The Mediator Role of Emotional Stability in the Relationship Between the Psychological Adjustment and Cyberostracism of University Students

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Abstract

Today, one of the environments where most of the people interact with other people is virtual environments. In these environments, some individuals may be exposed to ostracism by others. This state of exclusion can also have some adverse effects on the psychological adjustment of individuals. In this context, the purpose of the current study is to investigate the mediator role of emotional stability in the relationship between university students' problems of psychological adjustment and cyberostracism. The study employed the relational survey model. The study group of the study is comprised of 320 undergraduate students in the 2021-2022 academic year. In the analysis of the collected data, Pearson Moments Correlation Coefficient analysis was conducted in SPSS-22 and the mediaton analysis was conducted. As a result of the analyses conducted within the context of the current study, it was found that the cyberostracism of the university students negatively and significantly predicted their emotional stability, while it positively and significantly predicted their psychological adjustment problems. In addition, it was determined that emotional stability played a mediator role in the relationship between university students' problems of psychological adjustment and cyberostracism. The findings of the study were discussed in relation to literature and suggestions were made.

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INTRODUCTION

The rapidly changing world order in our age can have some serious effects on the emotional and psychological adjustment of individuals. The concept of psychological adjustment, which includes the individual' process of adaptation to himself/herself and his/her environment, comes to the fore as an important factor. Rohner (2004) argues that psychological adjustment is a state closely associated with a sense of independence, positive self-esteem and self-sufficiency, stability of emotional experiences, high emotional responsiveness, reduced hostility and a positive worldview. Wolman (1989) defines psychological adjustment as an adaptive relationship with the environment and the ability of an individual to meet his/her needs and mostly his/her social and psychological needs. Poor psychological adjustment has been associated with a steadily increasing prevalence of psychopathology as well as more social and emotional problems experienced by adolescents and young adults (Freitas et al., 2013; Werner & Crick, 1999). When the studies on psychological adjustment are examined, it is seen that psychological adjustment has been found to be related to some concepts such as attachment (Lapsley & Edgerton, 2002; Matttanah, Hancock, & Brand, 2004; Seiffge-Krenke, 2006; Soncu-Buyukiscan, 2018), coping strategies (Crockett, et al. 2007; McNamara, 2000), emotional intelligence (Sulaiman, 2013), parental acceptance (Dural, & Yalcin, 2014; Kavak, 2013), witnessing parental conflicts in childhood (Diamond, & Muller, 2004) and socio-cultural adaptation (Sağaltici, 2019). Another variable thought to be related to psychological adjustment by researchers is cyberostracism. In this context, one of the variables addressed in relation to psychological adjustment in the current study is cyberostracism.

Cyberostracism can be defined as the experience of being ignored and ostracized by peers or groups on the internet (Williams, Cheung, & Choi,2000). On social networks, ostracism can also arise from ignoring someone in a conversation or in the comments section (Donate et al., 2017; Tobin, Vanman, Verreynne, & Saeri, 2015). In addition, people can also feel ostracized if a shared post doesn't get enough comments or if it is disliked (Schneider Zwillich, Bindl, Hopp, Reich, & Vorderer, 2017; Tobin, McDermott, & French, 2018; Wolf Levordashka, Ruff, Kraaijeveld, Lueckmann, & Williams, 2015). Studies have found that people's comments and likes on social media can lead to feeling of recognition and feelings of happiness, personal worth, increased self-confidence, and greater satisfaction of the need to belong (Burrow & Rainone, 2017; Reich, Schneider, & Heling, 2018). On the contrary, individuals exposed to cyberostracism may feel bad, their sense of control may be reduced, and their positive emotions may be negatively affected (Williams, et al. 2000; Williams, Shore & Grahe, 1998). Therefore, ostracism can result in some mental problems like anxiety, depression and anxiety disorders, diminishing performance and motivation, and decrease in academic and professional performance (Erdemli, & Kurum, 2021). Riva, Wirth, and Williams (2011) found that cyberostracism has a medium and positive correlation with psychological problems. Correspondingly, it is thought that cyberostracism may have a negative predictive role on the psychological adjustment of university students.

EMOTIONAL STABILITY AS A MEDIATOR VARIABLE

Emotional stability has started to be used as a concept that replaces the neuroticism dimension of positive psychology. Influenced by positive psychology, some researchers have used emotional stability as a substitute for neuroticism (Costa & McCrae, 1992; Goldberg, 1992; Mount, Barrick and Strauss, 1994). At the same time, emotional stability is a characteristic that is considered to be important by personality theorists (Cattell, 1943; Goldberg, 1981; McCrae & Costa, 1987). Emotional stability is a concept that is closely associated with the ability of remaining calm, stable, resilient, confident and self-satisfied (Costa and McCrae, 1992; McCrae and Costa, 2003). It is often conceptualized as being prone to experience negative emotional states like fear, depression, anxiety, anger, and shame (Leikas, Mäkinen, Lönnqvist, & Verkasalo, 2009). The existing research shows that while emotional stability is positively correlated with happiness (Hills & Argyle, 2001), life satisfaction

(Smith & Konik, 2021), mental well-being (Yıldırım & Atilla, 2021), psychological well-being (Hicks & Mehta, 2018) and subjective well-being (Jensen, Kirkegaard Thomsen, O'Connor & Mehlsen, 2020), it is negatively correlated with depression (Giota & Kleftaras, 2013) and anxiety (Cömertoğlu, 2021). When all these relationships are considered, it can be said that emotional stability is important for the adjustment of the individual.

Emotional stability includes improving one's quality of life by fostering self-acceptance, self-confidence, achievement and self-concept (Khoeriyah, Lubis, & Istichomah, 2018). Cyberostracism, on the other hand, is a common form of ostracism that is experienced during social interactions taking place in online environments (Nezlek, Wesselmann, Wheeler and Williams, 2012; Williams, et al. 2000). Cognitions and perceptions possessed by people may be impaired by the impact of cyberostracism (Lansu, van Noorden, & Deutz, 2017; O'Brien, Ellsworth, & Schwarz, 2012). Davidson et al. (2019) found that cyberostracism has a positive and significant relationship with emotional dysregulation. Wang, Mu, Li, Gu, and Duan (2020), in their study with university students, found a high level of negative and significant relationship between emotional well-being and cyberostracism and they also found that it is a significant predictor of emotional well-being. When the relevant literature is considered, it is thought that cyberostracism may have a negative predictive role on emotional stability.

As stated by Brodsky (1988), the process of psychological adjustment involves normality, internal psychological adjustment, social competence and control of changing needs. Normality is the absence of problems arising from the individual's internal state or external social environment. Yıldırım and Solmaz (2021) found in their study that there is a positive and significant correlation between psychological adjustment problems and the variables of depression, anxiety and stress. Cruz, Petersonn, Fagan, Black, and Cooper (2019) found that there is a positive and high correlation between generalized anxiety disorder and psychological adjustment problems. Given the relationships expressed in the relevant literature, it can be thought that emotional stability may be negatively associated with the problems of psychological adjustment. Thus, it is thought that emotional stability may have a negative predictive role on the problems of psychological adjustment.

PURPOSE OF THE STUDY

In general, it is thought that cyberostracism may have an indirect effect on psychological adjustment problems through emotional stability, as well as having a direct effect on individuals' psychological adjustment problems. In other words, it is thought that emotional stability may have a mediator role between cyberostracism and the problems of psychological adjustment. In the literature, no study has been found that deals with the variables of cyberostracism, the problems of psychological adjustment and emotional stability together. In addition, an examination of these three variables together for a better and healthier understanding of the psychological adjustment of university students is thought to be important in terms of recognizing the psychological problems that students may experience both in their general and academic lives and taking the necessary precautions. In this regard, the purpose of the current study is to investigate the mediator role of emotional stability in the relationship between the cyberostracism and the problems of psychological adjustment among university students.

The hypothetical models and hypotheses established in line with the above-mentioned purpose of the study are given below.

Figure 1. *Hypothetical Model*
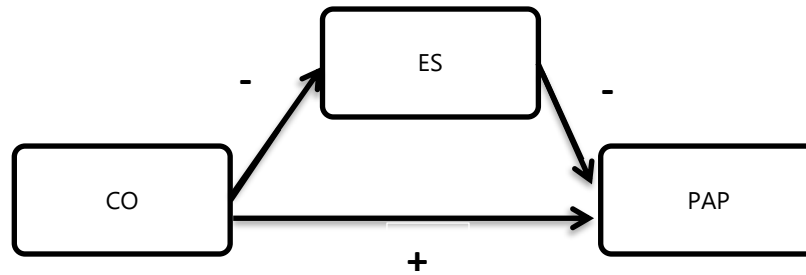
H₁: University students' cyberostracism predicts their psychological adjustment problems.

H₂: University students' cyberostracism predicts their emotional stability.

H₃: University students' emotional stability predicts their psychological adjustment problems.

H₄: Emotional stability has a mediator role in the relationship between the cyberostracism and the problems of psychological adjustment of university students.

METHOD

RESEARCH DESIGN

In this research correlational model was applied. The correlational pattern includes studies that provide an insight into the relationship between variables within a group, and often the probability of cause and effect between variables (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, and Demirel, 2012). In this research, correlational predictive model was implemented to investigate the mediator role of ES in the relationship between PAP and CO in university students.

PARTICIPANTS

The application was carried out at a state university located in The Central Anatolia Region of Türkiye. After obtaining the necessary permissions before the application, the course teachers were contacted and the application was made to the volunteer students. The participants of the research consist of 320 students, 71 (%22.19) male, 243 (%75.94) female, and 6 (%1.87) of whom do not specify their gender, studying in different departments.

DATA COLLECTION INSTRUMENTS

PSYCHOLOGICAL ADJUSTMENT SCALE (PAS)

PAS was developed by Cruz et al. (2019) and adapted to Turkish by Yıldırım and Solmaz (2020). The scale is consisted of 6 items and is 7-point Likert type (1=never 7=extremely) (Ex. Item. How nervous, anxious and/or scared did you feel this week?). Cronbach's α and McDonald's ω coefficients were calculated for reliability in the Turkish version of the PIQ, and both were found to be .88. In the current study, the Cronbach Alpha internal consistency coefficient was calculated as 0.91.

QUICK BIG FIVE PERSONALITY TEST (QBFPT)

Verlmuts and Gerris (2005) developed the QBFPT by using 30 of 100 adjectives about personality presented by Goldberg (1992). It was adapted into Turkish by Morsunbul (2014). There are six items for each personality factor. QBFPT is consisted of 30 items and is a 7-point Likert-type measurement tool (1= completely untrue, 7= completely true) (Ex. Item. Anxious). The Cronbach Alpha coefficients were calculated as .75 for emotional stability, .79 for extraversion,.81 for responsibility, .73 for agreeableness, and .69 for openness to experience. In the current study, only

the emotional stability dimension was used. In the study, the Cronbach Alpha internal consistency coefficient was calculated as 0.765 for emotional stability.

CYBEROSTRACISM SCALE (COS)

COS developed by Hatun and Demirci (2020). There are 14 items in the scale, which is 5-point Likert type scale (1=Never - 5=Always). (Ex. Item. They do not answer my questions on social media) The scale has 3 sub-dimensions. These sub-dimensions are Cyber Ignored, Cyber Indirect Excluded and Cyber Direct Excluded. The internal consistency of the scale was found to be .84 for the total score of Cyberostracism. In this study, the Cronbach Alpha internal consistency coefficient was calculated as 0.802 for COS.

DATA COLLECTION AND ANALYSIS

Within the scope of the research, firstly, permission was obtained from the owners of the measurement tools used in the research. In the next step, ethical permission was obtained from Selçuk University Faculty of Education Ethics Committee (16.03.2022-E.254131). Then, data was collected from the university students, who were volunteer after the required permission was got from university.

After the data were collected and entered into the SPSS program, firstly, missing data, wrong data entry, kurtosis and skewness values were examined before the data were analyzed. For the data obtained, first of all, normality assumptions for all models were examined. Furthermore, the kurtosis and skewness coefficients were checked to determine whether the univariate normality assumption was met. It is accepted that the +/- 2 values of kurtosis and skewness are acceptable values for the normal distribution (George & Mallery, 2010). In this study, as seen in Table 1, the kurtosis values for all scales were between -.545 and .437; the skewness values were found to be between .279 and .852. All kurtosis and skewness values were found to be at an acceptable level. By using the data, Pearson's correlation coefficients and Cronbach's alpha coefficients were calculated. Finally, Hayes's (2018) Model 4 was used to examine the mediator role of ES in the relationship between PA and CO.

FINDINGS

In this section, mean, standard deviation, kurtosis and skewness values of the variables, as well as the correlation coefficients between the variables and the mediation analysis results are included.

Table 1. *Mean, Standard Deviation, Kurtosis, Skewness, Pearson Correlation Coefficients for the Variables*

	M	SD	Skewness	Kurtosis	1.PAP	2.ES	3.CO
1.PAP	19.35	9.31	,596	-,545	1		
2.ES	28.93	6.69	-,279	-,465	-.54**	1	
3.CO	20.7	5.37	,852	,437	.21**	-.27**	1

*p<.01, PAP: Psychological Adjustment Problems ES: Emotional Stability CO: Cyberostrasicm

As seen in Table 1, there was positive, significant relationship between PAP and CO (r=.21, p<.01). In addition, negative, significant relationships were found between ES and CO (r=-.27, p<.01), and PAP and ES (r=-.54, p<.01).

Table 2. *Regression Analysis Results for Mediation Analysis (N=320)*

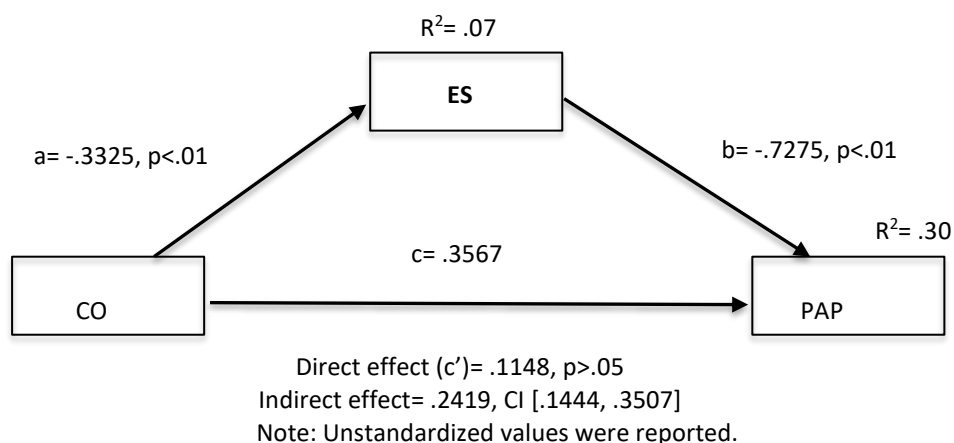| Predictive Variables		M (ES)			Y (PAP)	
		b	S.E.		*b*	S.E.
X (CO)	a	-.3325***	.0674	c'	.1148	.0848
M (ES)	-	-	-	b	-.7275 ***	.0680
Constant	i$_M$	35.8263***	1.4438	i$_y$	38.0196***	2.9996
		R^2=.0710			R^2=.2964	
		F (1; 318)=24.3114; p<.001			F (2; 317)= 66.7609 ; p<.001	

*p<.05; **p<.01; ***p<.001, S.e.=Standard error, Non-standardized beta coefficients (b) were reported.

Before the regression analysis, VIF values, Tolerance values (TV) and correlation coefficients between independent variables were calculated for some preconditions. For the regression model, the VIF value was 1.076, the TV was 0.927, and as seen in Table 1, the correlation between the independent variables (ES and CO) was also found to be -0.27. The TV value should be greater than 0.2, the VIF value should be less than 10 (Field, 2005), and the correlation between the independent variables (predictors) should be below .80 (Büyüköztürk, 2010; Field, 2005). It was seen that they took the necessary values before the regression analysis and there was no multicollinearity problem.

A regression analysis was conducted using the bootstrap method to test the mediator role of ES in the relationship between PAP and CO of university students. Hayes' (2018) model 4 was used for this analysis. In the analysis, 5000 resampling options were preferred with the bootstrap technique. The confidence intervals were used to determine whether CO had an indirect effect on PAP. The results obtained from the analyses were given in Table 2 and Figure 2.

According to the results obtained from the analysis, CO was found to negatively and significantly predict ES (*b*= -.3325, %95 CI [-.4652, -.1998], t=-4.9307, p<.001). CO also explained 7 % (R^2=.0710) of the variation in ES. ES was also found to predict PAP negatively and significantly (*b*= -.7275, %95 CI [-.8613, -.5937], t= 10.6999, p<.001). It was seen that the direct effect of CO on PAP was not significant (*b*= .1148, %95 CI [-.0521, .2817], t= 1.3535, p=.1768). Regarding mediation, the indirect effect of CO on PAP was significant; therefore, ES was found to mediate the relationship between PAP and CO (*b*=.2419, %95 CI [.1444, .3507]). In other words, ES was found to fully mediate the relationship between CO and PAP. CO and ES explained 30% (R^2=.2964) of the variation in PAP.

Figure 2. *The tested model and estimations*

R^2= .07

ES

a= -.3325, p<.01   b= -.7275, p<.01

R^2= .30

c= .3567

CO   PAP

Direct effect (c')= .1148, p>.05
Indirect effect= .2419, CI [.1444, .3507]
Note: Unstandardized values were reported.

DISCUSSION, CONCLUSION AND SUGGESTIONS

As a result of the analyses conducted within the context of the current study, it was found that the cyberostracism of the university students negatively and significantly predicted their emotional stability and positively and significantly predicted their psychological adjustment problems. The emotional stability of the university students was found to negatively and significantly predict their psychological adjustment problems. Moreover, emotional stability was found to have a mediator role in the relationship between the university students' cyberostracism and psychological adjustment. The findings obtained in the study are discussed below.

It was determined that the cyberostracism of the university students was a positive and significant predictor of their problems of psychological adjustment before the emotional stability variable was included. According to this finding, as the cyberostracism of the university students increased, their psychological adjustment problems also increased. Parallel to this finding, Riva, Wirth, and Williams (2011) found that cyberostracism is moderately correlated with psychological problems. In the study conducted by Hatun (2021), exposure to virtual social ostracism was found to increase the depression and anxiety levels of the participants and negatively affect their self-esteem. According to Galbava, Machackova, and Dedkova (2021), even a mild form of ostracism, such as strangers not reacting to a post shared, can have adverse emotional and behavioural results. When the findings obtained in the current study and the results reported in the related literature are considered, it can be said that cyberostracism negatively affects the psychological adjustment of university students.

As another finding of the study, the cyberostracism of the university students was determined to be a significant and negative predictor of their emotional stability. According to this finding, as the cyberostracism of the university students increased, their emotional stability decreased. Gonsalkorale and Williams (2007) found that the ostracism of individuals even by the members of a group that is not welcomed by the society causes negative feelings, and that ostracised individuals have a worse mood, lower belongingness and self-esteem than those included in the group. In a similar study conducted by Williams, Cheung, and Choi (2000), participants were played Cyberball in a computer environment, and it was found that the more ostracised the participants felt, the more they felt bad, the less control they had and the more they lost their sense of belonging. In another study, even the participants who were convinced that other players were controlled by the computer were uncomfortable when ostracised from the game (Zadro, Williams and Richardson, 2004). It can be said that the results of the above-mentioned literature are explanatory and supportive of the negative predictive role of the university students' cyberostracism on their emotional stability found in the current study.

As another finding of the study, it was determined that the emotional stability of the university students was a negative and significant predictor of their problems of psychological adjustment. According to this finding, as the emotional stability of the university students increased, their psychological adjustment problems decreased. Yablonska, Dembytska and Vus (2017) experimentally confirmed that emotional stability is among the factors that facilitate social-psychological adjustment, as a result of the research they conducted on the social-psychological adjustment of ex-soldiers after returning home from the battlefield. In the study conducted by Brooks and DuBois (1995) on university students, it was concluded that there was a significant positive relationship between their academic, personal and social adjustments and their emotional stability. Therefore, these findings are in line with the finding of the current study showing that emotional stability negatively predicts psychological adjustment problems.

As another finding of the study, it was determined that emotional stability plays a full mediator role in the relationship between the university students' cyberostracism and problems of psychological adjustment. In other words, it can be said that the cyberostracism experienced by the

university students negatively affected their emotional stability and in addition, it had an indirect and significant effect on their psychological adjustment problems. According to Seçer, Ulaş, and Karaman-Özlü (2020), when psychological adjustment is regarded as an ability used by the individual to cope with the difficulties of daily life, to control intense anxiety, depressive symptoms and stress factors, traumatic and challenging conditions of life may have an impact on the individual's psychological adaptation skills. Seen from this perspective, it can be said that cyberostracism, which is a compelling experience for university students, reduces the emotional stability, which is an important factor for psychological adjustment, and makes it difficult for students to adapt. If we take it from another point of view, as the internet and social media are becoming more popular, more and more social interactions take place in virtual environments. This makes the Internet an appropriate arena for many different kinds of social phenomena, one of which is ostracism (Borawski, 2022). In this internet arena, university students can interact with other people in social media, multiplayer games. During this interaction, they may feel ostracised in the face of situations such as being ignored by other participants or declared as unwanted, their messages' not being read or responded (Williams et al. 2002). This situation may prevent the satisfaction of basic needs (belonging, self-esteem, control, and meaningful existence) mentioned by Williams (2009), as shown in previous studies (Schneider et al. 2017; Smith, Morgan, & Monks, 2017). This situation may have adversely affected the emotional stability of the university students and made it difficult for them to adjust psychologically.

As the current study made some contributions to the explanation of the relationship between cyberostracism and the problems of psychological adjustment and the role of emotional stability in this relationship, it can be an important reference to future research on adjustment problems among university students. In this context, emotional stability can be included in the studies to be carried out to strengthen university students. Psycho-educational studies that strengthen emotional balance can be carried out. In addition, awareness trainings can be organized about psychological adjustment problems and cyberostracism. This study also has some limitations. The fact that the participants of the study were only university students can be considered as a limitation in terms of generalizability of the results. In this context, the model employed in the current study can be used with adolescents, parents, individuals from different occupational groups. The fact that the data collection tools of the research are in the form of self-assessment report can be seen as another limitation. The current study employed the quantitative method, future research can use qualitative methods or mixed methods to examine the results more deeply. In addition, longitudinal studies can be conducted to examine the long-term behavioural, cognitive, affective and psychosocial effects of cyberostracism on individuals.

AUTHOR CONTRIBUTIONS

- First author have made identified the research question, conducted the analyses, and drafted the manuscript

- Second author oversaw the design and execution of the larger study, assisted with interpreting the study findings, and collaborated in drafting and revising the manuscript. Both authors read and approved the final manuscript.

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