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Habits and Perceptions as Key Factors: How Online Gaming Predicts Aggression, Alienation and Emotional Intelligence*

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Abstract

E-sport gradually reached large masses and is consuming a great deal of time and circulation of money. Literature shows us that there are relationships between online gaming and various psychological factors. Especially the relationship between online gaming and aggression was widely studied. Alienation and emotional intelligence were also treated as potential mediators on the relevant relationship. The literature has not properly come to an agreement on the direction of the relevant relationship, moderators and mediators, so far. Therefore, this study aimed to investigate the possible predictions based on online gaming habits and perceptions of online gaming for aggression, alienation and emotional intelligence. A sample of 316 online game players completed the online gaming habits and perceptions questionnaires, Buss-Perry Aggression Scale, Dean's Alienation Scale and Emotional Intelligence Scale. Results have shown that none of the aggression types were predicted by neither years nor daily hours of playing online games. Additionally, perceptions and habits predicted different dimensions of aggression, alienation and emotional intelligence diversely. Our results indicated that, the observed relationships are rooted from how players perceive the game and the degree of their socialization within the game, rather than mere exposure to online games. This study provides a new insight by putting forward the individual perspective in scope of effects of online games.
Keywords: Online gaming, E-sport, Aggression, Alienation, Emotional intelligence

Alışkanlıklar ve Algıların Anahtar Rolü: Çevrimiçi Oyun Oynamanın Saldırganlığı, Yabancılaşmayı ve Duygusal Zekayı Yordaması*

Öz

E-Spor çok sayıda insana ulaşmakta ve çok büyük miktarlarda zaman ve para tüketmektedir. Geçmiş literatür çevrimiçi oyun oynamanın başta agresyon olmak üzere çeşitli psikolojik faktörlerin ilişkilerini ortaya koymuştur. Özellikle çevrimiçi oyun o ve saldırganlık arasındaki ilişki yaygın olarak çalışılmıştır. Yabancılaşma ve duygusal zeka ise söz konusu ilişkinin potensiyel aracıları olarak alınmıştır. Ancak bu ilişkilerin yönü, düzenleyici ve aracı değişkenleri konusunda henüz tam bir uzlaşıya varılmadığı görülmektedir. Bu çalışmanın amacı çevrimiçi oyun alışkanlıkları ve oyuna ilişkin algılar ile saldırganlık, yabancılaşma algıları ve duygusal zeka arasındaki olası ilişkileri araştırmaktır. Örneklemi 316 oyuncu oluşturmaktadır ve veri toplama süreci çevrimiçi olarak gerçekleştirilmiştir. Katılımcılar çevrimiçi oyun alışkanlıkları ve algılarına ilişkin formları, Buss-Perry Saldırganlık Ölçeği'ni, Dean'in Yabancılaşma Ölçeği'ni ve Duygusal Zeka Ölçeklerini tamamlamışlardır. Bulgular, saldırganlık boyutlarından hiçbirinin kaç yıldır çevrimiçi oyun oynandığı veya çevrimiçi oyunlara günlük kaç saat ayrıldığı tarafından yordanmadığını göstermiştir. Ayrıca, algılar ve alışkanlıkların saldırganlığın, yabancılaşmanın ve duygusal zekanın farklı boyutlarını çeşitli şekillerde yordama gücü olduğu görülmüştür. Sonuçlar, literatürde gözlenen ilişkilerin oyuncuların daha çok çevrimiçi oyunlara maruz kalmalarından ötürü değil, bu bireylerin oyunu nasıl algıladıkları ve oyun içerisinde ne düzeyde sosyalleştiklerinden kaynaklandığını göstermektir.
Anahtar Kelimeler: Çevrimiçi oyunlar, E-spor, Saldırganlık, Yabancılaşma, Duygusal zeka

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INTRODUCTION

The term of sport is generally used to define the activity that offers amusement or relaxation; entertainment, fun but mostly a "game involving physical exercise". Especially the notion of inessentiality of physical reality on human activity is becoming clear after the technological development of last decades in which eSport concept has its roots (Sanchez & Remillard, 2018). Video games had an arcade identity in its first era but today video gaming became a complex digital ecosystem which has more than 335 million spectators worldwide. The game named DOTA 2 which has the number of monthly active users regularly exceeding 11 million and by May 2020, the game peaked at over 791 thousand concurrent players. Some of the international tournaments have $34 million prize pools and hundreds of thousands of online viewers. It is estimated that video gaming is an enormous ecosystem with the market that can generate $159.3 billion in revenue by 2020 (Business Insider, 2020).

The probable effects of the technology surrounding modern individuals are increasingly emphasized as negative, maybe because of the Putnam's (2000) "bowling alone" hypothesis which suggests social capital is eroding because of technology. Nevertheless, it must be mentioned that there are some approaches which specify online media and video games as exceptions (Steinkuehler & Williams, 2006). There are two research camps about the debate on promotion of aggression via video games and is continuing passionately. Some of the authors advocate the negative effects of video games while the others are appraising these effects are at minimum (Kühn et al., 2019). Video games might increase aggressive behaviors via the accessibility of antisocial thoughts (Anderson & Dill, 2000). Past research has shown that cortisol level and cardiovascular arousal might increase after playing a violent game (Gentile et al., 2017). Conversely, a great deal of research found no significant engagement between violent games and aggressive cognitions/behaviors (e.g. Charles et al., 2013; Engelhardt et al., 2015). Williams and Skoric's (2005) 1-month longitudinal study found no evidence for aggression and online game relationships.

As online gaming is discussed especially in youth or adolescents, alienation is considered one of the moderators along with negative effects such as aggression (Slater et al., 2004) and delinquency (Exelmans et al., 2015). Alienation can be described as a specific response to his or her relationship between individual and world. Individual suffering, meaningless, helplessness, loneliness, hostility and general unrelatedness are the characteristics of alienation (Hascher & Hadjar, 2018; Slater, 2003). Online gaming might serve as compensator of alienation in real life (Peng, 2020), because of online friendship acquisition (Calado et al., 2014), social skill development (Ducheneaut & Moore, 2005) and gaining social confidence (Herodotou et al., 2014). Furthermore, alienation might be designated by not only the online gaming habits but also how individuals perceive the games.

Herodotou et al., (2014) also points out that playing online games are known to be convenient arenas to express emotions. Emotional intelligence is defined as identifying, expressing, understanding and regulating individuals own emotions and others' emotions accurately by Salovey and Mayer (1990). Emotional intelligence was found to be lower in high-risk online game players and evaluated to be a strong predictor of excessively playing online game (gaming abuse/addiction) (Parker et al., 2008; Seo et al., 2012).

In the light of this literature, this study aimed to bring a new perspective from the flipside by examining whether gaming habits and perceptions of the game might predict the different dimensions of aggression, alienation and emotional intelligence.

METHOD

Research Model

This study is designed to have an exploratory approach. Quantitative data was collected and relational survey model was used in order to observe the relations between habits and perceptions of gaming and relevant psychological variables.

Sampling

The number of participants who completed the online survey was 324. Eight participants were excluded from the analyses due to untrusted patterns (e.g. same answers for whole questionnaires). The final sample used in this study consisted of 316 online gamers (ages 13-50, M = 22.81, SD = 5.1; 76.9% male) from Turkey. Data collection was online and participants were recruited in Spring 2019 through snowball sampling. All participants were voluntary. Our participants were playing online games for a miscellaneous length of time from one year to 15 years (M = 6.31, SD = 3,55). Forty-two of them were licensed as e-sport athletes. Our participants were playing League of Legends (n = 237), Counter Strike (n = 211), Knight Online (n = 62), Mortal Kombat (n = 43), Dota 2 (n = 42), World of Warcraft (n = 36) and Overwatch (n = 34).

Ethical Approval

Ege University Social Sciences Research Ethics Committee's approval for this study guarantees that the study was conducted in accordance with the Declaration of Helsinki.

Data Collection Tools

Online Game Habits: We used four questions to investigate these how much time they spend daily for playing (DHP), for how many years they were playing online games (YP), how many of their friends are playing the same game online on a 5-point Likert scale (1: None of them, 5: All of them) (GF) and how much they have conversations with the new people from the games about social issues other than the game on a 5-point Likert scale (1: Never, 5: Always) (SIGF). All questions were included in the analyses separately.

Perceptions of Online Games: We used three questions to investigate that how the gamers evaluate the game in the aspects of degree of visual verisimilitude (PVer), degree of containing violence (PVio) and cooperation (PC). All questions were included in the analyses separately.

Buss-Perry Aggression Questionnaire (BPAQ): This questionnaire was developed to measure aggression through four factors by Buss and Perry (1992). BPAQ is a tool consisting of 29 items on a scale of 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). Example items are "*I sometimes feel like a powder keg ready to explode*." for anger, "*I wonder why sometimes I feel so bitter about things*." for hostility, "*Given enough provocation, I may hit another person*." for physical aggression and "*My friends say that I'm somewhat*

argumentative." for verbal aggression. Turkish adaptation of this scale was done by Demirtaş-Madran (2012) and the Cronbach Alpha coefficients were satisfying: α = .76 for anger, α = .71 for hostility, α = .78 for physical aggression, α = .48 for verbal aggression and α = .85 for total scale.

Dean's Alienation Scale (DAS): Dean (1961) has developed this scale to basically measure how distant an individual feels her/himself to society. Yalçin and Dönmez (2017) have adopted this scale to Turkish. It has three subscales and sample items are "*Sometimes I feel all alone in the world.*" for isolation, "*There is little I can do to prevent a major shooting war.*" for powerlessness and "*People's ideas change so much I wonder if we'll ever have anything to depend on.*" for normlessness. It has 20 items and was responded to on a 5-point Likert design ranging from (1) completely disagree to (7) completely agree. In Turkish adaptation study internal consistency values were satisfying: α = .60 for isolation, α = .74 for powerlessness, α = .61 for normlessness and α = .79 for total scale.

Trait Emotional Intelligence – Short Form (TEI-SF): TEI-SF was developed to measure individuals' perceptions about their own emotional competence by Petrides and Furnham (2001). The adaptation of this measurement tool for Turkish population was done by Deniz et al., (2013). The Cronbach Alpha coefficient was .81 for total scale. TEI-SF has four subscales (well-being, self-discipline, emotionality and sociability) and the reliability of subscales showed between 66% and %72 which can be assessed as good. Sample items are "*On the whole, I'm pleased with my life.*" for well-being subscale, "*I usually find it difficult to regulate my emotions.* (R)" for self-discipline subscale, "*Many times, I can't figure out what emotion I'm feeling.* (R)" for emotionality and "*I am usually able to influence the way other people feel*." for sociability subscales. It was responded to on a 7-point Likert scale, ranging from 1 to 7.

Data Collection

The link of online survey was shared through online forums and chat groups about online games. The link of online survey was shared through online forums and chat groups about online games. Participants first read the informed consent and then filled the question forms including online game habits, perceptions of online games, aggression scale, alienation scale and emotional intelligence scale, respectively.

RESULTS

In the first instance, Pearson's correlations revealed that daily hours of playing is positively correlated with years of playing and sharing with in-game friends, when negatively correlated with perceived violence. All correlations can be seen in Table 1.

Table 1. Correlations between online game habits and perceptions of the online games

	DHP	YP	PVio	PC	PVer	GF	SIGF
Daily hours of playing (DHP)	-						
Years of playing (YP)	.33***	-					
Perceived violence (PVio)	-.16**	.04	-				
Perceived cooperation (PC)	.05	.15**	.13*	-			
Perceived verisimilitude (PVer)	.05	.00	.17**	26***	-		
Gamer friends (GF)	.07	.05	.05	.19**	.25***	-	
Sharing with in-game friends (SIGF)	.29***	.22***	.02	.18**	.18**	.20***	-

*** *p* < .05, ** *p* < .01, *** *p* < .001**

Multivariate regression was recruited in order to observe the associations between game habits, perceptions of games and types of aggression (Table 2.). Accordingly, having gamer friends was the only variable predicting dimensions of aggression. More friends playing the same game, the higher score on physical aggression (b = 1.32, SE = .41, t = 3.25, p = .001) and verbal aggression (b = .60, SE = .21, t = 2.87, p = .004). In consideration of possible relationships between game habits, perceptions of games and dimensions of alienation, multivariate regression was conducted. Results demonstrated that the game habits didn't predict any dimensions of alienation, but perceptions of the games predicted isolation and powerlessness. Perception of violence in the game predicted isolation in a reverse way (b = -.37, SE = .17, t = -2.16, p = .03) and perception of cooperation predicted isolation (b = .44, SE = .21, t = 2.11, p = .04). Besides, perception of verisimilitude of the game predicted powerlessness in a reverse way (b = -.73, SE = .29, t = -2.49, p = .01).

The last multivariate regression analysis was conducted with the same predictors for the dimensions of emotional intelligence. Years of playing predicted sociability (b = .17, SE = .08, t = 2.17, p = .03). Besides, sharing social issues with gamer friends predicted emotionability (b = .42, SE = .20, t = 2.08, p = .04) and sociability (b = .57, SE = .22, t = 2.61, p = .009). also, perception of cooperation predicted emotionability (b = .61, SE = .22, t = 2.79, p = .006) and sociability (b = .72, SE = .24, t = 3.01, p = .003).

Table 2. Multivariate regression analyses summaries predicting aggression, alienation and emotional intelligence

	Aggression								Alienation						Emotional Intelligence					
	Anger		Hostility		Physical aggression		Verbal aggression		Isolation		Powerlessness		Normlessness		Well-being		Self-discipline		Emotionability		Sociability	
	B(SE)	*t*	*B(SE)*	*t*	*B(SE)*	*t*	*B(SE)*	*t*	*B(SE)*	*t*	*B(SE)*	*t*	*B(SE)*	*t*	*B(SE)*	*t*	*B(SE)*	*t*	*B(SE)*	*t*	*B(SE)*	*t*
DHP	.10(.13)	.78	.07(.13)	.55	.02(.16)	.11	.04(.08)	.44	-.02(.08)	-.29	.02(.10)	.20	-.02(.08)	-.21	.13(.10)	1.38	-.01(.08)	-.14	-.12(-.09)	-1.41	-.05(.09)	-.54
YP	-.14(.11)	-1.21	.02(11)	.19	.06(.14)	.47	.07(.07)	1.07	.01(.07)	.03	-.16(.08)	-1.89	-.12(.07)	-1.72	-.08(.08)	-.95	.01(.06)	.21	.03(.07)	.37	.17(.08)	2.17*
GF	.30(.33)	.89	.26(.33)	.78	1.32(.41)	3.25*	.60(.21)	2.87*	-.05(.20)	-.04	.18(.25)	.71	.33(.20)	1.64	.42(.24)	1.78	-.06(.19)	-.31	-.25(.22)	-1.18	.16(.23)	.68
SIGF	-.02(.31)	-.08	.19(.31)	.60	-.01(.38)	-.02	.03(.19)	.16	-.14(.19)	-.74	.20(.24)	.86	.13(.19)	.68	.18(.22)	.81	.23(.18)	1.29	.42(.20)	2.08*	.57(.22)	2.61*
PVer	.50(.39)	1.28	.61(.39)	1.58	.27(.47)	.58	-.10(.24)	-.43	-.34(24)	-1.43	-.73(.29)	-2.49*	-.19(.24)	-.82	.04(.28)	.16	-.08(.22)	-.36	.01(.25)	.05	-.07(.27)	-.27
PVio	.20(.28)	.68	-.35(.28)	-1.23	.48(.34)	1.39	-.02(17)	-.10	-.37(17)	-2.16*	.06(.21)	.28	-.15(.17)	-.88	.25(.20)	1.22	-.02(.16)	-.14	-.34(.18)	-1.89	-.08(.20)	-.41
PC	-.34(.34)	-1.01	-.31(.34)	-.91	-.71(.42)	-1.71	-.01(.21)	-.02	.44(.21)	2.11*	.11(.26)	.41	.17(.21)	.82	.50(.24)	2.06	.25(.20)	1.28	.61(.22)	2.79*	.72(.24)	3.01*

*p < .05

DISCUSSION AND CONCLUSION

Online games gain wide currency all around the world. Although much research has investigated its complex relationships with human behavior, we still have a long way to go. This study aimed to examine the relationships between online games and aggression, alienation and emotional intelligence as mostly relatable psychological factors. Distinctively, we took into consideration that alongside the game habits, individual differences in perceptions about the games might make differences.

Past research has shown significant effects of playing online games on aggressive behaviors. Especially cumulative effects over time were observed (Hasan et al., 2013). Conversely, our results have demonstrated that the none of the aggression types were predicted by neither year of playing nor daily hours playing online games. This finding is consistent with Williams and Skoric's (2005), some other factors might be intervening in the aforementioned relationship, such as the interactions with other players. Accordingly, physical aggression and verbal aggression were predicted by number of gamer friends. This might signal that the circle of friends might be a promising mediator variable for the effects of online games on aggression (Adachi & Willoughby, 2011).

The main factors predicting dimensions of alienation were individual perceptions about the game. Perception of verisimilitude predicted powerlessness negatively. Verisimilitude of the game was associated with the aggression-related variables (Barlett et al., 2008; Krcmar et al., 2011). Considering that aggression might be defined as an attempt to take control, consistently powerlessness was decreased with the increase of perceived realism in the game. Furthermore, isolation was predicted by perceived cooperation and adversely predicted by perceived violence. Perceived cooperation in the game might have a contrast effect on the feeling of lack of social acceptance in the real-life. The more they feel cooperated in the game, the less they might feel social in the real-life, because of the comparison with game. Besides, perceived violence might have a compensator effect on social isolation. Aggression in real-life might cause loneliness and disconnection from others (Yavuzer et al., 2019). Therefore, it might be speculated that perceived aggression in game wouldn't cause the same pattern as real-life and they might feel connected with others via playing aggressively consistent with the nature of the games. In a similar vein, it was demonstrated that, independent from the types (prosocial or bot) video games might function as a therapeutic intervention for the feelings of self-esteem and belonging (Tamplin-Wilson et al., 2019).

According to our results, it is allegeable that emotional intelligence is positively related to online gaming. Conflicting with past research indicating the online gaming is ruining interpersonal relations (e.g. Hertlein & Hawkins, 2012; Lo et al., 2005; Nie, 2001) our data showed that years of playing predicted sociability. Besides, sharing social issues with gamer friends and perceived cooperation in the games predicted not only sociability but also emotionability. Online games constitute convenient environments for expressing emotions (Heredotou et al., 2011). Furthermore, online gamer identity might be a facilitator for making real-life friendships (Eklund & Roman, 2017).

To conclude, our findings advocate that online gaming constitutes a new social environment. Gaming habits and players' perceptions of the games seems to be important factors related to aggression, alienation and emotional intelligence. This study raises novel questions about the relationships between personal experiences with the game and their effects on players various psychological states. Future research might examine these relationships with an experimental design in order to observe the causal links. Considering the widespreading use of online games, understanding the effects would be inestimable for not only interventions and circumventions but also theorizing livingly.

Conflict of interests: The authors of the study declared no financial or personal conflicts of interest while conducting the study.

Author Contribution: Study design; NSSK, ME, ED –Data collection; NSSK, ME, ED – Statistical analysis; NSSK –Manuscript Preparation; NSSK, ME, ED.

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