An Examination of the Relationship between Family Climate, Emotional Authenticity, and Technology Addiction among University Students

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Abstract

This study aims to examine the relationships between family climate, emotional authenticity, and technology addiction among university students. The research was conducted with 1,012 university students, based on a descriptive-relational survey model. Data were collected using family climate, emotional authenticity, and technology addiction scales, and analyzed through descriptive analysis, t-tests, ANOVA, Pearson correlation, and multiple linear regression analysis. The results indicate that participants generally have a positive family climate. In terms of emotional authenticity, it was found that students have a moderate ability to express their emotions and understand the emotions of others. The levels of technology addiction were also found to be generally moderate. The model used in the study revealed that the independent variables explained 35.6% of the variance in technology addiction. It was found that as family relationality (β=-0.18), cognitive harmony (β=-0.07), acceptance of external influence (β=-0.17), and emotional avoidance (β=-0.37) increased, technology addiction decreased, while an increase in intergenerational authority (β=0.17) led to an increase in technology addiction. These findings highlight the impact of family relationships and individuals' emotional experiences on technology addiction. Furthermore, it was found that family climate, emotional authenticity, and technology addiction scores significantly differed according to gender and class level. These findings contribute to the understanding of important socio-psychological factors affecting technology addiction among university students.

Introduction

In our changing and developing world, technology is advancing at the same pace. Advances have also been made that make human life easier in many areas. However, these conveniences provided by the internet have caused people to spend most of their time here and have started to be discussed due to the negative impact on their lives. The rapid spread of technology has led to the intensive use of digital tools and the internet, especially among young people. University students are at the center of this process and use technology intensively. However, when technology use reaches the level of addiction, it can negatively affect individuals' social and academic lives (Colizzi, Lasalvia & Ruggeri, 2020). Family climate plays an important role in the psychosocial development of individuals. The quality of family relationships and parental support can shape young people's interactions with

technology. Warmth and supportive communication within the family is considered a critical factor in preventing technology addiction (Kalatzaki & Birtchnell, 2014). Social interactions within the family, the quality of relationships between family members, and the transfer of family values and skills are determined by the family climate, which is the psychological atmosphere in which the family is located (Björnberg & Nicholson, 2007). It has been observed that when the family climate is positive, individuals are less likely to be dependent on technology (Dorsey et al., 1999; Goldenberg & Goldenberg, 2008). Emotional authenticity represents the individual's capacity to express their inner experiences as they are. Emotional authenticity can affect whether an individual can use technology in a healthy way. Research shows that individuals with low emotional authenticity are more dependent on technology (Leung & Lee, 2011). Especially platforms such as social media can lead to technology addiction in individuals who lack emotional authenticity (Park, Kim, Shon & Shim, 2013). This study aims to examine the effects of family climate and emotional authenticity levels of university students on technology addiction.

Technology Addiction

Technology addiction is a behavioral disorder characterized by excessive and uncontrolled use of digital tools and platforms. This type of addiction can negatively affect individuals' social relationships, academic success and overall quality of life. Technology addiction, which is especially common among young adults, is directly related to the amount of time individuals spend in the digital world. Research shows that this addiction has not only psychological effects but also negative effects on physical health (Borchardt & Casilio, 2021; Bulatbaeva et al., 2023; Gezgin & Mihci, 2020; Kuss & Griffiths, 2021; Suprayitno et al., 2023). Related literature suggests that technology addiction is related to biological, psychological and social factors. For example, the activation of the dopamine system during technology use can lead to the development of addiction (Volkow, 2020). Dopamine has an important role in the brain reward mechanism, and the instant gratification obtained in technology use causes this system to be triggered continuously. This process is especially intensified on platforms such as social media and online games.

Over time, technology addiction can also lead to impairments in individuals' cognitive functions. Continuous screen use can cause distraction and short-term memory problems. Research suggests that attention deficit hyperactivity disorder (ADHD) is on the rise due to technology use, especially in younger age groups (Anderson et al., 2020). This may also negatively affect individuals' success in their educational life. Technology addiction can weaken an individual's social relationships. Social media platforms may cause individuals to prefer socializing in digital environments instead of face-to-face communication. This can lead to emotional problems such as social isolation and loneliness (Przybylski et al., 2021). Research shows that digital addiction increases social anxiety in individuals and may cause psychological problems in the long term (Prizant-Passal, Shechner & Aderka, 2016; Şahin, 2022). Family structure and relationships within the family are also important factors in the development of technology addiction. Studies have shown that individuals with insufficient emotional support in the family environment have a higher risk of becoming addicted to technology (Hwang & Jeong, 2021). Stressful situations in the family may cause individuals to increase their use of technology as an escape mechanism to the digital world.

In terms of physical health, technology addiction can cause significant problems. Prolonged screen use can have negative effects on eye health, postural disorders and sleep patterns. In particular, sleep problems are a common consequence of technology addiction (aziz et al., 2021; Panova & Carbonell, 2018). Late night screen use can negatively affect individuals' general health by reducing sleep quality (Cain & Gradisar, 2020). In recent studies conducted on technology addiction, it has been determined that this type of addiction has increased during the pandemic period. It has been stated that individuals spend more time on digital platforms, especially during the pandemic process when social isolation becomes mandatory, and the risk of technology addiction increases in this process. During this period, the widespread use of online education and remote working has also been one of the factors that increased the use of technology (King et al., 2021).

Studies on coping strategies with technology addiction show that individual and social interventions are effective in solving this problem. Digital detox practices, conscious use of technology and developing time management skills can play an important role in preventing addiction (Zhou & Liu, 2021). At the same time, families setting limits on the use of technology and conscious communication with their children on this issue can prevent the development of addiction, especially in young individuals. It is significant that educational institutions and health professionals cooperate to prevent and treat technology addiction. Organizing educational programs to raise awareness about technology addiction, especially among young people, can be an effective method to prevent this problem. In addition, psychological support and therapy methods for individuals with technology addiction can be useful in reducing the long-term effects of addiction (Montag et al., 2021).

Emotional Authenticity

Being psychologically authentic means recognizing one's own essence and exhibiting internal consistency in expressing this essence (Kim, 2021). Emotional authenticity refers to the ability of individuals to accept and express their inner experiences as they are (Salmela, 2005:209). Emotional authenticity means recognizing, accepting, expressing and living in harmony with one's own emotions. Emotional authenticity includes being honest with oneself and presenting oneself to the outside world as it is without hiding it (Gardner, Fischer & Hunt, (2009). An emotionally authentic individual can reveal both positive and negative emotions without hiding them and without succumbing to social expectations or external pressures. Emotional authenticity refers to the state of living in harmony with one's own emotional reality (Connelly & Turel 2016; Filer et al., 2024; Hu et al., 2020; Jayatissa, 2024; Neves, et al., 2018).

Studies indicate that emotional authenticity is closely related to psychological well-being and subjective life satisfaction. In their research, Kernis and Heppner (2008) stated that authenticity increases individuals' self-esteem and positively affects their stress coping mechanisms. In addition, emotional authenticity is seen as a means of creating a strong bond, especially in interpersonal relationships, which reduces individuals' need for social support (Karakus, Akbay & Uzun, 2022; McCarthy, 2016). Recent studies on the measurement of emotional authenticity have found that authentic behaviors are positively correlated with psychological well-being (Michie & Gooty, 2005). In addition, it has been found that individuals' ability to express themselves authentically increases their ability to cope with stress and their overall quality of life (Gilman et al., 2006).

Authenticity has also been associated with a sense of self-efficacy. In this context, when individuals have high levels of emotional authenticity, their ability to make their own decisions increases and they need less external guidance. This increases the individual's self-confidence and capacity to act according to their own values (Goldman & Kernis, 2002). Authentic emotional experiences allow the individual to reflect his/her true emotional reactions regardless of the expectations of others. This process supports the individual's self-esteem and psychological well-being because the individual can experience his/her true emotions without suppressing them and establish more meaningful connections in social relationships (Kraemer, 2011). Studies, especially in the context of authentic leadership and work life, reveal that emotional authenticity increases satisfaction and performance at work. Research shows that when individuals can behave authentically at work, their job satisfaction and overall productivity increase (Kernis & Goldman, 2006).

Family Climate

Family climate is a psychosocial concept that describes the relationships, interactions and emotional ties between individuals in a family. This climate has a significant impact on the identity development and psychosocial adjustment of young individuals. Studies show that children who grow up in environments where the emotional bond within the family is strong have healthier social and emotional development (Cooper, Grotevant & Condon, 1983; Crocetti et al., 2009). The presence of a warm emotional atmosphere in the family can strengthen individuals' ability to express themselves and avoid addictive behaviors (Crocetti et al., 2017).

Family climate also plays a critical role in adolescents' identity development. Adolescence is a period in which individuals begin to construct their identities and take steps towards becoming independent from their families. In this process, warmth and supportive communication in the family environment contribute to the healthy development of adolescents' identities (Cummings, Davies & Campbell, 2000). At the same time, a negative atmosphere within the family can negatively affect adolescents' identity development and make them more prone to external influences, especially problems such as technology addiction (Kapetanovic et al., 2020). Family climate provides a framework that allows individuals to express their identity and individuality. During adolescence, young individuals form their own identities by making decisions independent of their families. During this period, the emotional support and warmth that families offer to their children positively affect the process of adolescents making their own decisions (Donellan, Conger & Burzette, 2007). Positive family climate can protect them from external threats and addiction risks by creating a space where individuals can express themselves comfortably (Rodríguez-Meirinhos et al., 2020).

Research shows that family climate also affects individuals' stress and anxiety levels. A negative family climate can weaken individuals' ability to cope with stress and make them more vulnerable to emotional problems (Fernandez et al., 2018). On the other hand, a warm and supportive family environment improves individuals' ability to cope with difficult situations and increases their psychological resilience (Elsharnouby & Dost-Gözkan, 2020). Family climate is also closely related to the way parents communicate with their children. Studies have shown that parents' healthy communication with their children has a positive impact on their emotional and social development. Especially adolescents see the support, emotional bonds and communication quality they receive

from their families as a critical element for their psychosocial development (Crocetti et al., 2008; Kapetanovic et al., 2020; Kerr & Stattin, 2000).

Family climate plays a critical role in regulating young adults' technology use. A positive family climate can help individuals manage their technology use more consciously. According to research, family support and positive family relationships reduce the risk of technology addiction (Bakioğlu, 2020). However, a negative family climate can cause young individuals to escape to the digital world and become overly dependent on technology. Family climate plays an important role in an individual's emotional and social development. In this context, the effect of family climate on university students' behavioral problems such as technology addiction has recently received attention from researchers (Salarvand et al., 2022). However, there are few studies that combine this effect with the concept of emotional authenticity. Emotional authenticity refers to the capacity of individuals to recognize, accept and express their own emotions. In the literature, it is suggested that individuals with low emotional authenticity become more dependent on external factors and this may be related to technology addiction (Schemer, et al., 2021). This study aims to reveal the effects of family climate and emotional authenticity factors on technology addiction by filling an important gap in this field.

Many studies have been conducted on university students' technology addiction. Marzill et al. (2021) stated that technology addiction is an increasing problem in young adults and that this addiction leads to negative consequences such as psychological problems, decline in academic achievement and weakening of social relationships. However, these studies have not adequately addressed the effects of family climate and emotional authenticity factors on technology addiction. The existing literature on explaining university students' technology addiction has generally focused on psychological and social factors at the individual level (Chu et al., 2021). However, how factors such as family structure and the individual's own emotional structure affect this addiction has not been sufficiently investigated. This study will bring a new perspective to the literature by investigating the effects of these factors on technology addiction. In particular, there are few studies addressing the relationship between factors such as emotional authenticity and family climate with technology addiction, which increases the importance of this research. Emotional authenticity is also closely related to technology addiction. When individuals have low capacity to recognize and express their own emotions, they tend to use technology to fill this gap (Seeber et al., 2020). It is seen that individuals with Internet addiction have symptoms of personality disorders at a certain level (Swickert et al. 2002). Lin and Tsai (2002) examined the internet use of adolescents in their research with 900 high school students and found that students who thought they were alone spent more time on the internet than other students. Ni et al. (2009) concluded that being in a single-parent family is a risk factor for internet addiction. Although it is suggested in the literature that lack of emotional authenticity may lead to digital addictions in young adults, concrete findings on this issue are limited (Bottaro & Faraci, 2022).

This study aims to fill an important gap in the literature by examining the relationship between family climate, emotional authenticity and technology addiction in university students. The results of the study will allow us to better understand the complex relationships between family structure, emotional authenticity and technology addiction. The quality of family relationships and individuals' emotional processes can play a critical role in coping with modern problems such as technology addiction. The research may also provide guidance for the

development of strategies to combat technology addiction among university students. In particular, increasing family support and emotional awareness may be effective in reducing the risk of addiction.

The purpose of this study is to examine the relationship between university students' perceptions of family climate, emotional authenticity levels and technological dependency. Based on this purpose, answers to the following questions were sought:

- What is the level of family climate perceptions, emotional authenticity levels and technological dependency of university students?
- Do university students' perceptions of family climate, emotional authenticity levels and technological dependency differ according to gender variable?
- Do university students' perceptions of family climate, emotional authenticity levels and technological dependency differ according to the class variable?
- To what extent do university students' family climate perceptions and emotional authenticity levels predict their technological dependency?

Method

Research Model

The descriptive-relational survey model, one of the quantitative research methods, was used in the study. In descriptive-relational survey type research, a situation or event that occurs is described as it is, and the problem is tried to be clarified by showing the relationship, effect and degree of the variables that cause this situation (Haslam, 2004). In this study, on the basis of the descriptive relational survey model, the relationships between university students' perceptions of family climate and emotional authenticity and their technological addictions were examined by taking into account their grade levels and gender.

Population and Sample

The population of the study consists of students studying at state universities in Ankara. The sample of the study consisted of 1002 undergraduate students who were selected by simple random sampling method among the students studying at 5 state universities (Ankara University, Gazi University, Hacettepe University, Ankara Yıldırım Beyazıt University, Health Sciences University) in Ankara. Simple random sampling is a technique in which each item in the population has an equal chance and probability of being selected (Singh & Masuku, 2014). Simple random sampling can be done in several ways. Simple random sampling is preferred if the characteristics of the units that make up the research population are identical. Of the participating university students, 643 were female and 369 were male.

Data Collection Tools

'Family Climate Scale', *'Technological Dependency Scale'* and *'Emotional Authenticity Scale'* were used to collect data to test the sub-problems in line with the aims of this study.

Family Climate Scale

In order to measure university students' perceptions of family climate, a 5-point Likert scale adapted into Turkish by Gönül et al. (2018) was used. This scale measures family climate and intergenerational relations. As a result of the factor analysis conducted by the researchers who developed the scale, it was seen that the scale consisted of 34 items and 3 factors. Items 1-21 in the scale measure intra-family relationality, items 22-28 measure intergenerational authority, and items 29-34 measure cognitive adaptation." The score to be obtained from the scale can vary between 34 and 170. The factor structure obtained from the exploratory factor analysis was tested in confirmatory factor analysis and the results showed that the fit values of the model were at an acceptable level. In the university student sample of this study, the internal consistency of the scale was tested with Cronbach's Alpha coefficient. As a result of the analysis, it was seen that the reliability coefficient for the sub-dimensions of the family climate scale ranged between 0.74 and 0.83.

Technological Dependency Scale

In line with the aims of the study, a 5-point Likert scale adapted into Turkish by Aydın (2017) was used to measure university students' technology addiction. This scale measures the problems created by technology addiction in the classroom environment. The factor analyses conducted by Aydın (2017) showed that the structure of the scale consisting of 4 sub-dimensions and 24 items had high validity. The first 6 questions in the scale measure social network addiction, the next 6 questions measure instant messaging addiction, the next 6 questions measure online game addiction and the last 6 questions measure websites addiction. The highest score to be obtained from the entire Technology Addiction Scale is 120 and the lowest score is 24. While interpreting the arithmetic averages of the whole scale, the range of 0-24 points was accepted as “Not addicted”, the range of 25-48 points as “Low level addicted”, the range of 49-72 points as “Moderately addicted”, the range of 73-96 points as “Highly addicted”, and the range of 97-120 points as “Fully addicted”. As a result of Cronbach's alpha analyses conducted in this research sample, it was seen that the sub-dimensions of the scale had internal consistency-reliability coefficients ranging between 0.78 and 0.89.

Emotional Authenticity Scale

In order to measure the emotional authenticity of the university students within the scope of the study, a 5-point Likert-type measurement tool developed by Karakuş et al. This scale, which mainly measures the emotional authenticity of university students and can also measure their acceptance of external influence and emotional avoidance, consists of 20 questions. The first 8 questions of this scale help us to learn about the concepts of authentic behavior, questions 9-13 about acceptance of external influence and questions 14-20 about emotional avoidance. "Each section can be evaluated differently by collecting its own questions, as well as a total score can be reached in the scale. To obtain a total score, the dimensions of acceptance of external influence and emotional avoidance should be scored in reverse. The highest score on the scale is 100 and the lowest score is 20. As a result of the Cronbah's Alpha analyses performed on the university sample, it was seen that the internal consistency and reliability coefficients of the scale ranged between 0.76 and 0.83.

Data Analysis

Skewness and kurtosis values were calculated to examine the distribution of family climate, technology addiction and emotional authenticity scores. In order to meet the normal distribution assumption, it is sufficient for the skewness and kurtosis coefficients to be within the range of ±1.5 (Tabachnick and Fidell, 2007). It was observed that the skewness and kurtosis coefficients calculated in this study were within the specified range, and the normal distribution assumption was met (see Table 1).

Independent groups t-test was used to compare family climate, technology addiction and emotional authenticity scores by gender, and one-way analysis of variance was used to compare them by grade level. Relationships between scale scores were evaluated by calculating Pearson correlation coefficients. Multiple linear regression analysis was applied to observe the predictive effect of family climate and emotional authenticity components on technology addiction.

Table 1. Skewness and Kurtosis Coefficients

Variables	Skewness		Kurtosis	
	Z	Sh	z	Sh
Family relatedness	-0.49	0.08	0.04	0.15
Intergenerational authority	-0.16	0.08	1.02	0.15
Cognitive adaptation	-0.34	0.08	0.78	0.15
Social network addiction	0.05	0.08	0.23	0.15
Instant messaging addiction	0.00	0.08	-0.16	0.15
Online gaming addiction	0.04	0.08	-0.89	0.15
Webster addiction	-0.01	0.08	-0.38	0.15
Technology addiction	0.09	0.08	0.00	0.15
Authentic behavior	-0.22	0.08	0.19	0.15
Acceptance of external influence	0.06	0.08	0.00	0.15
Emotional avoidance	-0.06	0.08	-0.38	0.15

Before the regression analysis, VIF (Variance Inflati on Factor) values were calculated to determine whether there was a multicollinearity problem between the independent variables. VIF < 3 values indicate that there was no multicollinearity problem (Yurt, 2023). The highest VIF value was calculated as 1.95 and no multicollinearity problem was observed.

Durbin Watson coefficient was calculated to examine the risk of autocorrelation (self-relationship) in the regression analysis. Durbin-Waton coefficient between 1.5 and 2.5 indicates that there is no autocorrelation risk (Kalaycı, 2010). Durbin Watson coefficient was found to be 2.05 and it was understood that there was no risk of autocorrelation. As a result, it was determined that the research data met the necessary assumptions for multivariate analysis. Analyses were performed using IBM SPSS 25.0 statistical package program.

Findings

Descriptive values of family climate and emotional authenticity scores for the first question of the research are presented in Table 2.

Table 2. Descriptive Values of Family Climate, Technology Addiction and Emotional Authenticity Scores

Variables	Min.	Max.	Mean	Sd
Family climate scale				
Family relatedness	1	5	3.75	0.79
Intergenerational authority	1	5	3.26	0.69
Cognitive adaptation	1	5	3.23	0.64
Technology addiction scale				
Social network addiction	1	5	2.86	0.79
Instant messaging addiction	1	5	2.76	0.86
Online game addiction	1	5	2.53	1.07
Website addiction	1	5	2.66	0.94
Technology addiction total	1	5	2.70	0.79
Emotional authenticity scale				
Authentic behavior	1	5	3.43	0.82
Acceptance of external influence	1	5	2.99	0.89
Emotional avoidance	1	5	3.24	0.94

Table 2 shows the descriptive values of family climate and emotional authenticity scores. When the family relationality, intergenerational authority and cognitive adaptation scores are examined, it is understood that the participants generally evaluate the family climate positively. Emotional authenticity scores show that the participants have a medium level of competence in expressing their emotions and understanding the emotions of others. Technology addiction scores allowed the examination of the participants' addiction levels to social networks, instant messaging, online games and websites. The results obtained show that the participants generally have a medium level of technology addiction.

When Table 3 is examined, it is understood that there are significant relationships between family climate variables, technology addiction and emotional authenticity variables. Positive significant relationships were found between family relatedness ($r=.431$; $p<0.01$) and intergenerational authority ($r=.289$; $p<0.01$) scores and authentic behavior. However, negative significant relationships were found between family relatedness ($r=-.114$; $p<0.01$), intergenerational authority ($r=-.169$; $p<0.01$), cognitive adaptation ($r=-.152$; $p<0.01$), social network addiction ($r=-.267$; $p<0.01$), instant messaging addiction ($r=-.177$; $p<0.01$), online game addiction ($r=-.218$; $p<0.01$) and website addiction ($r=-.218$; $p<0.01$) scores and technology addiction. Finally, significant relationships were found between emotional avoidance scores and social network addiction ($r=-.427$; $p<0.01$), instant messaging addiction ($r=-.481$; $p<0.01$), online game addiction ($r=-.489$; $p<0.01$), website addiction ($r=-.476$; $p<0.01$), technology addiction ($r=-.546$; $p<0.01$) and acceptance of external influence ($r=.620$; $p<0.01$) scores.

Table 3. Pearson Correlation Coefficients of Relationships between Family Climate, Technology Addiction, and Emotional Authenticity Scores

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Family relatedness	1										
2.	Intergenerational authority	.431**	1									
3.	Cognitive adaptation	.561**	.306**	1								
4.	Social network addiction	-.114**	.200**	-.102**	1							
5.	Instant messaging addiction	-.169**	.165**	-.110**	.738**	1						
6.	Online gaming addiction	-.267**	.135**	-.152**	.569**	.623**	1					
7.	Website addiction	-.177**	.164**	-.094**	.666**	.685**	.661**	1				
8.	Technology addiction	-.218**	.190**	-.135**	.845**	.874**	.849**	.876**	1			
9.	Authentic behavior	.430**	.289**	.256**	0.011	-0.010	-.081*	-0.037	-0.039	1		
10.	Acceptance of external influence	0.060	-.215**	-0.023	-.423**	-.392**	-.343**	-.391**	-.446**	-.096**	1	
11.	Emotional avoidance	.218**	-.185**	.091**	-.427**	-.481**	-.489**	-.476**	-.546**	.105**	.620**	1

*p<0.05; **p<0.01; N=1012

Table 4. Results of Regression Analysis Conducted to Determine the Predictive Effect of Family Climate and Emotional Authenticity on Technology Addiction

Variable	B	SH	β	t	p
(Fixed)	4.34	0.16		27,16	P<0,01*
Family relatedness	-0.18	0.04	-0.18	-5,02	P<0,01*
Intergenerational authority	0.20	0.03	0.17	5,83	P<0,01*
Cognitive adaptation	-0.08	0.04	-0.07	-2,16	0,03*
Authentic behavior	0.03	0.03	0.03	0,91	0,36
Acceptance of external influence	-0.15	0.03	-0.17	-5,13	P<0,01*
Emotional avoidance	-0.31	0.03	-0.37	-10,71	P<0,01*
R=0.596	R^2=0.356		F(6;1011)=92.51		*p*<0.001

Dependent variable = Technology addiction, *p<0.05

The regression model includes family relationality, intergenerational authority, cognitive adaptation, authentic behavior, acceptance of external influence, and emotional avoidance as independent variables. The dependent variable is technology addiction. It is understood that the regression model is statistically significant (R=0.596;

F(6;1011)=92.51; p<0.001). The model shows that the independent variables explain technology addiction by 35.6%. Family relationality (β=-0.18; p<0.001), intergenerational authority (β=0.17; p<0.001), cognitive adaptation (β=-0.07; p<0.001), acceptance of external influence (β=-0.17; p<0.001) and emotional avoidance (β=-0.37; p<0.001) are significant predictors of technology addiction. As family relatedness, cognitive adaptation, acceptance of external influence and emotional avoidance increase, technology dependency decreases, and as intergenerational authority increases, technology dependency increases.

Table 5. Family Climate, Technology Addiction and Emotional Authenticity Mean Scores, Standard Deviations and Independent Groups t Test Results according to Gender

Variables	Gender	N	Mean	Sd	t(1010)	P
Family relatedness	Female	643	3.84	0.78	5.36	P<0,01*
	Male	369	3.57	0.77		
Intergenerational authority	Female	643	3.23	0.65	-2.01	0.04*
	Male	369	3.32	0.75		
Cognitive adaptation	Female	643	3.26	0.64	1.75	0.08
	Male	369	3.19	0.64		
Social network addiction	Female	643	2.79	0.78	-3.36	P<0,01*
	Male	369	2.97	0.81		
Instant messaging addiction	Female	643	2.67	0.86	-4.78	P<0,01*
	Male	369	2.93	0.85		
Online gaming addiction	Female	643	2.27	1.07	-10.69	P<0,01*
	Male	369	2.98	0.90		
Website addiction	Female	643	2.56	0.93	-4.77	P<0,01*
	Male	369	2.85	0.92		
Technology addiction	Female	643	2.57	0.78	-7.14	P<0,01*
	Male	369	2.93	0.76		
Authentic behavior	Female	643	3.48	0.82	2.57	0.01*
	Male	369	3.34	0.81		
Acceptance of external influence	Female	643	3.05	0.89	2.67	0.01*
	Male	369	2.89	0.87		
Emotional avoidance	Female	643	3.40	0.96	7.26	P<0,01*
	Male	369	2.96	0.85		

*p<0.05

Table 5 shows the mean scores of family climate, technology addiction and emotional authenticity by gender and the independent groups t-test results. According to the results obtained, gender was found to have a significant effect on family relationality (t(1010)=5.36; p<0.001), intergenerational authority (t(1010)=-2.01; p<0.05), social network addiction (t(1010)=-3.36; p<0.001), instant messaging addiction (t(1010)=-4.78; p<0.001), online game addiction (t(1010)=-10.69; p<0.001), website addiction (t(1010)=-4.77; p<0.001), technology addiction total score (t(1010)=-7.14; p<0.001), authentic behavior (t(1010)=2.57; p<0.05), acceptance of external influence

(t(1010)=2.67; p<0.05) and It is understood that there is a significant difference in emotional avoidance (t(1010)=7.26; p<0.001) scores. In general, women's family climate and emotional authenticity scores were higher, and their technology addiction scores were lower.

Table 6 shows the mean scores, standard deviations and ANOVA results of family climate, technology addiction and emotional authenticity by grade level.

Table 6. Family Climate, Technology Addiction and Emotional Authenticity Mean Scores, Standard Deviations and ANOVA Results by Grade Level

Variables	Grade	N	Mean	Sd	F(5;1006)	P	Scheffe Post-Hoc
Family relatedness	1st grade [a]	285	3.89	0.76			
Intergenerational authority	2nd grade [b]	194	3.83	0.78			
Cognitive adaptation	3rd grade [c]	242	3.61	0.79			
	4th grade [d]	204	3.73	0.77	6.02	P<0,01*	a>f
	5th & 6th grade[e]	57	3.62	0.70			
	Preparatory class[f]	30	3.30	0.96			
Social network addiction	1st grade [a]	285	3.27	0.67			
Instant messaging addiction	2nd grade [b]	194	3.26	0.69			
Online gaming addiction	3rd grade [c]	242	3.26	0.64			
	4th grade [d]	204	3.26	0.74	0.97	0.44	-
	5th & 6th grade[e]	57	3.39	0.63			
	Preparatory class[f]	30	3.05	0.96			
Website addiction	1st grade [a]	285	3.24	0.66			
Technology addiction	2nd grade [b]	194	3.26	0.67			
Authentic behavior	3rd grade [c]	242	3.21	0.61			
	4th grade [d]	204	3.22	0.63	0.62	0.68	-
	5th & 6th grade[e]	57	3.30	0.59			
	Preparatory class[f]	30	3.09	0.52			
Acceptance of external	1st grade [a]	285	2.79	0.79			
influence	2nd grade [b]	194	2.88	0.80			
Family relatedness	3rd grade [c]	242	2.91	0.77	0.68	0.64	-
Intergenerational authority	4th grade [d]	204	2.84	0.82			
	5th & 6th grade[e]	57	2.85	0.81			

Variables	Grade	N	Mean	Sd	F(5;1006)	P	Scheffe Post-Hoc
	Preparatory class[f]	30	2.95	0.83			
Cognitive adaptation	1st grade [a]	285	2.67	0.83			
Social network addiction	2nd grade [b]	194	2.77	0.87			
Instant messaging addiction	3rd grade [c]	242	2.80	0.85			
	4th grade [d]	204	2.79	0.89	1.28	0.27	-
	5th & 6th grade[e]	57	2.88	0.91			
	Preparatory class[f]	30	2.93	1.02			
	1st grade [a]	285	2.36	1.07			
Online gaming addiction	2nd grade [b]	194	2.52	1.11			
Website addiction	3rd grade [c]	242	2.63	0.96			
Technology addiction	4th grade [d]	204	2.55	1.12	3.37	0.01*	e>a
	5th & 6th grade[e]	57	2.85	1.04			
	Preparatory class[f]	30	2.78	1.04			
Authentic behavior	1st grade [a]	285	2.58	0.93			
Acceptance of external	2nd grade [b]	194	2.67	0.95			
influence	3rd grade [c]	242	2.73	0.87			
	4th grade [d]	204	2.63	0.97	1.39	0.23	-
	5th & 6th grade[e]	57	2.87	0.97			
	Preparatory class[f]	30	2.77	0.98			
Family relatedness	1st grade [a]	285	2.60	0.76			
Intergenerational authority	2nd grade [b]	194	2.71	0.81			
Cognitive adaptation	3rd grade [c]	242	2.77	0.74			
	4th grade [d]	204	2.70	0.84	2.03	0.07	-
	5th & 6th grade[e]	57	2.86	0.77			
	Preparatory class[f]	30	2.86	0.86			
Social network addiction	1st grade [a]	285	3.52	0.81			
Instant messaging addiction	2nd grade [b]	194	3.45	0.84			
Online gaming addiction	3rd grade [c]	242	3.31	0.83	3.37	0.01*	a>f
	4th grade [d]	204	3.52	0.77			
	5th & 6th	57	3.24	0.80			

Variables	Grade	N	Mean	Sd	F(5;1006)	P	Scheffe Post-Hoc
	grade[e]						
	Preparatory class[f]	30	3.22	0.91			
Website addiction	1st grade [a]	285	3.05	0.94			
Technology addiction	2nd grade [b]	194	2.92	0.96			
Authentic behavior	3rd grade [c]	242	2.94	0.82			
	4th grade [d]	204	3.02	0.81	0.75	0.59	-
	5th & 6th grade[e]	57	3.02	0.86			
	Preparatory class[f]	30	3.05	0.92			
Acceptance of external influence	1st grade [a]	285	3.41	0.98			
	2nd grade [b]	194	3.19	1.02			
	3rd grade [c]	242	3.15	0.86			
	4th grade [d]	204	3.19	0.90	2.80	0.02*	a>e
	5th & 6th grade[e]	57	3.13	0.91			
	Preparatory class[f]	30	3.13	0.94			

*p<0.05

When Table 6 is examined, it is understood that there is a significant difference in the mean scores of family relatedness (F(5;1006)=6.02; p<0.05), online game addiction (F(5;1006)=3.37; p<0.05), authentic behavior (F(5;1006)=3.37; p<0.05) and emotional avoidance (F(5;1006)=2.80; p<0.05) by grade level. According to the results of the Scheffe post-hoc test, the mean score of 1st grade students for online game addiction is significantly lower than the mean score of 5th and 6th grade students. In addition, the mean score of 1st grade students for family functionality and authentic behavior is significantly higher than the mean score of preparatory class students. Finally, the mean emotional avoidance score of 1st grade students is significantly higher than the mean score of 5th and 6th grade students.

Summary

The results obtained from the research are as follows;

- Descriptive analysis results showed that university students generally have a positive family climate and receive high scores in terms of family relationality, intergenerational authority and cognitive adaptation. In addition, emotional authenticity scores revealed that students have a moderate level of competence in expressing their feelings and understanding the feelings of others.
- It was determined that university students' addiction levels to social networks, instant messaging, online games and websites are generally at a moderate level.

- It is understood that there are significant relationships between university students' family climate variables and technology addiction and emotional authenticity variables.
- It was determined that family relations play an important role among the factors affecting technology addiction. It was concluded that family relationality, cognitive adaptation, acceptance of external influence and emotional avoidance variables reduce technology addiction, while intergenerational authority increases technology addiction.
- The relationships between emotional authenticity and family climate were also found to be significant. It was observed that family relationality and intergenerational authority have a positive effect on emotional authenticity. In cases where the family environment is supportive and safe, students are more likely to express their feelings more openly and sincerely.
- As family relatedness, cognitive adaptation, acceptance of external influence and emotional avoidance increase, technology addiction decreases, and as intergenerational authority increases, technology addiction increases.
- It has been determined that females have higher family climate and emotional authenticity scores than males, while technology addiction scores are lower.
- Males are at higher risk in terms of technology addiction, especially in areas such as online games and social networks.
- The online game addiction average score of 1st year students is significantly lower than the average score of 5th and 6th grade students. In addition, the family functionality and authentic behavior average score of 1st year students are significantly higher than the average score of preparatory class students. However, the emotional avoidance average score of 1st year students is significantly higher than the average score of 5th and 6th grade students.

Discussion

In this study, the effects of family climate and emotional authenticity levels of university students on technology addiction were examined. The findings obtained from the study provide important clues in terms of understanding the relationships between family climate, emotional authenticity and technology addiction. Firstly, the positive evaluation of family climate and the finding of positive significant relationships between family relatedness and authentic behavior can be interpreted as the fact that the supportive and trustworthy environment within the family increases the authenticity of individuals. This finding can be supported by Baumeister and Leary's (1995) need for belonging theory. This theory argues that individuals' need for emotionally satisfying relationships has a strong effect on their psychological health. In this context, increasing family relatedness allows individuals to express themselves more authentically.

There is a negative relationship between family climate and technology addiction. The fact that different types of technology use such as social networking, instant messaging and online game addiction are inversely proportional to family relatedness can be interpreted as digital technologies negatively affecting individuals' social relationships and family dynamics. Turkle (2011) defends the view that digital technologies isolate individuals and weaken face-to-face communication. In cases where warmth and authority within the family are high, low

technology addiction shows that individuals' need to turn to the digital world decreases. The negative relationships between emotional avoidance and technology addiction show that individuals try to regulate their emotions through online platforms. This finding overlaps with Kardefelt-Winther's (2014) theory of technology addiction. Kardefelt-Winther suggests that technology addiction is used as a coping mechanism by individuals. In this context, the fact that individuals with high emotional avoidance turn to technology can be considered as a strategy to cope with emotional difficulties.

Another important finding of the study is that family relatedness and intergenerational authority are positively associated with authentic behaviors. This situation emphasizes the necessity of a safe environment and healthy relationships within the family for individuals to develop their authentic behaviors. Rogers' (1961) humanistic approach suggests that individuals need unconditional acceptance and empathy in order to reveal their authentic selves. In this context, positive relatedness and authority in the family play a critical role in individuals developing their authentic behaviors.

According to the regression analysis, family relatedness, cognitive adaptation, acceptance of external influence, and emotional avoidance are negatively significant predictors of technology addiction, indicating that family interactions can reduce individuals' addiction to the digital world. Zhao et al. (2020) have shown in their research that strong family relationships and healthy communication between family members reduce the risk of technology addiction. It shows that a warm and supportive atmosphere within the family strengthens individuals' ability to keep online activities under control. The fact that family relatedness is a factor that reduces technology addiction can also be explained by Bowen Family Systems Theory. According to the theory, family dynamics have a direct impact on individuals' psychological and behavioral health (Kerr & Bowen, 1988). This theory argues that close and supportive relationships between family members enable individuals to be more resilient to external stressors. In this context, it can be expected that low technology addiction is associated with strong family ties. The fact that intergenerational authority is a factor that increases technology addiction indicates that authoritarian family structures may increase individuals' tendency to develop addiction. Yang and Tung (2007) state that authoritarian parental attitudes may cause individuals to turn to online games and social media platforms as escape routes. Authoritarian family dynamics may create a feeling of pressure in individuals, which may lead to seeking relief in the online world. This situation may cause individuals to seek the freedom and relief they cannot find in their families on online platforms.

The negative relationship between cognitive adaptation and technology addiction indicates that individuals' cognitive flexibility and adaptation skills can reduce technology addiction. Brand et al. (2019) found that individuals with high cognitive adaptation manage their online activities more consciously and in a controlled manner and that these individuals develop less addiction to technology use. Cognitive adaptation can help individuals resist stimuli in the digital world as an ability to adapt to different situations. The fact that emotional avoidance is a negatively significant predictor of technology addiction shows how individuals' emotional regulation strategies shape their relationships with the digital world. Caplan (2010) emphasized the effect of emotional avoidance on technology addiction and stated that individuals who cannot manage their emotions use online activities as a means of escape. In this study, it was observed that individuals with high emotional avoidance

develop less addiction to technology, which shows that individuals do not use the digital world as a means of emotional escape.

The fact that gender has a significant effect on variables such as family relationality, intergenerational authority, social networking and instant messaging addiction shows that individuals differentiate their family roles and the way they use digital platforms according to gender. The fact that female university students have higher family relationality scores than males can be explained by social norms that females assume closer and more supportive roles in family relations. Kroska (2004) states that females generally take on more responsibility for establishing and communicating relationships within the family due to gender norms. This may lead to females tending to perceive family relationality more positively. The fact that females have lower technology addiction scores than males is also supported in the literature. Barker (2009) states that males spend more time on online games and digital platforms than females, and therefore the risk of digital addiction is higher among males. The fact that males have higher online game addiction scores is consistent with the findings that gaming behaviors are common, especially among young males, and that these platforms are used as a means of social interaction. Griffiths et al. (2004) suggest that males view online games as a competitive and social environment and therefore develop more addiction. The fact that males tend to engage in competitive and game-oriented activities in the digital world may be one reason why they have higher technology addiction scores than females.

When we look at the findings according to grade level, the fact that first-grade students have lower online game addiction scores than upper-grade students indicates that young students can use technology in a more limited and controlled manner. Anderson and Dill (2000) showed that young people's interest in online games increases as they get older, and therefore online game addiction becomes more common in older age groups. In addition, since family control and guidance are more prevalent in younger age groups, access to and usage times for digital platforms may be limited. The fact that first-grade students have higher family relatedness and authentic behavior scores than preparatory class students indicates that students in the younger age group tend to establish closer relationships with their families. At an early age, children may tend to spend more time with family members and establish emotional attachments, which may lead to stronger authentic behaviors and family functioning. Erikson's (1950) theory of psychosocial development also supports this finding; a safe and healthy family environment during childhood helps individuals to be more authentic and more successful in their social relationships. The significant differences in emotional avoidance scores according to grade level can also be explained by developmental processes. The higher emotional avoidance scores of first grade students indicate that the emotional regulation skills of individuals in this age group are still developing and that they may have more difficulty managing their emotional states. Gross and John (2003) stated in their research that the emotional regulation strategies of children and adolescents develop with age and that emotional avoidance strategies are more common at an early age.

Conclusion

This study highlights the intricate relationships between family climate, emotional authenticity, and technology addiction among university students. The findings reveal that a positive family environment significantly enhances

emotional authenticity, suggesting that supportive familial relationships foster individuals' ability to express themselves genuinely. Conversely, a negative family climate correlates with increased technology addiction, indicating that excessive digital engagement may detract from meaningful social interactions and family dynamics. Additionally, the results indicate gender differences in family relationality and technology use, with females demonstrating stronger familial connections and lower addiction levels than males. This underscores the impact of social norms on digital behavior. Furthermore, the age-related variations in online game addiction and emotional avoidance suggest that younger students may engage with technology in a more controlled manner, possibly due to greater familial oversight. Overall, these findings underscore the importance of nurturing family environments to mitigate technology addiction and enhance emotional well-being, offering valuable insights for interventions aimed at promoting healthier digital habits among young adults. Future research should further explore the dynamics of family interactions and their influence on technology use, with particular attention to the role of gender and developmental stages.

Recommendations

In light of these results, the following recommendations have been developed for university students, families, educators, and other relevant stakeholders.

Recommendations for University Students

- Students should keep their relationships with their families strong and make efforts to increase mutual communication and support
- Being aware of the time spent on online platforms, habits of limiting technology use should be developed to prevent digital addiction.
- Students should participate in psychoeducation programs where they can develop emotional regulation strategies and especially learn methods for coping with stress.
- It is recommended that they practice expressing themselves in safe social environments to develop authentic behaviors.
- They should make conscious choices in online games and social media use and develop self-control strategies.

Recommendations for Families

- Families should provide emotional support to university students and create opportunities to spend time together in order to strengthen family relationships.
- Families should support students in limiting and balancing their use of technology and prevent excessive digital exposure.
- Individuals should be allowed to express themselves authentically in family communication and should be accepted.
- Avoiding authoritarian family structures and creating a more democratic and empathetic family

environment can reduce individuals' addiction tendencies.

Recommendations for Educators and Universities

- Awareness programs on technology addiction should be organized in universities, and students should be educated on this issue.
- Psychosocial support services should be expanded in universities so that students can overcome their emotional difficulties.
- Information studies should be conducted in universities on the possible psychological and social risks of excessive use of digital platforms.
- Club activities, social activities and group work should be encouraged to increase social interactions among students.

Recommendations for Other Stakeholders (Policy Makers, Researchers)

- The Ministry of National Education and universities should develop digital media literacy courses and programs to ensure that students use digital platforms consciously.
- Academic research on technology addiction should be increased and studies aimed at developing more policies on this issue should be supported.
- Longitudinal studies should be conducted to observe the changes in the relationships between technology addiction and family climate over time.
- Comparative studies should be conducted in various cultures to understand the effects of factors such as family climate and emotional authenticity on cultural differences in addiction.
- Experimental studies should be conducted to examine the effectiveness of family participation and emotional authentic-based intervention programs that evaluate coping strategies for technology addiction, and which strategies are more effective should be determined.
- Studies should be conducted to examine the effects of cognitive adaptation on technology addiction in more depth; in particular, how cognitive adaptation can be developed and its effect on technology usage habits should be investigated.

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