Attachment Styles and Loneliness as Predictors of Phubbing amongst University Students

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Abstract: Due to the increase in the use of technology, more loneliness and phubbing have been observed in individuals. In this concept, the relationship between attachment styles, loneliness, and phubbing was examined in this study. The research data was collected from 288 students, 224 of whom were women (77.8%) and 64 of whom were men (22.2%). The data was collected using the Relationship Scales Questionnaire, the UCLA Loneliness Scale Short Form (ULS-8), and the General Phubbing Scale. The data was analyzed using Pearson correlation coefficient and regression methods in accordance with the aim of the research. The Pearson correlation analysis revealed that there is a relationship a positive and significant relationship between phubbing and loneliness, fearful attachment, dismissive-avoidant attachment, and preoccupied attachment. However, the relationship between phubbing and secure attachment was found to be insignificant. According to the regression analysis, phubbing was predicted by loneliness, fearful attachment, and preoccupied attachment, but not by secure attachment and dismissive- avoidant attachment styles.

Keywords: Phubbing, Attachment Styles, Loneliness, University Students

1. Introduction

Thanks to the technological developed in the last century, people have become able to easily do things that were once considered impossible. With the advancement of technology, phones have become a part of our daily lives (Nazir & Pişkin, 2016). Individuals use technology to overcome their problems with pleasure (Yanık & Özçiçek, 2021). Nowadays, people can do many multitasking activities with their smartphones, such as checking flight tickets while exercising or writing comments about a football match while waiting for a car in a limited amount of time (Al-Saggaf & O'Donnell, 2019). However, smartphones have a negative impact on people's interpersonal relationships, personal development, and personalities (Karadağ et al., 2016). Moreover, the increasing worldwide use of social media, which is accessible everywhere, can make some users addicted to it (Okkay & Bal, 2021). Even close friends can become estranged from each other (Büyükgebiz Koca, 2019). In other words, the excessive use of social media and technology can cause problems in communication and human relationships, which can have negative effects on people's work, friends, and even family life. This situation where communication problems affect human relationships through cell phones is called as "phubbing."

Phubbing, considered a new addiction (Davey et al., 2018; Robert et al., 2014; Parmaksız, 2021), was first included in the Macquarie Dictionary and formed by the words phone and snubbing. According to Karadağ et al. (2015), phubbing is defined as the situation in which a person looks at and is interested in their phone and avoids communication with others while talking with them. While expressions such as problematic internet use (Okur & Özekes, 2020; Shapira et al., 2000; Uzun & Ünal, 2018) and pathological internet use (Morahan-Martin & Schumacher, 2000) have been used before, they cannot fully explain the concept of phubbing. Phubbing behavior consists of a multidimensional structure, including smartphone addiction, internet addiction, social media addiction, and gaming addiction (Karadağ et al., 2015; Karadağ et al., 2016). According to Çaka (2021), "Phubber individuals" who exhibit

phubbing behavior may increase their use of social media in order to overcome a feeling of social exclusion."Phubbee" can be defined as a person who is ignored by the phubber (Chotpitayasunondh & Douglas, 2016). Phubbing can harm close relationships, such as partners, friends, and family members, by negatively affecting communication (Ballı, 2020). Phubbing, which has a multidimensional structure, can lead to many negative effects on individuals' lives, such as health problems and negative impacts on social relationships.

Research in the literature has shown that phubbing is associated with depression (Ivonova et al., 2020; Parmaksız, 2021), boredom (Al-Saggaf et al., 2018; Al-Saggaf & O'Donnell, 2019b), negative emotions (Ting et al., 2018), attachment styles (Shams et al., 2019), and loneliness (Aydoğdu & Çevik, 2020; Blachnio & Przepiorka, 2019; David & Roberts, 2017; Ivonova et al., 2020). There is not a single effect of phubbing, as excessive phone use, not paying attention to those around them, and choosing the phone over social interactions may also lead individuals to feel lonely, just as phubbing.

Loneliness can be defined as the state of perceiving oneself as alone, even if one is in a psychological, emotional, cognitive, or social environment. Loneliness is often described as social isolation (Holt-Lunstad et al., 2015) or a cognitive and emotional state of being alone (van Roekel et al., 2016). According to Weiss (1973), loneliness is divided into emotional and social loneliness. Emotional loneliness is defined as the inability of the individual to relate to those around him/her, while social loneliness is defined as the situation where the needed relationship cannot be found in the environment (cited in Aslan Cevheroğlu & Say, 2021). In addition, there are three important points in loneliness; First, loneliness arises from the lack of social relationships in individuals. Second, there is a subjective experience in loneliness. The last one is that although the experience of loneliness can be an encouraging situation for an individual's personal development, it is a sad and unpleasant experience to exposure to loneliness (Perlman et al., 1984). Loneliness now affects individuals not only socially and emotionally, but also through the effects of technology. The effect of technology on loneliness is explained by Mert and Özdemir (2018) as follows: the factor that is more effective in causing people to feel lonelier is the replacement of communication established by individuals with devices such as phones and computers. Therefore, loneliness can be challenging for individuals emotionally, cognitively and socially, and even if lonely individuals want to establish social connections, they may try to tolerate loneliness by focusing on devices such as phones and computers, leading to interpersonal problems and socially maladaptive behaviors.

When the literature is reviewed, many factors affect loneliness such as; depression (Tüfekçi & Karaca, 2021; Yaşar Can & Kavak Budak, 2021), parents' divorce (Akyol, 2013), smartphone addiction (Mert & Özdemir, 2018), parental phubbing (Dong, 2022), and many others. A research conducted on attachment styles, a relationship was found between loneliness, anxious, and avoidant attachment (Aslan Cevheroğlu & Say, 2021), loneliness predicted secure, preoccupied, and fearful attachment, but not dismissive-avoidant attachment (Bingül & Çelik, 2021), a negative relationship was found between anxious and avoidant attachment styles and loneliness (Ünlü, 2015), and anxious attachment significantly predicted loneliness (Yıldız, 2021). Although there are many factors that affect individuals' loneliness, the attachment styles that individuals have also affect their loneliness.

Attachment can be defined as a temporary or permanent emotional connection that individuals develop towards a person or an object, and it is one of the human needs. According to Bowlby (1973), attachment is defined as the bond individuals establish with those who are close to them. Attachment can be described as the bond between a mother and her child that starts from the prenatal period and can show various effects at different times throughout life, and also becomes resistant to change throughout life (Yıldız, 2021). Individuals' attachment styles were established by Ainsworth et al. (1978) through the "Strange Situation Experiment" in infancy, and by Hazan and Shaver (1987) in romantic relationships in adulthood through the Adult Attachment Model, while Main et al. (1985) developed a scale called the

"Adult Attachment Interview". Consistent with Ainsworth's work, four adult attachment styles were established. In addition, "The Four Attachment Model" was developed by Bartholomew and Horowitz (1991), which includes four categories and two dimensions (self-model and other model). According to this model, four different attachment styles were identified as secure, preoccupied, dismissive- avoidant, and fearful. The secure attachment style is characterized by a positive self-model and positive perception of others (Bartholomew & Shaver, 1998; Sümer & Güngör, 1999), while preoccupied attachment style is characterized by a high sense of worthlessness and an inclination towards obsessive and fixated relationships due to unrealistic expectations for initiating a relationship (Sümer & Güngör, 1999). Individuals with a fearful attachment style do not perceive themselves as valuable, perceive others as rejecting and untrustworthy, and avoid close relationships (Bartholomew & Shaver, 1998). The dismissive-avoidant attachment style has a positive self-model but a negative other-model (Sümer & Güngör, 1999). It is observed that different names are used for different relationships in different periods when examining individuals' attachment styles.

When the literature is reviewed, there are studies related to phubbing and attachment styles (Shams et al., 2019), but due to the complex structure of phubbing, which can be considered within different dimensions, in smartphone addiction, a negative relationship was found between secure attachment and phubbing, and a positive significant relationship was found between fearful and preoccupied attachment styles (Canatar, 2020). There is a positive relationship between anxious attachment and smartphone addiction (Tok & Güzel, 2020). In terms of internet addiction, there is more pathological internet use in individuals with preoccupied and fearful attachment styles (Ceyhan, 2016), there is a relationship between anxious attachment and online gaming addiction (Çiftçi, 2021), and internet addiction negatively predicts secure attachment and positively predicts dismissive-avoidant and preoccupied attachment styles (Morsünbül, 2014). In terms of social media addiction, individuals with high levels of anxiety and avoidance are more likely to have social media addiction (Bakar Benli, 2019). Physical appearance and contingent self-esteem play a mediating role in the relationship between social media addiction and anxious/ambivalent attachment styles (Bayraktar, 2020), and an increase in social media addiction leads to an increase in secure, preoccupied, and fearful attachment styles (Kaplan, 2019). In terms of gaming addiction, individuals with high levels of avoidance and anxiety are more likely to have gaming addiction (Öziç, 2019). Furthermore, according to Yılmaz (2020), there is a positive relationship between dismissive and fearful attachment styles and game addiction.

1.1. Present study

Currently, everyone, young or old, regardless of where they are, uses a phone. Phubbing, which can cause mental health and other health problems in individuals, also has a negative effect on social relationships. Being belittled or ignored by others can lead to social exclusion (David & Roberts, 2017), which can also increase feelings of loneliness. It is stated that with increasing loneliness and anxiety, individuals become more dependent on their phones (Çaka, 2021). Excessive phone use is said to increase loneliness by hindering communication with other individuals in social settings (Yam & İlhan, 2020). Therefore, this study will examine the relationship between phubbing and loneliness. Loneliness can be observed in individuals of all ages and genders (Badcock et al., 2020). In addition to that, individuals who experience intense attachment anxiety need other people to feel worthy of being loved (Yıldız, 2021), but this need for closeness may not always be met, resulting in feelings of loneliness.

In this context, it can be emphasized that loneliness and attachment are related, and individuals may engage in phubbing behavior to cope with loneliness. Furthermore, there are various studies that show the relationship between addiction to smartphones, internet, social media, and gaming and attachment styles that are included in the content of phubbing, but there are very few studies on phubbing and attachment styles, so this study is thought that it will contribute to the literature. As a result of the literature review, models that examine the relationships between phubbing, loneliness, and attachment

styles together have not been found. Therefore, this research may be an important study in terms of providing a foundation for future research on the models that can be created. In this context, the aim of this study is to examine the relationships between phubbing, loneliness, and attachment styles.

2. Method

This study was conducted using a descriptive-correlational survey design. Descriptive analysis is a method that allows the evaluation of trends and outcomes in any subject or discipline in a descriptive manner (Akyürek, 2022; Çalık & Sözbilir, 2014). The correlational method, on the other hand, is a method used to identify relationships between two or more variables and to gain knowledge in the cause-and-effect context (Büyüköztürk et al., 2021, p.16). In this context, the study examined the relationships between phubbing, loneliness, and attachment styles, and attempted to determine whether phubbing can be predicted by loneliness and attachment styles.

2.1. Study group

The data of the study was collected from Sakarya University students. The study group consists of 224 women (77.8%) and 64 men (22.2%).

2.2. Data collection tools

2.2.1. Relationship Scales Questionnaire (RSQ)

The scale developed by Griffin and Bartholomew in 1994 was adapted into Turkish by Sümer & Güngör (1999). The scale consists of 30 items and is a 7-point Likert scale (1=does not describe me at all; 7=completely describes me). Secure and dismissive-avoidant attachment styles can be measured by 5 items, while preoccupied and fearful attachment styles can be measured by 4 items. The internal consistency coefficients of the sub-scales range from .27 to .61. The test-retest reliability ranges from .54 to .78. The Cronbach's alpha internal consistency coefficients range from 0.27 to 0.61. The scale was found to be two-factorial, with the first factor explaining 42% of the variance and the second factor explaining 27% of the variance. and both factors explained 69% of the total variance. The fearful style had a factor loading of .87 and the secure style had a factor loading of -.76 in the first factor, while the preoccupied attachment style had a factor loading of .89 and the dismissive-avoidant attachment style had a factor loading of -.56 in the second factor. Additionally, a high score on a particular attachment style indicates that the individual possesses that attachment style.

2.2.2. UCLA Loneliness Scale short form (ULS-8)

The original version of the form, developed by Russel et al. (1978), consisted of 20 items and 4 subscales, while Hays and DiMatteo (1987) reduced the scale to 8 items to create the short form. The UCLA Loneliness Scale Short Form was translated into Turkish by Doğan et al. (2011). The scale consists of 8 items and is a 4-point Likert type (1 = not appropriate at all; 4 = completely appropriate). There are reverse-scored items (item 3 and 6). The scale can range from a minimum of 8 to a maximum of 32 points. Confirmatory Factor Analysis (CFA) revealed that the model had acceptable fit indices (GFI = 0.97, NFI = 0.92, CFI = 0.94, IFI = 0.94, AGFI = 0.94, RMSEA = 0.066). Cronbach's Alpha internal consistency coefficient was measured as .72. The scale is positively correlated with social-emotional loneliness and negatively correlated with perceived social support.

2.2.3. General phubbing scale

The General Phubbing Scale was originally developed by Chotpitayasunondh and Douglas (2018) and translated into Turkish by Ergün et al. (2020). The scale consists of 15 items and is rated on a 7-point Likert scale (1 = never; 7 = always). It has four subscales (nomophobia, interpersonal conflict, self-isolation, problem acknowledgement). Scores on the scale range from 15 to 105. Confirmatory factor

analysis (CFA) showed that the model has acceptable fit indices (CFI = 0.95, GFI = 0.92, NFI = 0.92, SRMR = 0.051, RMSEA = 0.072). The Cronbach's alpha coefficient for the General Phubbing Scale was .90, indicating high internal consistency. The internal consistency coefficient of the subscales ranged from .75 to .86 (NP; α= 0.86, IC; α= 0.82, SI; α= 0.85, PA; α= 0.75).

2.3. Ethical principles

The ethical permission required for the study to be carried out was obtained with the decision numbered "19" at the meeting dated 13.04.2022 and numbered 06 of Sakarya University Social and Human Sciences Ethics Committee.

3. Findings

The regression assumptions and normality were examined prior to data analysis. In this context, extreme values were determined by considering the normal distribution graph and the skewness and kurtosis range (±3.29) specified by Mayers (2013). The result of analysis, 7 outliers were removed from the analysis. The findings related to regression assumptions and normal distribution have been presented in Table 1 and Figure 1.
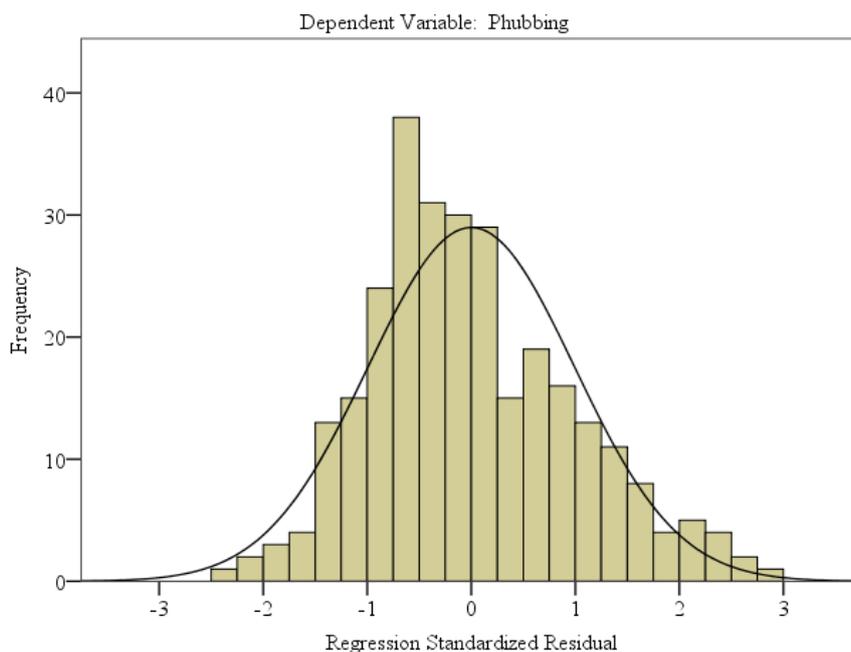
Table 1

Information on Descriptive Statistics and Regression Assumptions

Variables	$\bar{x}$	SD	Skewness	Kurtosis	VIF
Phubbing	44.48	18.13	.722	-.195	
Loneliness	13.13	4.23	.883	-.055	1.291
Secure Attachment	15.41	4.38	-.149	-.308	1.506
Fearful Attachment	17.13	4.73	-.020	-.153	1.742
Dismissive Attachment	22.72	3.95	-.267	-.182	1.421
Preoccupied Attachment	14.28	4.16	-.022	-.265	1.510

Figure 1

Normal distribution curve

When Table 1 and Figure 1 were examined, it is seen that the data of the research are in accordance with the assumptions of the regression analysis. The relationships between phubbing and loneliness and attachment styles are shown in Table 2.

Table 2

The Relationship Between Phubbing and Loneliness and Attachment Styles

	1	2	3	4	5	6
1: Phubbing	1					
2: Loneliness	.28**	1				
3: Secure Attachment	.07	-.06	1			
4: Fearful Attachment	.27**	.38**	-.32**	1		
5: Dismissive Attachment	.13*	.16**	-.31**	.52**	1	
6: Preoccupied Attachment	.28**	.35**	.38**	.21**	.03	1
$\bar{x}$	44.48	13.13	15.41	17.13	22.72	14.28
SD	18.13	4.23	4.38	4.73	3.95	4.16

**: $p<.01$. *: $p < .05$

When Table 2 is examined, it can be seen that there is a statistically significant positive relationship between phubbing and loneliness (r = .28; $p<.01$), fearful attachment (r = .27; $p<.01$), dismissive-avoidant attachment (r = .13; $p<.05$), and preoccupied attachment (r = .28; $p<.01$) in individuals, but there is no significant relationship between secure attachment (r = .07; $p>.05$) and phubbing. There was no significant relationship between loneliness and secure attachment (r = -.06; $p>.05$), but there was a significant relationship between loneliness and fearful attachment (r = .38; $p<.01$), dismissive-avoidant attachment (r = .16; $p<.01$), and preoccupied attachment (r = .35; $p<.05$). In light of the results of the correlation analysis, a regression analysis was conducted to examine whether phubbing is predicted by loneliness and attachment styles and presented in Table 3.

Table 3

Regression Analysis Results

Predictor Variables	*B*	*SH*	*β*	*t*	*p*	*R²*
(Constant)	4.502	8.400		.536	.592	
Loneliness	.670	.267	.157	2.509	.013	
Secure Attachment	.391	.279	.094	1.401	.162	.15
Fearful Attachment	.762	.278	.199	2.743	.006	
Dismissive Attachment	.134	.300	.029	.445	.657	
Preoccupied Attachment	.635	.294	.146	2.160	.032	

When Table 3 is examined, it is observed that 15% of phubbing is explained by attachment styles and loneliness variables. Phubbing is statistically significantly predicted by loneliness ($β$ = .157), fearful attachment ($β$ = .199), and preoccupied attachment ($β$ = .146), while secure attachment ($β$ = .094) and dismissive-avoidant attachment ($β$ = .029) are not statistically significant predictors. In addition,

although there was a statistically significant relationship between phubbing and dismissive-avoidant attachment according to the correlation analysis, the result of the regression analysis showed that dismissive attachment did not predict phubbing.

4. Discussion

This study examines the relationship between phubbing, loneliness, and attachment styles. The analysis reveals a statistically significant positive relationship between phubbing and loneliness, fearful attachment, dismissive-avoidant attachment, and preoccupied attachment, while a significant relationship was not found between phubbing and secure attachment. However, while there is a statistically significant correlation between phubbing and dismissive-avoidant attachment, the regression analysis did not find that dismissive-avoidant attachment predict phubbing. The study also found that there is no significant relationship between phubbing and secure attachment. Shams et al. (2019) found that phubbing behavior is related to adult attachment styles. According to a study by Shams et al. (2019) that is similar to this research, individuals with secure attachment show less phubbing behavior because they are less prone to using their phones. Bartholomew (1991) suggests that individuals with secure attachment can control themselves and maintain internal regulation because they have confidence in themselves and others. A negative relationship has been found between smartphone addiction, one of the multidimensional structures of phubbing, and secure attachment (Canatar, 2020), and internet addiction has been found to negatively predict secure attachment (Morsünbül, 2014). The lack of a relationship between phubbing and secure attachment may be due to reasons such as the ability to maintain self-control and to be less interested in phones and the internet. In addition, individuals with a secure attachment style may not be able to predict phubbing since the high level of self-confidence facilitates their interaction with people.

Phubbing behavior did not predict dismissive-avoidant attachment. Individuals with dismissive-avoidant attachment do not want to risk their own values and prefer to establish relationships without directly connecting with others (Morsünbül, 2014). They reject relationships with other individuals and prioritize their autonomy (Sümer & Güngör, 1999), which is why there may be no relationship between phubbing and dismissive-avoidant attachment.

A positive relationship was found between phubbing and fearful attachment. High anxiety and depression have been found in individuals with fearful attachment (Ceyhan, 2016). In social media addiction, which is one of the comprehensive dimensions of phubbing, individuals experience an increase in their addiction due to their secure, preoccupied, and fearful attachment to social media relationships and the trust they have developed towards them (Kaplan, 2019). Additionally, individuals with fearful attachment tend to experience more communication-related anxiety and, as a result, prefer using the internet over face-to-face communication (Ceyhan, 2016). Furthermore, a positive relationship has been found between dismissive-avoidant and fearful attachment and gaming addiction (Yılmaz, 2020). Given individuals' communication-related anxieties, the increased trust in social media, and the preference for using the internet instead of face-to-face communication, a relationship may exist between phubbing and fearful attachment in this study. A positive relationship has been found between phubbing and preoccupied attachment. Preoccupied attachment style, which corresponds to Hazan and Shaver's anxious/ambivalent attachment style (Sümer & Güngör, 1999), causes individuals with this style to seek acceptance and approval from others, potentially becoming obsessive in their close relationships and having unrealistic expectations (Sümer & Güngör, 1999; Bartholomew, 1998). Individuals with preoccupied and fearful attachment tend to use the internet pathologically and experience difficulties in emotion regulation (Ceyhan, 2016), and may engage in more gaming behavior to fulfill their need for socialization and to increase their happiness (Çiftçi, 2021). According to Morsünbül (2014), games and the internet may be preferred by individuals with preoccupied attachment style because they can easily hide their identities, make various changes, and leave the

virtual environment easily in case of problems. In addition, individuals use social media to escape from problems in their lives (Bakar Benli, 2019).

A positive relationship has been found between anxious attachment and smartphone addiction (Tok & Güzel, 2020), and anxious and avoidant attachment are related to gaming addiction (Öziç, 2019). Thus, the positive relationship found between phubbing and preoccupied attachment in this study may be due to factors such as increased phone usage, increased gaming, increased internet usage, and difficulties in emotion regulation.

A positive relationship has been found between phubbing and loneliness. Similar findings have also been reported in other literature studies (Aydoğdu & Çevik 2020; Błachnio & Przepiorka 2019; David & Roberts. 2017; Ivanova et al., 2020). Due to the increase in individuals' phone use, they may be more susceptible to loneliness (Ivanova et al., 2020), which could explain the relationship between phubbing and loneliness. Al-Saggaf and O'Donnell (2019b) and Ergün et al. (2020) did not find a relationship between phubbing and loneliness. Different findings exist in the literature. The different findings may be due to individuals not recognizing their behavior as phubbing and instead perceiving it as normal behavior, or not being aware that their behavior constitutes phubbing.

There has been no significant relationship found between secure attachment and loneliness, but there is a significant relationship between loneliness and fearful, dismissive-avoidant, and preoccupied attachment styles. People with secure attachment can easily establish close relationships, have no difficulty initiating and maintaining relationships because they love and trust themselves and those around them, and have an internalized sense of self-worth (Bartholomew & Shaver, 1998; Sümer & Güngör, 1999). Therefore, there may be no relationship between secure attachment and loneliness. Studies have also found a relationship between loneliness and attachment styles. Birgül and Çelik (2021) found that secure attachment negatively predicted loneliness, and there was no difference in loneliness levels between genders, but singles had higher levels of loneliness.

In this study, it may be that people with secure attachment develop a more positive self-structure and therefore can tolerate loneliness more easily, which is why no relationship was found between secure attachment and loneliness. According to Yıldız (2021), loneliness is associated with anxious and avoidant attachment styles. Ünlü (2015) also found a negative relationship between loneliness and anxiety and avoidance dimensions. Birgül and Çelik (2021) found a positive relationship between loneliness and preoccupied and fearful attachment, and a negative relationship between loneliness and dismissive-avoidant and secure attachment. Despite, different findings in the literature, it can be said that there is a relationship between loneliness and attachment styles. Individuals with insecure attachment may have negative perceptions of others based on their early life experiences, which may result in dependency or avoidance of others (Ainsworth et al., 1978). Avoidance of closeness to others may lead individuals to be lonelier. Fearful attached individuals may avoid communicating with others and develop unsatisfying relationships (Birgül & Çelik, 2021), which may explain the relationship between loneliness and fearful attachment. The importance placed on autonomy and rejection of the need for others in individuals with a dismissive-avoidant attachment style (Sümer & Güngör, 1999) may explain the relationship between loneliness and dismissive-avoidant attachment. The unrealistic expectations of individuals with preoccupied attachment style (Sümer & Güngör, 1999) may lead to avoiding problems, which may explain the relationship between loneliness and preoccupied attachment. For all these reasons, the attachment styles can be an important factor in whether they are alone or not.

Among the limitations of the study, it is mentioned that the research focused on adult individuals and did not include adolescents and elderly individuals. The limitation also includes the small sample size of 288 people. It is believed that different results could be obtained with a larger sample. The research data

is limited to the year 2022. Although different results may be obtained in the future, significant results have been obtained. In addition, different results can be obtained from data collected from different age groups, such as adolescence and adulthood. To prevent phubbing, individuals' conscious awareness should be increased, and therefore, education should be given to raise awareness. In addition, individuals should give more importance to social and family relationships instead of their phones. In summary, in the age of technology, if individuals become more active in social life, they can stay away from tools such as telephone, internet and games.

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