Sophomore	202	47.5
Junior	71	16.7
Senior	68	16.0
<i>Have you had diagnosed with COVID-19?</i>		
Yes	80	18.8
No	345	18.8
<i>Have you had vaccinated against COVID-19?</i>		
Yes	67	14.6
Not yet, but I will be vaccinated.	296	69.6
I will never be vaccinated.	62	15.8

2-Measures

The Warwick-Edinburgh Mental Well-Being Scale (WEMWS) was used to assess mental well-being (Tennant et al., 2007). The WEMWS is a 14-item (e.g., "I've been feeling optimistic about the future") self-report scale with a Likert-type rating (responded 1= none of the time – 5= all of the time). The scale's total score ranges from 14 to 70, and higher scores indicate a greater level of well-being. The WEMWS was adapted into Turkish by Keldal (2015). Turkish version of the WEMWS has acceptable internal consistency reliability ($\alpha=.92$). At the same time, the confirmatory factor analysis (CFA) results showed that the one-dimensional structure of the scale was confirmed; $\chi^2/df = 3.71$, NFI = .94, RFI = .93, IFI = .96, CFI = .96, NNFI = .95, RMR = .054 (Keldal, 2015). The data of this study showed that WEMWS has perfect internal reliability ($\alpha = .91$, $\omega = .91$).

The Brief Self-Control Scale (BSCS) was used to assess the self-control of individuals (Tangney et al., 2004). There are 13 items (e.g., "I have a hard time breaking bad habits") in the BSCS, and it has a Likert-type rating (responded 1= Not at all like me – 5= Very much like me). The lowest score that can be taken from the scale ranges is 13, and the highest score is 65, and higher scores indicate a greater

level of self-control. The BSCS has two subscales as self-discipline and impulsivity. The scale was adapted into Turkish by Nebioglu et al. (2012). Turkish version of the BSCS has acceptable internal consistency reliability ($\alpha=.83$). Nebioglu et al. (2012) reported that the two-dimensional structure of the scale was confirmed as a result of the CFA; $\chi^2/df = 1.98$, CFI = .98, GFI = .99, RMSEA = .043. The data of this study showed that BSCS has good internal reliability ($\alpha= .81$, $\omega=.81$).

The Generalized Anxiety Disorder-7 Scale (GAD-7) was used to assess anxiety (Spitzer et al., 2006). The GAD-7 is a 7-item (e.g., "Getting easily nervous, angry or restless") self-report scale with a Likert-type rating (responded 0 = none – 3= almost every day). The score that can be taken from the scale ranges from 0 to 21, and higher scores indicate a greater level of anxiety. Adaptation of the scale into the Turkish language was performed by Konkan et al. (2013). Turkish version of the GAD-7 has acceptable internal consistency reliability ($\alpha=.85$). The results of the CFA confirmed the one-dimensional structure of the scale; NFI = .94, RFI= .91, IFI = .99, CFI = .99, GFI = .96, TLI = .99 RMSEA = .018 (Konkan et al., 2013). The data of this study showed that GAD-7 has perfect internal reliability ($\alpha= .90$, $\omega=.90$).

The UCLA Loneliness Scale (ULS-8) was used to assess loneliness (Hays & DiMatteo, 1987). There are 8-items (e.g., "Getting easily nervous, angry or restless") in the ULS-8, and it uses a Likert-type rating (responded 1 = never to 4 = always). The scale's total score ranges from 8 to 32, and higher scores indicate a greater level of loneliness. The adaptation of the scale into Turkish was carried out by Doğan et al. (2011). Internal consistency reliability ($\alpha=.72$) of the Turkish version is acceptable, and the CFA results supported the one-dimensional structure of the scale; CFI = .94, GFI = .97, and AGFI = .94, RMSEA = .066 (Doğan et al., 2011). The data of this study showed that ULS-8 has good internal reliability ($\alpha= .85$, $\omega=.85$).

3-Data analysis

Initially, descriptive statistics (means and standard deviations), internal reliabilities were examined, and Pearson's correlations coefficients were calculated to investigate the relationship among the variables. Subsequently, the two-step (measurement and mediational model) mediation analysis proposed by Anderson and Gerbing (1988) was conducted. Self-discipline and impulsivity, subscales of self-control, were entered into the structural model as observed variables. The parceling method, beneficial in terms of psychometric and model-related aspects (Hoshino & Bentler, 2013), was used for anxiety, loneliness and well-being, which have a one-dimensional structure. Two parcels were created for each of these variables, and the parcels were entered into the model as the observed variable. The following fit indices including the standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA), comparative fit index (CFI), the goodness of fit (GFI), normed fit index (NFI) and Tucker-Lewis index (TLI) were calculated. SRMR and RMSEA values ($\leq .08$), CFI, GFI, NFI, and TLI values ($\geq .90$) represented an acceptable fit to the observed data (Hu & Bentler, 1999). The analyses were conducted with SPSS 22 and AMOS 22 software.

4-Ethics

The study procedures were carried out following the Declaration of Helsinki and were approved Kastamonu University Social and Humanities Research and Publication Ethics Committee (REF =5-14/2021). Informed consent was provided from all participants. Besides, all participants were notified that they could withdraw from the study whenever they wanted.

RESULTS

1. Relationships among the variables

Table 2 presents that mental well-being was positively correlated with self-control ($r = .45$, $p < .01$) and negatively correlated with generalized anxiety ($r = -.47$, $p < .01$) and loneliness ($r = -.57$, $p < .01$). Self-control was negatively correlated with generalized anxiety ($r = -.47$, $p < .01$) and loneliness ($r = -.39$, $p < .01$). Besides, generalized anxiety and loneliness positively correlated with each other ($r = .41$, $p < .01$).

Table 2. Correlation coefficients and descriptive statistics

Variables	1	2	3	4	Mean	Standard	Skewness	Kurtosis
1.Mental Well-being	-				52.23	8.92	-.53	.47
2.Self-control	.45*	-			29.81	5.34	.07	-.12
3.Generalized Anxiety	-.47*	-.47*	-		15.21	4.84	.49	-.17
4.Loneliness	-.57*	-.39*	.41*	-	13.92	4.01	.42	-.01

*p < .01

Table 2 also showed that Skewness and Kurtosis values are within the range of ± 2 (George & Mallery, 2003), showing that the study data have a normal distribution.

2. Structural equation modelling

The mediating role of the self-control between loneliness, anxiety and mental well-being was tested with the two-step structural equation modelling.

2.1. Measurement model

The measurement model comprised four latent variables (mental well-being, self-control, generalized anxiety and loneliness) and nine observed variables. Whole fit indices for the measurement model showed that the model has a proper fit to the data: CMIN/df=2.54, CFI=0.98, NFI=0.97, TLI=0.97, GFI=0.97, RMSEA=0.060, SRMR=0.029. Composite reliability (CR) and validity were also examined to test the measurement model. Table 3 indicated the mean values, standard deviations, factor loadings, composite reliability (CR), average variance extract (AVE), and Cronbach alpha (α) and Mc Donald's omega (ω) coefficients used to examine the convergent validity of constructs. According to the results, factor loadings were between 0.68 and 0.93, and all factor loadings were significant.

Additionally, the results showed that CR coefficients were greater than 0.7, and the AVE coefficients were higher than 0.5. According to the criteria values, the measurement model had sufficient convergent and discriminant validity (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). All the reliability coefficients ($\alpha \geq .81$ and $\omega \geq .81$) were acceptable (Nunnally & Bernstein, 1994). As a result, these findings revealed that the observed variables were robust representatives of the latent constructs.

Table 3. Factor loadings, descriptive statistics, CR, AVE, and reliabilities coefficients

Latent variables	Indicator	Loadings	M	SD	CR	AVE	α	ω
Mental Well-being	MPar-1	.79	17.68	3.78	.88	.71	.91	.91
	MPar-2	.90	18.95	3.49				
	MPar-3	.84	15.60	2.63				
Self-control	Self-discipline	.68	13.86	2.42	.70	.54	.81	.81
	Impulsivity	.78	15.95	3.64				
Anxiety	APar-1	.93	8.88	2.96	.86	.75	.89	.89
	APar-2	.80	6.33	2.21				
Loneliness	LPar-1	.75	6.38	1.99	.83	.71	.84	.85
	LPar-1	.93	7.53	2.36				

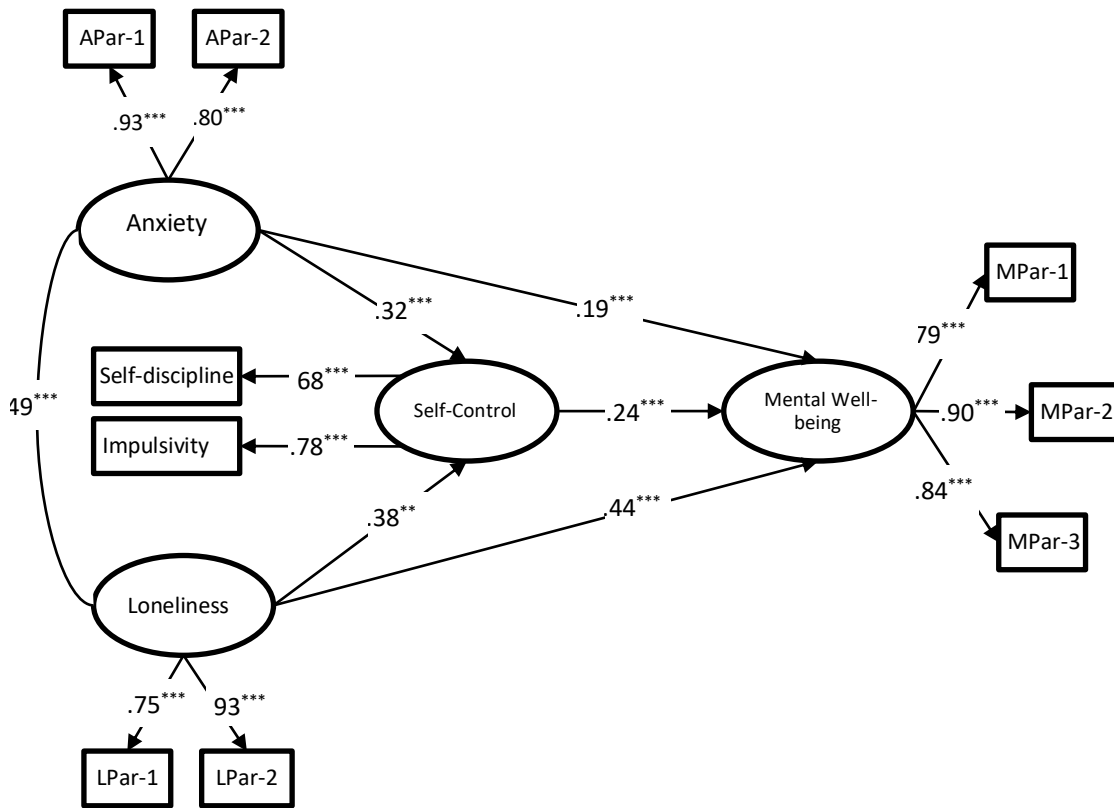
MPar: parcels of mental well-being, APar: parcels of anxiety, LPar: parcels of loneliness CR: composite reliability, AVE: average variance extract

2.2. Structural model

The partial mediation model was examined and compared to the full mediation model to test the hypotheses. The results indicated that the partial mediational model had an acceptable fit to the data (CMIN/df=2.86, CFI=0.96, NFI=0.95, TLI=0.95, GFI=0.96, RMSEA=0.066, SRMR=0.053, AIC=164.702, ECVI=0.388). Compared to the partial mediation model, the fit of the full mediation model resulted in worse fit indices (CMIN/df=3.99, CFI=0.94, NFI=0.92, TLI=0.92, GFI=0.94, RMSEA=0.084, SRMR=0.064, AIC=211.411, ECVI=0.499), and its RMSEA values were above .08 that is reference value. The partial mediation model was preferred because the AIC and ECVI coefficients are lower than the full mediation model's AIC and ECVI coefficients. Moreover, the chi-square difference test approved that the partial mediation model better fit the data than the full mediation model ($\Delta\chi^2=50.71$, $df=2$, $p<.001$).

The partial mediation model showed that higher anxiety predicts lower self-control ($\gamma=-0.32$, $p<.001$) and mental well-being ($\gamma=-0.19$, $p<.001$). Besides, higher loneliness was associated with lower self-control ($\gamma=-0.38$, $p<.001$) and higher mental well-being ($\gamma=-0.44$, $p<.001$). Additionally, higher

self-control predicts higher mental well-being ($\gamma=0.24, p<.01$). Subsequently, the relationship between anxiety and mental well-being was partially mediated by self-control. Also, the relationship between loneliness and mental well-being was partially mediated by self-control. All standardized factor loadings in the model are presented in Figure 1.



Note: N=425; ***p < 0.001; MPar = Mental well-being parcels; APar = Anxiety parcels; LPar = Loneliness parcels

Figure 1. Mediation Model

2.3. Bootstrapping

Bootstrapping procedures were used to test the mediating role of self-control between anxiety/loneliness and mental well-being. The direct and indirect effects and their associated 95% confidence intervals were presented in Table 4.

Table 4. Parameters and 95% CIs for the paths of the final model.

Model pathways	Estimated	95% CI	
		Lower	Upper
Direct effect			
Anxiety → Self-control	-.191	-.291	-.101
Anxiety → Mental well-being	-.202	-.343	-.061
Loneliness → Self-control	-.415	-.631	-.225
Loneliness → Mental well-being	-.879	-1.186	-.608
Self-control → Mental well-being	.435	.171	.689
Indirect effect			
Anxiety → Self-control → Mental well-being	-.083	-.164	-.032
Loneliness → Self-control → Mental well-being	-.180	-.366	-.064

According to Table 4, the indirect effect of anxiety on mental well-being mediated by self-control was significant (bootstrap = $-.083$, 95% CI = $-.164, -.032$). Furthermore, the indirect effect of loneliness on mental well-being mediated by self-control was significant (bootstrap = $-.180$, 95% CI = $-.366, -.064$).

Finally, this analysis revealed that anxiety and loneliness have a direct negative effect on mental well-being and indirectly through their positive effect on self-control.

DISCUSSION

In this study, we tested whether loneliness and anxiety predict well-being through self-control. Accordingly, it was revealed that all the hypotheses tested in the study were confirmed. Research findings revealed that loneliness negatively predicted mental well-being (H_1). Other studies investigating the relations between loneliness and well-being also reported that loneliness has a significant negative impact on well-being and health (Chen & Feeley, 2014; Kearns et al., 2015; Kessler & McLeod, 1985; Salimi, 2011). Loneliness is associated with a deficiency in meaningful relationships; on the other hand, such concepts as social support and social commitment are the features that support well-being (Yanguas et al., 2018). Considering that loneliness indicates the lack of such elements, we can assume that it might affect well-being negatively. In line with this, the findings of other studies also affirm that loneliness is a cause of depression (Cacioppo et al., 2010) and a reason for a decline in well-being (Demir et al., 2021; Kearns et al., 2015).

Another finding obtained in the study showed that anxiety also negatively predicted well-being (H_2). Findings from other studies indicate that a lower level of well-being was associated with anxiety, depression and other mental disorders (Çeri & Çiçek, 2021; Çiçek & Almalı, 2020; Hooper & Huffman, 2014; Low, 2011). Individuals experiencing intense anxiety often face unwanted, negative emotions and a feeling that threatens their well-being (Lewis, 1970). Due to these characteristics, it can be said that the mental health of individuals with high anxiety levels may be adversely affected. On the other hand, well-being improves mental health due to its such features as satisfaction with life, presence of happiness, and positive affections. It can be said that the theoretical features of the concepts support the finding of this research that anxiety is a negative predictor of well-being.

Another finding revealed that loneliness negatively predicted self-control (H_3). The results of other studies also support this finding (McQuade & Gill, 2012; Stavrova et al., 2021). In accordance with the strength model of self-control, a deficiency in self-control can occur through 'under-regulation' or 'misregulation' (Baumeister et al., 2007). Misregulation occurs when individuals cannot overcome loneliness, and their self-regulation power is exhausted (McQuade & Gill, 2012). Since self-control, a component of self-regulation (Shanker, 2016), involves changing behaviors in line with social and societal expectations, individuals who feel less connected to others are more likely to feel lonely (Cacioppo et al., 2000). Accordingly, it can be argued that when the feeling of loneliness increases, self-control decreases and this proposition also supports the finding obtained in the study.

The finding of the research regarding the relationship between anxiety and self-control revealed that anxiety negatively predicted self-control (H_4). Some other studies revealed similar results (Atış Akyol, 2020; Özdemir et al., 2014) According to Sinha (2009), people with a high level of anxiety might be engaged in the negative feelings, and as a result, might lose their self-control. Self-control requires an individual to handle and tolerate stressful circumstances; on the contrary, anxiety plays a role as a factor in reducing psychological resilience that buffers against stressful life events (Rosenbaum, 1998). Therefore, we could assert that the result is consistent with the aforementioned body of research. In the same vein, some other researchers also found that anxiety is negatively associated with self-control (Han et al., 2017; Tangney et al., 2004).

As for the last hypothesis (H_5), we tested whether self-control mediates the associations among anxiety, loneliness and well-being. Results from other studies also show that anxiety predicts self-control (Blackhart et al., 2015) and well-being (Galinha & Pais-Ribeiro, 2012; Hooper & Huffman, 2014) At the same time, loneliness predicts self-control (Liu et al., 2009; Özdemir et al., 2014) and well-being (Cacioppo et al., 2002; Chen & Feeley, 2014). On the other hand, there are studies showing that self-control predicts and is associated with well-being (Agbaria et al., 2012; De Ridder & Gillebaart, 2017). These findings obtained in other studies indicate that self-control may have a mediating role between the above-mentioned variables. Accordingly, the finding obtained in this study confirmed the mediating role of self-control between anxiety and loneliness and well-being. Anxiety and loneliness feed negative emotions; self-control has the qualities that allow these emotions to be regulated. As a result, it can be

said that self-control mediates the relationship between loneliness and anxiety and well-being, which has the characteristics of autonomy, enjoyment of life, and positive relations with others.

IMPLICATIONS AND CONCLUSION

Students at higher education institutions face many challenges that negatively affect their psychological feelings, causing them anxiety. Factors such as success, future expectations, finance, illnesses (as is experienced during COVID-19) of university students are among the sources of anxiety. Gaining effective study skills, improving relations with instructors, providing support in career planning and organizing activities to improve self-confidence (workshop, group coping) will improve well-being levels by reducing anxiety and increasing self-control. At the same time, within the framework of the findings of this study, it can be said that loneliness and anxiety are risk factors for self-control. For this reason, it is important to consider the loneliness and anxiety levels of individuals in studies to develop self-control. It can be recommended that practitioners develop multifaceted programs that include loneliness, anxiety and self-control in interventions to improve mental well-being. Self-control can have a moderation effect as it includes the ability to manage individuals' behavior. To this end, considering possibility of moderation effects, it might be a better scientific rigor to propose and integrate mediation and moderation relationships through a moderated mediation model.

In the distance education process, which has been widely used as the medium of instruction since the beginning of the COVID-19 pandemic, the interaction of university students with faculty members is minimal. In this case, the importance of students' self-control skills in fulfilling academic tasks has increased even more. As a matter of fact, students with self-control skills could benefit from distance education processes more effectively (Hebebcı et al., 2020). For this reason, the development and implementation of intervention programs that increase university students' self-control levels will increase their academic success levels and mental well-being. In this context, mental health professionals can conduct group counseling and psycho-educational groups that will provide students with the skills to control their emotions and thought behaviors.

Preparation of such intervention programs will be an effective way to improve their well-being. Social media has been one of the most frequently used ways to cope with loneliness during the COVID-19 process. Social media, on the other hand, is known to cause addiction and decreases well-being as a result of excessive use (Boer et al., 2020; Duradoni et al., 2020; Rutledge et al., 2013; Vogel et al., 2014). For this reason, gaining the skills to use social media effectively will also be effective in coping with loneliness. In this regard, counselors working at university psychological counseling centers can cooperate with technologists to organize activities such as training, seminars and conferences for students to develop practical technology use skills.

In this study, it was found that self-control plays a mediator role between anxiety, loneliness and well-being. In this respect, it is seen that when individuals' loneliness and anxiety levels decrease, their self-control will increase and thus, their level of well-being will increase. Therefore, it is essential to reduce loneliness and anxiety levels to increase the well-being of individuals. For this reason, increasing social skills for individuals with high levels of loneliness, raising awareness of social support resources and training the students on effective coping strategies play a crucial role in improving well-being. Hence, it would be beneficial for mental health providers to consider activities that improve social skills in group work to cope with anxiety and loneliness and increase self-control and mental well-being.

Limitations

Some limitations should be considered in the evaluation of the findings. The first limitation of the study is that the random sampling method was not used in data collection, and the data were collected from a single medium-sized state university. Collecting data from universities located in different regions and different cities will be better in terms of ensuring the generalizability of the research results. In addition, the fact that the data collection tools used in the study are based on self-report is another limitation. Future research may include different research designs (qualitative or mixed designs) using different measurement tools. Finally, the results obtained in this study are based on cross-sectional

analysis. Therefore, care should be taken in inferences about the relationships between research variables. We can learn more through longitudinal data about time- and circumstantial factors affecting anxiety, loneliness, self-control, and well-being.

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COVID-19 Pandemisi Sürecinde Üniversite Öğrencilerinde Yalnızlık, Kaygı ve Mental İyi Oluş: Öz Kontrolün Aracılık Rolü

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Özet

Bireylerin ruh sağlığının COVID-19 salgınının getirdiği yaşam koşullarından nasıl etkilendiği sıklıkla araştırılan önemli konulardan birisi haline gelmiştir. Bu dönemde eğitim en çok etkilenen alanlardan birisi olmuş ve eğitim faaliyetleri uzaktan eğitim araçları kullanılarak yürütülmeye başlanmıştır. Uzaktan eğitim getirdiği öğrenme ortamlarında ise öğretmen kontrolünün azalması nedeniyle öğrencilerin kendi davranışlarını yönetme becerileri ve kendi davranışlarının sorumlulukları almaları ruh sağlıklarını korumaları açısından ön plana çıkmıştır. Bu çalışmada, yalnızlık, kaygı ve mental iyi oluş arasındaki ilişkide öz-kontrolün aracı rolünün incelenmesi amaçlanmıştır. Araştırmaya 304'ü (%71.5) kadın, 121'i (%28.5) erkek olmak üzere toplamda 425 üniversite öğrencisi katılmıştır. Katılımcıların yaş ortalamaları 21.39 ve yaşlarının standart sapması 2.61 olup katılımcıların yaşları 18 ile 39 arasında değişmektedir. Araştırma verileri Warwick-Edinburgh Mental İyi Oluş Ölçeği, Kısa Öz Kontrol Ölçeği, Genelleştirilmiş Anksiyete Bozukluğu-7 Ölçeği ve UCLA Yalnızlık Ölçeği'nin Türkçe versiyonu kullanılarak toplanmıştır. Araştırmada değişkenlere ilişkin genel değerlendirmenin yapılması ve değişkenler arası ilişkilerin incelenmesi için betimsel istatistikler, güvenilirlik katsayıları ve korelasyon katsayıları hesaplanmıştır. Öz-kontrolün yalnızlık ve kaygı ile mental iyi oluş arasındaki aracılık rolünü incelemek için ise iki aşamalı yapısal eşitlik modellemesi kullanılmıştır. Korelasyon analizi sonuçları çalışmadaki tüm değişkenlerin birbiri ile anlamlı düzeyde ilişkili olduğunu göstermiştir. İki aşamalı yapısal eşitlik modellemesi analizlerinin ilk aşamasında test edilen ölçme modelinin veri tarafından doğrulandığı bulunmuştur. İkinci aşamada yapılan yapısal model analizi sonucunda, yalnızlık ve kaygının öz-kontrol ve mental iyi oluşu negatif yönde yordadığı bulunmuştur. Ayrıca öz-kontrolün, yalnızlık, kaygı ve mental iyi oluş arasındaki ilişkiye aracılık ettiği bulunmuştur. Bu bulgular çerçevesinde, yalnızlık ve kaygının, öz kontrolü azaltma yoluyla mental iyi oluş düzeyinin düşmesine yol açtığı söylenebilir.

Anahtar Sözcükler: Mental iyi oluş, Öz-kontrol, Yalnızlık, Anksiyete



**E-Uluslararası
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Genişletilmiş Özet

Problem: COVID-19'un fiziksel etkilerinin yanı sıra bireylerin ruh sağlığını nasıl etkilediği araştırılmaya devam etmektedir. COVID-19'un bireylerin psikolojisi ve duyguları üzerindeki etkilerine ilişkin çeşitli araştırmalarda edilen bulgular, pandeminin ruh sağlığını tehdit ettiğini ortaya koymuştur (Brooks ve diğerleri, 2020; Sani ve diğerleri, 2020). Hastalığın psikolojik sonuçları özellikle eğitim ortamlarını olumsuz etkilemiştir. Araştırmacılar, COVID-19'un eğitim sistemleri için daha önce benzeri görülmemiş bir tehdit oluşturduğunu ve öğrenciler için bir endişe ve korku nedeni olacağını belirtmişlerdir (Daniel, 2020; Livana ve diğerleri, 2020). Çünkü bireylerin rutinini kaybetmesi, azalan sosyal ilişkiler ve uzun süreli sosyal izolasyon can sıkıntısına, hüsrana ve depresyona yol açabilmektedir. Sonuç olarak, yüksek düzeyde sıkıntı, kaygı ve stres gibi ruhsal bozukluklar yaşanabilmektedir (Pakpour ve Griffiths, 2020; Sani ve ark., 2020). Bu olumsuz ruh halleri, öz kontrolde (Krasnov ve diğerleri, 2021; Martínez-López ve diğerleri, 2021) ve iyilik halinde (González-Sanguino ve diğerleri, 2020) bir azalmaya neden olabilir. Ayrıca, sosyal mesafe ve ev karantinası gibi kısıtlamaların neden olduğu kaygı duygusu, iyilik hali ve öz kontrolün sağlanması açısından çok önemli bir unsur olarak kabul edilmektedir (Brooks ve diğerleri, 2020; Brydsten ve diğerleri, 2019). Buna ek olarak, sosyal deneyim fırsatlarını kaybetmek, olumsuz sonuçları yoğunlaştırabilir ve sonuç olarak yalnızlığa neden olabilir. Bu nedenle eğitim ortamlarında kaygı, yalnızlık, öz-kontrol ve iyi oluş arasındaki karşılıklı ilişkilerin araştırılması önemlidir.

Diener vd. (2009) tarafından yapılmış olan bir tanıma göre, iyi oluş "kişinin öznel olarak yaşamının arzu edilir, hoş ve iyi olduğuna inanması" anlamına gelir (s. 1). İdeal deneyim ve etkililiği içeren iyi oluş kavramı, psikolojik sağlığın bir göstergesidir (Ryan ve Deci, 2000). İyi oluş, olumsuz psikolojiyi betimleyen ve sıkıntı ve zorluklara odaklanan depresyon ve anksiyete gibi semptomların aksine, yaşamdan alınan zevki, doyumunu, mutluluğu ve pozitif psikolojinin bileşenlerini vurgular (Seligman, 2002; Gao vd., 2021).

Sosyal ilişkinin niteliğindeki veya miktarındaki bir eksiklikten kaynaklanan ve anlamlı ilişkilerdeki bir eksiklikle ilişkili kişisel bir deneyim olarak tanımlanan yalnızlık ise (Subathevan vd., 2022; Zammuner, 2008), pandemi sürecindeki ciddi endişelerden biri olarak öne çıkmıştır (Killgore vd., 2020). Yalnızlık, çeşitli psikolojik sorunların uyarılmasında öncü bir etken olabilir ve bireyler için acı verici bir duygu olabilir (Perlman ve Peplau, 1981).

Yalnızlık gibi bazı diğer duygular da sağlığı ve mutluluğu etkilemekte ve davranışların ortaya çıkışında belirleyici bir rol oynamaktadır. Olumlu duygular, bireyleri amaçlarına ulaşmak için motive ederken, kaygı gibi duygular yararlı etkilerinin ötesine geçtiğinde önemli bir engel haline gelebilir (Spielberger ve Reheiser, 2009). Günümüzde kaygı, uzun süreli ve işlevsel bozukluklara neden olan önemli psikolojik faktörlerden ve yaygın ruhsal bozukluklardan biridir (Baxter ve ark. 2013). Hem fiziksel hem de psikolojik bir rahatsızlık olan kaygı, bireylerin huzursuzluk, sinirlilik ve aşırı endişe olarak tanımladıkları bir duygu olarak görülmektedir (Andrews vd., 2010).

Diğer yandan, birey öz-kontrol kullanmak için gerekli becerilere sahip olduğunda, öz değerlendirme ve öz pekiştirmeyi kullanarak hem iç hem de dış çevresini değiştirme yeteneklerini yönlendirebilmektedir (Rosenbaum, 1993). Bu nedenle bilişsel bir başa çıkma aracı olan öz kontrol, stresli yaşam olaylarında öne çıkmakla birlikte günlük yaşamda da sıklıkla uygulanmakta ve öz kontrol düzeyi arttıkça iyi oluş da artmaktadır (Agbaria vd., 2012). Araştırmalar, öz kontrolün performansı etkilediğini ve yüksek öz kontrole sahip bireylerin, alta yatan koşullar ne olursa olsun daha iyi performans gösterdiğini ortaya koymaktadır (Iranmanesh vd., 2021).

Tüm bireyler belirli düzeyde öz kontrol becerisine sahiptir, ancak bazı bireyler diğerlerine göre öz kontrollerini kaybetmeye daha eğilimlidir (Baumeister ve Heatherton, 1996). Araştırmacılara göre kaygı ve depresyon gibi duygular, bireylerin bu duygulara odaklanmasına ve dolayısıyla öz kontrol düzeyinin düşmesine neden olabilmektedir (Sinha, 2009; Ward ve Mann, 2000). Ayrıca, bireyler düşük öz kontrol becerilerine sahip olduklarında davranışlarını kontrol etmekte zorlanabilirler ve bu da onları olumsuz sonuçlara yatkın hale getirir. Düşük öz kontrol, davranışların dürtüselliliği ve eylemlerin olası olumsuz sonuçlarını hesaba katmama ile de ilgilidir (Wiers vd., 2007). Bu nedenle, öz-kontrol, yalnızlık, kaygı ve

iyi oluş arasında çok önemli bir aracı olabilir.

Gerçekleştirilen araştırmalar yalnızlık, kaygı, öz kontrol ve iyi oluş arasındaki bağlantıları desteklemektedir. Örneğin Galinha ve Pais-Ribeiro (2012) araştırmalarının değişkenleri arasında iyi oluşun ilk yordayıcısının kaygı olduğu sonucuna varmışlardır. Ayrıca diğer araştırmalar da yalnızlığın iyi oluşu yordadığını ortaya koymuştur (Landmann ve Rohmann, 2021; Özdoğan, 2021; Shahidi vd., 2019). Ayrıca iyi oluş, öz-kontrol ile yüksek düzeyde pozitif bir ilişkiye sahipken, depresyon ve anksiyetenin iyi oluş ile yüksek düzeyde negatif bir ilişkiye sahip olduğu ortaya konulmuştur (Low, 2011; Luszczynska vd., 2005). Ayrıca, daha düşük bir iyi oluş düzeyi kaygı, depresyon ve diğer ruhsal bozukluklarla ilişkilendirilmiştir (Dunn ve Shelton, 2007; Kinderman vd., 2015).

Sonuç olarak, bu araştırmada daha önce bahsedilen bulgulara ve kaygı ve yalnızlıktan öz-kontrol ve öz-kontrolden iyi oluşa doğru bir yordayıcı ilişkiyi gösteren teori ve araştırmalara dayanarak, kaygı ve yalnızlığın öz-kontrol aracılığıyla iyi oluşu yordayabileceği önerilmektedir.

Yöntem: Araştırmaya 304'ü (%71.5) kadın, 121'i (%28.5) erkek olmak üzere toplamda 425 üniversite öğrencisi katılmıştır. Katılımcıların yaşları 18 ile 39 arasında değişmekte olup yaş ortalamaları 21.39 ve yaşlarının standart sapması ise 2.61'dir. Araştırmanın verileri 2020-2021 akademik yılı bahar yarı yılında Google Formlar kullanılarak toplanmıştır. Veriler toplanırken araştırmanın amacı katılımcılara açıklanmış, katılımcılardan onam alınmış ve gönüllü katılım sağlanmıştır.

Warwick-Edinburgh Mental İyi-oluş Ölçeği, katılımcıların iyi oluş düzeylerini belirlemek için kullanılmıştır (Tennant et al., 2007). Keldal (2015) tarafından Türkçe'ye uyarlanan ölçek 14 maddeden oluşmakta olup 5'li Likert tipi dereceleme sahiptir.

Kısa Öz-kontrol ölçeği, katılımcıların öz-kontrol düzeylerini belirlemek amacıyla kullanılmıştır (Tangney et al., 2004). Nebioglu ve diğ. (2012) tarafından Türkçe'ye uyarlanan ölçek 13 maddeden oluşmakta olup 5'li Likert tipi dereceleme sahiptir.

Genel Anksiyete Bozukluğu-7 ölçeği, katılımcıların anksiyete düzeylerini belirlemek için kullanılmıştır. (Spitzer et al., 2006). Konkan ve diğ. (2013) tarafından Türkçe'ye uyarlanan ölçek 7 maddeden oluşmakta olup 4'lü Likert tipi dereceleme sahiptir.

UCLA Yalnızlık Ölçeği, katılımcıların yalnızlık düzeylerini belirlemek amacıyla kullanılmıştır (Hays & DiMatteo, 1987). Doğan ve diğ. (2011) tarafından Türkçe'ye uyarlanan ölçek 8 maddeden oluşmakta olup 4'lü Likert tipi dereceleme sahiptir.

Araştırmada değişkenlere ilişkin genel durumun ortaya koyulması ve değişkenler arasındaki ilişkilerin değerlendirilmesi için betimsel istatistikler, güvenilirlik katsayıları ve korelasyon katsayıları hesaplanmıştır. Daha sonra hipotezlerin test edilmesi amacıyla Anderson ve Gerbing (1988) tarafından önerilen iki aşamalı yapısal eşitlik modellemesi yöntemi kullanılmıştır. Bu çerçevede öncelikle ölçme modeli test edilmiş ardından yapısal model test edilmiştir.

Bulgular: Araştırmanın bulguları mental iyi oluşun öz-kontrol ($r = .45, p < .01$) ile pozitif yönde, genel anksiyete ($r = -.47, p < .01$) ve yalnızlık ($r = -.57, p < .01$) ile negatif yönde ilişkili olduğunu göstermiştir. Bunun yanında araştırmada öz-kontrolün genel kaygı ($r = -.47, p < .01$) ve yalnızlık ($r = -.39, p < .01$) ile negatif yönde ilişkiye sahip olduğu bulunmuştur. Genel kaygı ve yalnızlık ise birbirleri ile pozitif yönde ilişkili bulunmuştur ($r = .41, p < .01$).

Öz-kontrolün anksiyete, yalnızlık ve mental iyi oluş arasındaki aracılık rolü iki aşamalı yapısal eşitlik modellemesi ile test edilmiştir. Ölçme modeli dört gizil (mental iyi oluş, öz-kontrol, genel anksiyete ve yalnızlık) ve dokuz gözlenen değişkeni kapsamaktadır. Tüm uyum indeksleri ölçme modelinin iyi uyum gösterdiğine işaret etmiştir CMIN/df=2.54, CFI=0.98, NFI=0.97, TLI=0.97, GFI=0.97, RMSEA=0.060, SRMR=0.029. Modeldeki tüm faktör yüklerinin anlamlı düzeyde olduğu ve 0.68 ile 0.93 arasında değiştirdiği bulunmuştur. Modelin güvenilirliğini belirlemek için hesaplanan CR (composite reliability) katsayılarının 0.7'den büyük olduğu, AVE (average variance extract) katsayılarının 0.5'ten büyük olduğu, Cronbach alfa ve Mc Donald's omega katsayılarının ise 0.70'den büyük olduğu bulunmuştur. Dolayısıyla ölçme modeli doğrulanmıştır.

Araştırmada hem kısmi aracı model hem de tam aracı model test edilmiş ve hangi modelin daha

iyi uyum verdiği için bu modeller birbiri ile karşılaştırılmıştır. Bu çerçevede kısmi aracı modelin kabul edilebilir uyum indekslerine sahip olduğu bulunmuştur (CMIN/df=2.86, CFI=0.96, NFI=0.95, TLI=0.95, GFI=0.96, RMSEA=0.066, SRMR=0.053, AIC=164.702, ECVI=0.388). kısmi aracı model ile karşılaştırıldığında tam aracı modelin daha düşük uyum iyiliği değerlerine sahip olduğu CMIN/df=3.99, CFI=0.94, NFI=0.92, TLI=0.92, GFI=0.94, RMSEA=0.084, SRMR=0.064, AIC=211.411, ECVI=0.499) ve RMSEA değerinin referans değer olan 0.08'in üzerinde olduğu görülmüştür. Bunun sonucunda AIC ve ECVI değerlerinin daha düşük olması ve ki-kare fark testinin sonuçları $\Delta\chi^2=50.71$, $df=2$, $p<.001$) bağlamında kısmi aracı modelin daha iyi uyum verdiği görülmüş ve bu model tercih edilmiştir. Dolayısıyla öz-kontrolün genel kaygı, yalnızlık ve mental iyi oluş arasındaki ilişkilere kısmi olarak aracılık ettiği bulunmuştur. Ayrıca araştırmada genel anksiyetenin (bootstrap = -.083, 95% CI = -.164, -.032) ve yalnızlığın bootstrap = -.180, 95% CI = -.366, -.064) mental iyi oluş üzerindeki dolaylı etkilerini değerlendirmek için yapılan bootstrapping analizleri sonuçlarının da anlamlı olduğu gözlenmiştir. Sonuç olarak, genel kaygı ve yalnızlığın hem doğrudan hem de dolaylı olarak öz-kontrol aracılığıyla mental iyi oluşa etki ettiği anlaşılmıştır.

Tartışma: Bu çalışmada, yalnızlık ve kaygının öz-kontrol aracılığıyla iyi oluşu yordayıp yordamadığı test edilmiştir. Buna göre çalışmada test edilen tüm hipotezler doğrulanmıştır. Araştırma bulguları yalnızlığın ruh sağlığını olumsuz yönde yordadığını ortaya koymuştur (H1). Yalnızlık ve iyi oluş arasındaki ilişkileri araştıran diğer araştırmalar da yalnızlığın iyi oluş ve sağlık üzerinde önemli olumsuz etkileri olduğunu bildirmiştir (Chen ve Feeley, 2014; Kearns vd., 2015; Kessler ve McLeod, 1985; Salimi, 2011).

Araştırmada elde edilen bir diğer bulgu, kaygının iyi oluşu da olumsuz yordadığını göstermiştir (H2). Diğer çalışmalardan elde edilen bulgular, daha düşük düzeyde iyi oluşun kaygı, depresyon ve diğer ruhsal bozukluklarla ilişkili olduğunu göstermektedir (Hooper ve Huffman, 2014; Low, 2011). Yoğun kaygı yaşayan bireyler genellikle istenmeyen, olumsuz duygularla ve iyilik hallerini tehdit eden bir duyguyla karşı karşıya kalırlar (Lewis, 1970).

Bir diğer bulgu ise yalnızlığın öz kontrolü (H3) olumsuz yordadığını ortaya koymuştur. Diğer çalışmaların sonuçları da bu bulguyu desteklemektedir (McQuade ve Gill, 2012; Stavrova vd., 2021). Öz kontrolün güç modeline göre, "yetersiz düzenleme" veya "yanlış düzenleme" yoluyla öz kontrolde bir eksiklik meydana gelebilir (Baumeister vd., 2007).

Kaygı ve öz kontrol arasındaki ilişkiye ilişkin araştırma bulguları ise, kaygının öz kontrolü (H4) olumsuz yordadığını ortaya koymuştur. Sinha'ya (2009) göre kaygı düzeyi yüksek olan kişiler olumsuz duygulara kapılabilir ve bunun sonucunda öz kontrollerini kaybedebilirler (Özdemir vd., 2014).

Son hipotezde (H5), öz kontrolün kaygı, yalnızlık ve iyi oluş arasındaki ilişkilere aracılık edip etmediğini test edilmiştir. Diğer çalışmalardan elde edilen sonuçlar ayrıca kaygının öz kontrolü (Blackhart ve diğerleri, 2015) ve iyi oluşu (Galinha ve Pais-Ribeiro, 2012; Hooper ve Huffman, 2014) yordadığını göstermektedir. Diğer çalışmalarda elde edilen bulgular, öz kontrolün yukarıda belirtilen değişkenler arasında aracılık rolü oynayabileceğini göstermektedir. Buna göre, bu çalışmada elde edilen bulgu, kaygı ile yalnızlık ve iyi oluş arasında öz kontrolün aracı rolünü doğrulamıştır.

Sonuç ve Öneriler: Yükseköğretim kurumlarında öğrenim gören öğrenciler, psikolojik duygularını olumsuz yönde etkileyen ve kaygılanmalarına neden olan birçok zorlukla karşı karşıya kalmaktadır. Üniversite öğrencilerinin başarısı, gelecek beklentileri, hastalıkları (COVID-19 döneminde yaşandığı gibi) gibi faktörler kaygı kaynakları arasında yer almaktadır. Bu çalışmada elde edilen bulgular doğrultusunda etkili ders çalışma becerilerinin kazanılması, eğitmenlerle ilişkilerin geliştirilmesi, kariyer planlamasında destek sağlanması ve özgüveni artıracak etkinlikler (atölye, grupta başa çıkma) düzenlenmesi kaygıyı azaltacak ve öz kontrolü artırarak iyi olma düzeylerini iyileştireceği söylenebilir. Aynı zamanda bu çalışmanın bulguları çerçevesinde yalnızlık ve kaygının öz kontrol için risk faktörleri olduğu söylenebilir. Bu nedenle öz-kontrolü geliştirmeye yönelik çalışmalarda bireylerin yalnızlık ve kaygı düzeylerinin dikkate alınması önemlidir. Uygulayıcıların zihinsel iyi oluş halini geliştirmeye yönelik müdahalelerde yalnızlık, kaygı ve öz kontrolü içeren çok yönlü programlar geliştirmeleri önerilebilir. Öz kontrol, bireylerin davranışlarını yönetme becerisini içerdiğinden, moderasyon rolüne sahip olabilir. Bu nedenle sonraki araştırmalarda öz-kontrolün aracılı moderasyon rolüne ilişkin çalışmaların yapılması önerilebilir.