



RESEARCH ARTICLE / ARAŞTIRMA YAZISI

The Relationship of Video Game Addiction with Childhood Traumas and Emotional Dysregulation Problems

Video Oyun Bağımlılığının Çocukluk Travmaları ve Duygu Düzenleme Problemleri ile İlişkisi

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Abstract:

This study aimed to contribute to the literature on the factors causing video game addiction through examination of the relationship of video game addiction with childhood experiences and emotion dysregulation. The study population consisted of university students between 18 and 35 years of age. The data were obtained through surveys developed on Google Forms, which were sent to the smartphones of the university students, who were obtained from the university registration system and who agreed to volunteer. Participants responded to the Game Addiction Scale (GAS), the Childhood Trauma Questionnaire (CTQ), and the Difficulties in Emotion Regulation Scale (DERS). Data obtained from 269 university students were examined in the study. Looking at the correlation between the scales, a significant positive correlation was observed between malfunctions and clarity ($r: 0.206$) among the video game addiction subscales. In addition, success was significantly and positively correlated with total DERS ($r: 0.211$) and CTQ scores ($r: 0.207$), and economic profits had a significant positive correlation with DERS ($r: 0.211$) and total CTQ scores ($r: 0.207$). In the linear regression model concerning childhood traumas and difficulties in emotional regulation constructed for video game addiction scores, sexual abuse ($\beta: 0,731$) and clarity ($\beta: 1,019$) subscale scores were observed to have positive contributions. Many types of addictions, especially video game addiction, can be prevented by preventing adverse childhood experiences, providing physical and emotional support to the child, and ensuring that emotion regulation skills are used effectively. Considering the changing characteristic of difficulties in emotional regulation among these two factors, improving the emotion regulation skills of individuals with adverse childhood experiences can reduce the addiction risk concerning video games.

Keywords: Childhood trauma, Emotional regulation, Video game addiction

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Date of Received/Geliş Tarihi: 23.07.2023, **Date of Revision/Düzelme Tarihi:** 21.10.2023, **Date of Acceptance/Kabul Tarihi:** 23.01.2024, **Date of Online Publication/Çevrimiçi Yayın Tarihi:** 17.03.2024

Citing/Referans Gösterimi: Elkin, N. & Kılınçel, O. (2024). The Relationship of Video Game Addiction with Childhood Traumas and Emotional Dysregulation Problems. *Cyprus Turkish Journal of Psychiatry & Psychology*, 6(1): 14-20.

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Öz:

Bu çalışma, video oyun bağımlılığının çocukluk yaşantıları ve duygu düzenleme bozukluğu ile ilişkisini inceleyerek video oyun bağımlılığına neden olan faktörlerle ilgili literatüre katkıda bulunmayı amaçlamıştır. Araştırma evrenini 18-35 yaş arası üniversite öğrencileri oluşturmaktadır. Veriler, üniversite kayıt sisteminden alınan ve gönüllü olmayı kabul eden üniversite öğrencilerinin akıllı telefonlarına gönderilen Google Forms üzerinde geliştirilen anketler aracılığıyla elde edilmiştir. Katılımcılar Oyun Bağımlılığı Ölçeği (GAS), Çocukluk Travma Anketi (CTQ) ve Duygu Düzenleme Güçlükleri Ölçeği'ni (DERS) yanıtlamışlardır. Araştırmada 269 üniversite öğrencisinden elde edilen veriler incelenmiştir. Ölçekler arasındaki korelasyona bakıldığında, video oyun bağımlılığı alt ölçeklerinden arızalar ve anlaşılabilirlik ($r: 0.206$) arasında pozitif yönde anlamlı bir ilişki gözlemlenmiştir. Ayrıca, başarı, toplam DERS ($r: 0,211$) ve CTQ puanları ($r: 0,207$) ile anlamlı ve pozitif korelasyona sahiptir ve ekonomik kârlar, DERS ($r: 0,211$) ve toplam CTQ puanları ($r:0,207$) ile anlamlı ve pozitif bir korelasyona sahiptir. Video oyun bağımlılığı puanları için oluşturulan çocukluk çağı travmaları ve duygu düzenleme güçlüğü ile ilgili doğrusal regresyon modelinde, cinsel istismar ($\beta: 0,731$) ve açıklık ($\beta: 1,019$) alt ölçek puanlarının olumlu katkıları olduğu görülmüştür. Bilgisayar oyunu bağımlılığı başta olmak üzere pek çok bağımlılık türü, olumsuz çocukluk yaşantılarının önlenmesi, çocuğa fiziksel ve duygusal destek sağlanması ve duygu düzenleme becerilerinin etkin bir şekilde kullanılmasının sağlanması ile önlenabilir. Duygu düzenleme güçlüğü'nün bu iki faktör arasında değişen karakteristiği göz önünde bulundurulduğunda olumsuz çocukluk deneyimleri yaşayan bireylerin duygu düzenleme becerilerinin geliştirilmesi video oyunlarına ilişkin bağımlılık riskini azaltabilir.

Anahtar Kelimeler: Duygu düzenleme, Çocukluk çağı travması, Video oyun bağımlılığı

Introduction

Developing technology has changed the way individuals spend their free time over time. Especially the widespread use of devices such as smartphones and tablet computers has facilitated access to digital games, and gaming habits have changed. Today, game addiction has become one of the significant behavioral addictions. The most common type of game that causes addiction in individuals is the video games (Keskin and Aral, 2021). Video game addiction is a condition that causes people to be mentally busy with video games and spend a lot of time in the game, disrupting their daily routine and experiencing negativities in social, psychological, academic, and professional life (Ng and Wiemer-Hastings, 2005). As with all behavioral addictions, the causes of game addiction are multifactorial. The factors that cause game addiction can be listed into two subgroups, which are internal and external (Kuss and Griffiths, 2012). Internal factors include low self-esteem, emotional dysregulation, motivation to play video games, neurobiological abnormalities of the individual, depression, ADHD, and comorbid psychiatric diseases such as social phobia. External factors are family factors such as parental problems, neglect, and domestic violence, social problems such as relationship problems and social isolation, and the features of the games (Popow et. Al, 2019). In addition to these factors, factors that have not yet been determined and triggering factors for individuals in the risk group may also cause game addiction.

Emotional regulation is generally defined as the ability to recognize, name, experience, and express emotions (Saraiya and Walsh, 2015). It also refers to the ability of individuals to control their impulses when they experience adverse emotions and to use appropriate emotional regulation strategies along with acting in a goal-oriented manner. Emotional dysregulation refers to the inability to use any of these traits appropriately (Gratz and Roemer).

It has been proven that individuals who experience difficulties in emotional regulation are more prone to behaviors that lead to addiction to avoid and eliminate adverse emotions and reregulate emotions (Aldao et. al, 2010, Evren et. all, 2019). For example, it has been reported that people with emotional dysregulation experience more behavioral addictions, such as pathological gambling (Elmas et. all, 2016), problematic internet use (Sertbaş et. all, 2020) social media addiction (Liu and Ma, 2019) and video gaming disorder (Yen et. all, 2018).

Childhood traumas are all kinds of life events that cause damage to the physical, mental, sexual, and social development of the individual during childhood (Taner and Gökler, 2004). Studies on childhood traumas generally include physical, emotional, sexual abuse, and physical/emotional neglect (Gerson and Rappaport, 2013). Trauma leads to psychiatric problems at every stage of life. Especially during childhood, when coping skills are not sufficiently mature, exposure to trauma increases the likelihood of experiencing psychiatric problems (Enoch, 2011).

The literature contains various studies on video game addiction, emotional dysregulation, and childhood experiences. Nevertheless, the number of studies on the effect of these two variables on video game addiction is limited. In addition, the number of studies on the relationship of video game addiction with childhood experiences and the sub-dimensions of difficulties in emotional regulation is very limited in the literature.

This study aimed to contribute to the literature about the factors causing video game addiction by examining the relationship of video game addiction with childhood experiences and difficulties in emotional regulation. In this study, the relationship of video game addiction with childhood experiences and difficulties in emotional

regulation was examined. In addition, it was aimed to contribute to the literature on the role of childhood traumas such as physical abuse and neglect, sexual abuse, emotional abuse and neglect, and emotion regulation difficulties in video game addiction.

Methods

This study was conducted as an online cross-sectional self-reported survey. Participants were asked to complete the Game Addiction Scale, Childhood Trauma Questionnaire and Difficulty in Emotion Regulation Scale.

Sample

The study population consisted of 2560 psychology and child development undergraduate and graduate students in Istanbul Gelisim University between 18 and 35 years of age and 269 student accepted to respond to the questionnaire. While selecting the sample size, the number was decided by performing Power analysis. Data were obtained through surveys developed on Google Forms, which were sent to the smartphones of the university students obtained from the university registration system and who agreed to volunteer. Students who read and approved an information note containing the research title and the purpose of the research before participating in the study were included in the study.

Scales

Game Addiction Scale (GAS):

It was developed, and Turkish validity and reliability study was conducted by Kaya in 2013 to measure the level of video game addiction of adolescents (Kaya, 2013). In the study, the names of the three factors that emerged in the study were "Malfunctions", "Success", and "Economic Profits". The "Malfunctions" factor consists of items addressing the malfunctions experienced by game players due to their gaming habits. The items under the "success" factor express the sense of success experienced by game players while playing games. Finally, the "Economic Profits" factor consists of items that reveal the presence of economic concerns in the gaming behaviors of game players. The Cronbach Alpha internal consistency coefficient of the scale was found to be .91 (Kaya, 2013).

Childhood Trauma Questionnaire (CTQ):

It was first developed by Bernstein et al. in 1994 and consisted of 70 items to measure childhood traumatic experiences. The final version of the questionnaire consists of 28 items and a total of 5 sub-dimensions: physical abuse, physical neglect, sexual abuse, emotional abuse,

and emotional neglect. The total score range of the scale is between 25 and 125 points, while the score range of the sub-dimensions is between 5 and 25 points. The Turkish validity and reliability study of the scale was conducted by Sar et al. in 2012 (Sar et. all, 2012). Cronbach's alpha value, which shows the internal consistency of the scale It was found to be 0.93 (Sar et. all, 2012).

Difficulties in Emotion Regulation Scale (DERS): The scale was developed by Gratz and Roemer to measure the difficulties in emotional regulation experienced by individuals (Gratz and Roemer, 2004). The scale contains six sub-dimensions: Awareness, clarity, non-acceptance, strategy, impulse, and goals. It is a 5-point Likert-type scale consisting of 36 items. High scores obtained from the scale indicate the presence of more severe difficulty in emotional regulation. It was adapted to Turkish by Ruganci and Gencoz (Ruganci and Gencoz, 2010). Cronbach's alpha internal consistency coefficient is .79 and .90. (Ruganci and Gencoz, 2010).

Ethics statement

Before starting the study, approval from Istanbul Gelisim University Ethics Committee dated 04.11.2022 / 22-16 and numbered was obtained.

Statistical analysis

Study data were uploaded to the computer on SPSS v22. Descriptive analyses were presented as mean, frequency, and percentage. Normal distribution was measured by visual and analytical methods. Pearson correlation analysis was used in correlation analyses. Univariate and multivariate linear regression analyses were performed for modeling. For all analyses, a statistical significance level of $p < 0.05$ was considered.

Results

Data obtained from 269 university students were examined in the study. Among the participants, 84.4% were female, and 87.4% defined their financial status as moderate. Most of the participants responded "sometimes" (45.0%) to physical activity, and similarly, the most common response to participating in social activities was "sometimes" (45.0%). It was observed that 55.4% of the participants played a video game constantly and the most common game in the list of games was "PUBG", followed by "101 Okey" and "Valorant" in Table 1.

Table 1. Sociodemographic data

		%	n
Age		21.0 ± 2.3	269
Gender	Male	15.6	42
	Female	84.4	227
Where did you grow up?	Town/Village	7.4	20
	Metropolitan Center	57.6	155
	District Center	34.9	94
How would you describe the financial situation of your family?	Poor	3.3	9
	Moderate	87.4	235
	High	8.9	24
Do you have any chronic diseases?	Yes	9.3	25
	No	90.7	244
Do you smoke?	Yes	18.2	49

Do you drink alcohol?	No	81.8	220
	Yes	14.5	39
Physical activity	No	85.5	230
	Sometimes	45.0	121
	Never	5.2	14
	Rarely	34.9	94
	Frequently	14.9	40
How often do you participate in social activities?	Sometimes	45.0	121
	Never	3.7	10
	Rarely	19.7	53
	Frequently	31.6	85
Do you have an emotional relationship?	Yes	40.9	110
	No	59.1	159
Which video game do you usually play?	PUBG	6.3	17
	101 Okey	5.9	16
	Valorant	3.3	9
	League of Legends	3.3	9
	Sims 4	3.3	9
	Other	33.8	89
	Gamers	55.4	149
	None	44.6	120

The Game Addiction Scale, the Childhood Trauma Questionnaire, and the Difficulties in Emotional Regulation Scale were administered to the participants. The total and subscale scores and standard deviations of the scales were presented in Table 2

Table 2. Total and subscale scores and standard deviations of the scales

		Mean	SD
Game Addiction Scale (GAS)	Malfunctions	10.5	8.0
	Success	15.4	8.4
	Economic profits	5.0	4.0
	Total	30.9	14.1
Childhood Trauma Scale (CTQ-21)	Emotional abuse	9.0	3.7
	Physical abuse	13.5	3.0
	Physical neglect	25.2	4.6
	Emotional neglect	6.7	2.6
	Sexual abuse	12.9	2.8
	Total	67.4	11.1
Difficulties in Emotional Regulation Scale (DERS)	Awareness	18.4	4.4
	Clarity	14.4	3.0
	Non-acceptance	16.2	7.3
	Strategies	21.2	7.1
	Impulse	21.0	7.4
	Goals	15.3	4.3
	Total	106.9	27.3

Looking at the correlation between the scales, a significant positive correlation was observed between malfunctions and clarity ($r: 0.206$) among the video game addiction subscales. In addition, success was significantly and positively correlated with total DERS ($r: 0.211$) and CTQ

scores ($r: 0.207$), and economic profits had a significant positive correlation with DERS ($r: 0.211$) and total CTQ scores ($r: 0.207$). The correlation coefficients between the scales were presented in Table 3.

Table 3. Correlation coefficients between scales

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Malfunctions	1																
2 Success	0.671	1															
3 Economic profits	0.657	0.370	1														
4 Total Online	0.887	0.924	0.635	1													
5 Physical neglect	0.105	0.140	0.115	0.144	1												
6 Emotional neglect	0.047	0.137	-0.037	0.096	-0.046	1											
7 Physical abuse	0.068	0.129	0.003	0.105	0.062	0.880	1										
8 Emotional abuse	0.084	0.130	0.097	0.127	0.973	-0.065	0.014	1									
9 Sexual abuse	0.114	0.180	0.071	0.165	0.275	0.399	0.503	0.240	1								
10 Total CTQ	0.120	0.207	0.068	0.183	0.623	0.687	0.782	0.588	0.694	1							
11 Awareness	-0.030	0.091	-0.039	0.039	-0.143	0.274	0.294	-0.142	0.198	0.161	1						
12 Clarity	0.206	0.205	0.202	0.236	0.169	0.006	0.004	0.170	0.085	0.117	0.313	1					
13 Non-acceptance	0.185	0.163	0.145	0.192	0.254	-0.096	-0.134	0.249	0.045	0.070	-0.069	0.523	1				
14 Strategies	0.192	0.178	0.133	0.202	0.288	-0.084	-0.100	0.280	0.021	0.099	0.018	0.569	0.840	1			
15 Impulse	0.195	0.113	0.133	0.222	0.289	-0.023	-0.111	0.287	0.020	0.110	0.012	0.539	0.850	0.775	1		
16 Goals	0.147	0.205	0.071	0.192	0.299	-0.029	-0.025	0.296	-0.007	0.144	0.154	0.575	0.644	0.773	0.773	1	
17 Total DERS	0.195	0.211	0.139	0.224	0.268	-0.031	-0.046	0.262	0.064	0.134	0.214	0.704	0.873	0.957	0.957	0.840	1

The linear regression model constructed for video game addiction scores, which contained childhood traumas and all subscales of difficulties in emotional regulation, was observed to be statistically significant (R2:0,095, F:2,711, p:0,004) and it was found that the scores of "clarity" made statistically significant contributions to the model. In this model, the best model was obtained by retrospective

elimination (R2:0.077, F: 11.026, p:0.001), and it was observed that sexual abuse and clarity subscale scores contributed significantly to the model. The univariate and multivariate linear regression analysis of childhood traumas and difficulties in emotional regulation for video game addiction scores was presented in Table 4.

Table 4. Univariate and multivariate linear regression analysis of childhood traumas and difficulties in emotional regulation for game addiction scores

Study parameter	Multivariate linear regression model		Variables remaining in the best model in retrospective elimination	
	Standardized β	p	Standardized β	P
Physical neglect	0.907	0.386		
Emotional neglect	0.354	0.557		
Physical abuse	-0.024	0.956		
Emotional abuse	-1.047	0.468		
Sexual abuse	0.570	0.124	0.731	0.014*
Physical neglect	-0.180	0.425		
Awareness	0.054	0.807		
Clarity	0.806	0.029*	1.019	0.001*
Non-acceptance	0.907	0.386		
Strategies	0.113	0.320		
Impulse	0.066	0.793		
Goals	0.143	0.664		

Note: *p<0.050

Discussion

In our study, 269 university students were included to examine the relationship between video game addiction, childhood experiences, and difficulties in emotional regulation. About half of the participants were frequent players of a video game. The most frequently played games were ‘PUBG’ and ‘101 Okey’.

When the relationship between video game addiction and difficulties in emotional regulation of the participants was examined, it was observed that there was a positive correlation between malfunctions, which was one of the subscales of the Game Addiction Scale, and clarity, the sub-dimension of Difficulty in the Emotional Regulation Scale. This result suggested that individuals had more difficulty defining and expressing how they felt in negative situations clearly as malfunctions they experienced

increased during their playing habits. Similar to our findings, a study conducted with 472 individuals between 13 and 21 years of age demonstrated that difficulties in emotional regulation predicted video game addiction (Estevez et. all, 2017). Another study found a positive correlation between all sub-dimensions of difficulties in the emotional regulation scale and video game addiction scale scores. Unlike our study, it was noteworthy that the sub-dimensions of impulse control and strategies, which were emotion regulation difficulties, increased problematic game playing according to age and gender (Hollett and Harris, 2020). The fact that the majority of the sample is female can be considered a limitation of the study because it may come to mind that men are more likely to develop such addictions.

Our study found a positive correlation between success, a subscale of the game addiction scale, and difficulties in

emotional regulation. As the feeling of success experienced by the participants while playing video games increased, they had difficulty using emotion regulation strategies. It is known that individuals who spend a lot of time in Internet games resort to video games as a means of coping with the frustration and dissatisfaction they may experience in the face of situations where they feel anxiety and tension (De Pasquale et. all, 2018). Some studies have reported that the factors of escaping from reality and achieving success are at the forefront as the motivation of individuals who play games at the pathological level (Hussain et. all, 2015). In addition to the results of our study, a positive correlation was found between economic profits from the subscales of video game addiction scales and difficulties in emotional regulation. Due to the increased economic anxiety because of gaming behaviors, they have more difficulty regulating their emotions. A study examining the relationship between digital game addiction, perceived social support, and emotion regulation demonstrated that as the level of digital game addiction increased, more emotion regulation difficulties were experienced and the level of perceived social support decreased (Barut, 2019). It can be argued that the decrease in social support of individuals who play video games excessively during adulthood may lead to economic concerns or that individuals with financial problems receive less social support. Considering the results of our study, it was not surprising that these individuals experienced emotional regulation problems due to both factors.

According to our results, a positive correlation was observed between childhood traumas and the sense of achievement and economic concerns experienced during the game. It has been noted that childhood traumas affect the development of video game addiction. Many studies reported that game addiction was more common, especially in violent online games, in environments with intense family conflicts and addiction was less common among children raised in peaceful family environments (Feng et. all, 2003; Chiu et. all, 2004). In the literature, many studies reported a positive relationship between early traumatic life events, particularly emotional or physical abuse, with alcohol, substance use, gambling, gaming, and other types of addictions (Khoury et. all, 2010; Roberts et. all, 2017) In a study conducted on video gaming motivations, it was found that the motivation to succeed and immerse in the game predicted pathological gaming (Yee, 2006).

Our model analysis indicated that childhood traumas and difficulties in emotional regulation contributed to video game addiction scores. The results of the one study investigating the effect of these two factors on video game addiction support the results of our study. In the study conducted with the university and community sample in Canada, adverse childhood experiences were positively correlated with problematic gaming in the university sample; however, no significant relationship was found between adverse childhood experiences and problematic gaming in the community sample. The most important result of the study was that difficulties in emotional regulation mediated the relationship between adverse

childhood experiences and problematic gaming in both university and community sample (Kim et. all, 2023). As in the study of Evren et al.; Lack of emotional regulation is the key to understanding the relationship between childhood trauma and internet addiction (Evren et. all, 2016).

The fact that the study was conducted in a single university is an important limitation, and it will contribute to the field if it is carried out on too many students in more than one university.

Many types of addictions, especially video game addiction, can be prevented by preventing adverse childhood experiences, providing physical and emotional support to the child, and ensuring that emotion regulation skills are used effectively. Considering the changing characteristic of difficulties in emotional regulation among these two factors, improving the emotion regulation skills of individuals with adverse childhood experiences can reduce the addiction risk concerning video games. Media literacy training for families and individuals The fight against online addiction should be supported by giving Professional help should be sought when necessary (Tiryaki & Karakuş, 2019).

Conclusion

It is important to prevent negative childhood experiences in the prevention of many types of addiction, especially computer game addiction. In addition, it is effective in providing physical and emotional support to the child and ensuring that the child's emotion regulation skills are used effectively. Developing emotion regulation skills of individuals who have had negative childhood experiences may reduce the risk of addiction to video games.

Journalism Ethics

The researchers diligently adhered to journalism ethics considerations throughout the study, ensuring a high standard of ethical conduct. Key ethical issues, including but not limited to plagiarism, informed consent, abuse, duplicate publication and/or submission, and redundancy, were thoroughly addressed and observed..

Declarations

Ethics Approval and Consent to Participate

Ethics approval for this study was obtained from Istanbul Gelişim University's Ethics Committee on November 14, 2023 (Decision No: 2022/16). Prior to their participation, participants were provided with and approved informed consent forms..

Consent for Publication

Not applicable

Availability of Data and Materials

Not applicable.

Competing Interests

The author declares that no competing interests in this manuscript.

Funding

Not applicable.

Authors' Contributions

NE and MOK made equal contributions to outreach, data collection, literature review, statistical analysis, and article writing.

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