An Analysis of the Relationship between Digital Game Playing Motivation and Digital Game Addiction among Children

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Abstract

The aim of this study is to investigate the relationship between digital game addiction and the motivation for digital game-playing, and to develop suggestions towards the solution of the research problem through the relationship between these two concepts. The study is designed according to the quantitative research method and the relational screening model was administered. In the study, a Personal Information Form, Digital Game Addiction Scale for Children, and the Digital Game-Playing Motivation Scale were used. The data obtained were analyzed with the SPSS 24 package program, and descriptive statistics, t-Test and OneWay Anova, Pearson correlation and regression analyses were run on the data. According to search results, a positive and significant correlation was seen between the participants' digital game playing motivation and digital game addiction. In addition, higher levels of digital game playing motivation and digital game addiction among the participants whose parents play digital games; lower levels of digital game playing motivation and digital game addiction among the participants who hold athlete's license and the finding that digital game playing motivation and digital game addiction increase in parallel with age are important results of this study.

Keywords: Game, Digital game, Addiction, Digital game addiction, Motivation, Sport.

Contents

1. Introduction

In today's world, the meaning expressed by the concepts of "child and technology" is considered more to be "child and digital games". The children's world, which was built on traditional games in the past, has been substituted by a world of computer-based technological virtual games. This virtual game world, which surrounds children from all directions, sometimes causes children to become addicted to games because of a number of risk factors it incorporates. In this context, the population of this study is students of the 10-14 age group who are studying at the 5 Şubat Elementary School affiliated to Niğde Provincial National Education Directorate. In this context, 177 female and 240 male students have voluntarily participated in this study.

One of the novelties brought about by the computer sector, which affects today's people of every age, especially the lives of children is the concept of "digital games" (Erboy, 2010). All sorts of games played at the playgrounds, streets, parks, even coffee houses until recently are now played at homes, offices, internet cafes and Play Station houses (Kaya, 2013). Sapsağlam (2018) states that traditional children's games have been replaced today by digital games, which are a kind of screen addiction.

Scholars consider excessive computer use and digital game playing to be an addiction behavior (Lemmens *et al.,* 2009). Game addiction, which is defined as divergent and obstinate behavior as a result of video gaming, is considered to be a kind of technology addiction (Gökçearslan and Durakoğlu, 2014). Various terminologies are used for game addiction (Irmak and Erdoğan, 2016). Griffiths (2005) states that, regardless of the terminology used, playing digital games at extreme levels could lead to addiction. Pallesen *et al.* (2015) define digital game addiction as playing excessively and obsessively although it yields to social and emotional problems; and as the individual's failure to control this excessive situation. Hülya and Örsal (2018) stress that digital game addiction causes many mental and social problems.

Several negative impacts of digital games are addressed in the literature. It is stated in the literature that these games may generally steer players to aggressive behavior, provoke unstable individual attitude, hinder creative gaming, and lead to negative psychological and social consequences such as feelings and thoughts of aggression, aggressive behavior and diminishing in social behavior (Gentile and Anderson, 2006; Işçibaşı, 2011; Akçayır, 2013; Aydoğdu-Karaaslan, 2015).

On the other hand, one of the most important points that should be debated within this context is the individuals' playing these games at an addictive level. It is a crucial matter to reveal what factors motivate people to digital game addiction despite it causes several individual and social problems.

Motivation is defined as forcing the individual to reactions towards a certain action (Selçuk, 1999) as a feeling that enables the individual to explore (Deci and Ryan, 1985) as a force that invokes the organism in line with the target behavior, enable the maintenance of the movement and drive it. Literature shows that there are various motivators for individuals to play these games.

Young, suggests that the source of the problem is the people who use your computer, rather than the computer itself (Kelleci, 2008). Terek-Unal and West (2011) contend that feelings such as joy, excitement, pleasure, achieving the levels, that are experienced during games, might cause the development of addictive behaviors among children over time. Doğu (2006) argues that the fact that individuals easily have the things in the virtual domain that are rather difficult to have in the real world steers them into the world of games. Bakan and Öztüfekçi (2018) state that the sound and effects in digital games affect the players and shape their play motivations and behaviors. Kircaburun *et al.* (2018) stress that the problematic game-playing behavior that makes many negative psychological and physical effects on individuals is associated with poor will and aggressive personality characteristics.

In general, motivators of digital gaming involves curiosity, challenge, sense of dominance, competition, social communication, diversity, exhilaration effect, providing oneiric environments, relaxation, avoiding stress, being able to start over for many times, resting, spending spare time, and escaping from the real life (Horzum *et al.,* 2008; Pala *et al.,* 2011).

The review of the literature shows that there are several motivators directing children to the digital gaming behavior. Yet, these studies' way of handling the subject mostly depend on expert opinions and the number of studies that might directly reveal the relationship between "digital game addiction and the motivation for digital gaming" is scarce. While expert opinions are important in such kind of studies, it is more important to develop an original research model that could elicit the relationship between the concepts of addiction and motivation, obtain the respective findings and examine the results. In this respect, the aim of this study is to investigate the relationship between digital game addiction and the motivation for digital game-playing, and to develop suggestions towards the solution of the research problem through the relationship between these two concepts.

2. Material and Method

The study is designed according to the quantitative research method and the relational screening model was administered. Screening models are survey arrangements conducted on a population that consist of several units with the entire population, or a group or sample to be selected out of it in order to reach a general judgement about the population. Screening models are research approaches that aim to describe a past or current situation as they are. The essence of this model is to observe a situation without altering it Karasar (2006).

2.1. Population

The group including all individuals (units) on whom the research can be conducted or generalizations can be made is called population (Erkuş, 2013). In this context, the population of this study is students of the 10-14 age group who are studying at the 5 Şubat Elementary School affiliated to Niğde Provincial National Education Directorate.

2.2. Sample

In this study, homogeneous sampling method, which is among purposeful sampling methods, was used. The homogeneous sampling method identifies an operation where a homogeneous sub-group a situation is selected from

the population in relation to the research problem and the research is conducted on this very group (Büyüköztürk *et al.*, 2016). In this context, 177 female and 240 male students have voluntarily participated in this study.

2.3. Data Collection Tool

In the study, a Personal Information Form prepared by the author, the "Digital Game Addiction Scale for Children" whose validity and reliability was conducted by Hazar and Hazar (2017) and the "Digital Game-Playing Motivation Scale" whose validity and reliability was conducted by Hazar and Tekkurşun (2018) were used.

2.4. Measurement Tools

Digital Game Addiction Scale for Children: The "Digital Game Addiction Scale for Children" developed by the Hazar & Hazar was used together with the 6-item personal information form.

When the personal information form was created, a literature search was conducted to find out what the independent variables considered to be related to digital game addiction were and the personal information form for variables such as age, gender, daily average playing time of digital game was created. The relationship between each variable and the total addiction scores from the scale was considered in the study.

The "digital game addiction scale for children" used in the research consists of four sub-factors. The Cronbach Alpha coefficients of the sub factors were found to be .75 for the first sub-factor, .80 for the second sub-factor, .72 for the third sub-factor, .56 for the fourth sub-factor and .88 for the total sub-factor. A 5-point Likert-type scale was used in evaluating the expressions in the measure (1 = Never, 2 = Not agreeable, 3 = Undecided, 4 = Agree, 5 = Completely agree). Factors; Excessive Focus and Conflict on Playing Digital Game, Tolerance Development in Game Play and Value Added to Game, Postponement of Individual and Social Duties / Assignments, Psychological-Physiological Reflection of Dysnity and Diving in Game.

*Digital Game-Playing Motivation Scale (**DGPMS**):* the scale was developed in 2018 by Hazar and Tekkurşun-Demir in order to determine the motivation levels of children in playing digital games. The scale has three sub-factors and a total of 19 items. A 5-point Likert type scale was used (1 = totally disagree,..., 5=totally agree) in the evaluation of the statements. The items under the third sub-dimension of the scale are reverse-coded. The lowest score to be obtained from the scale is "19" and the highest score is "95". In the evaluation of the scale scoring; a higher total score refers to higher levels of motivation. Scale sub-factors and reliability values for this study are as follows; The Achievement and Exhilaration (intrinsic motivation) sub-dimension (.86),Curiosity and Social Acceptance (External motivation) (.83)Uncertainty in Gaming Desire (Lack of Motivation) (.77),and scale total(.88).

Personal Information Form: Variables such as gender, age, having athlete's license and parents' digital gaming habits that are thought to be associated with the results of the study are included in the personal information form.

2.5. Data Collection and Analysis

In the process of data collection, the measurement tool was applied to 500 students who accepted to voluntarily participate in the study; however, 83 of the completed survey forms were not taken into consideration because they did not conform to the validity and reliability criteria of the study. The data obtained were analyzed with the SPSS 24 package program, and descriptive statistics, t-Test and OneWay Anova, Pearson correlation and regression analyses were run on the data.

3. Results

The analyzes and results of the data obtained in this section of the research are given.

Table-1. Descriptive statistics of participants' total scores.

Gender	Scale	Min.	Max.	Mean	Sd.
Female	DGASC	24,00	109,00	48,71	15,93
	DGPMS	21,00	90,00	51,86	11,36
Male	DGASC	24,00	108,00	57,60	18,65
	DGPMS	24,00	92,00	57,41	12,20

When the scale scores of the participants are examined, it is seen that both groups have similar scores. When DGASC mean scores are considered, it is seen that both groups are in the risk group. Play motivation scores "DGMPS" were high in both groups.

Table-2. Pearson Correlation for Scale Total Scores.

Scale Total Scores	DGASC	DGPMS	
		r	p
DGASC	1	,646**	,00
DGPMS		1	

*p<0,05

According to the correlation analysis results of the scale total scores, there is a positive and statistically significant correlation between the scale total scores.

Table-3. Pearson Correlation Analysis for DGPMS Total Scores and DGASC's Sub-Dimensions

Scale Scores	Total Score of DGPMS	1.Sub Fact. of DGASC	2.Sub Fact. of DGASC	3.Sub Fact. of DGASC	4.Sub Fact. of DGASC
		r	r	r	r
Total Score of DGPMS	1	,611**	,664**	,405**	,434**
		p =,00	p=,00	p=,00	p=,00
		n=417	n=417	n=417	n=417
1.Sub Fact. of DGASC		1	,732**	,680**	,622**
			p=,00	p=,00	p=,00
			n=417	n=417	n=417
2.Sub Fact. of DGASC			1	,559**	,556**
				p=,00	p=,00
				n=417	n=417
3.Sub Fact. of DGASC				1	,491**
					,00
					417
4.Sub Fact. of DGASC					1

*p<0,05

As a result of the correlations between the DGPMS total score and the DGASC sub-dimensions, there is a statistically significant correlation between the scores.

Table-4. Pearson Correlation Analysis for DGASC Total Score and DGPMS Sub-Dimensions.

Scale Scores	Total Score of DGASC	1.Sub Fact. of DGPMS	2.Sub Fact. of DGPMS	3.Sub Fact. of DGPMS
		r	r	r
Total Score of DGASC	1	,735**	,673**	-,425**
		p=,00	p=,00	p=,00
		n=417	n=417	n=417
1.Sub Fact. of DGPMS		1	,708**	-,398**
			p=,00	p=,00
			n=417	n=417
2.Sub Fact. of DGPMS			1	-,463**
				p=,00
				n=417
3.Sub Fact. of DGPMS				1

*p<0,05

As a result of the correlation analysis of DGASC total score and DGPMS sub-dimensions, a positive and statistically significant high correlation is found between the scores.

Table-5. The t-test analysis of gender variable of DGASC scores.

Total Score of Scale	Gender	N	X̄	Sd	t	p
Total Score of DGASC	Female	177	48,71	15,93	-5,116	,00
	Male	240	57,60	18,65		
1.Sub Fact. of DGASC	Female	177	13,41	5,33	-4,367	,00
	Male	240	15,97	6,31		
2.Sub Fact. of DGASC	Female	177	14,51	5,46	-4,878	,00
	Male	240	17,19	5,59		
3.Sub Fact. of DGASC	Female	177	10,49	4,26	-4,884	,00
	Male	240	12,92	5,49		
4.Sub Fact. of DGASC	Female	177	8,23	3,10	-2,309	,02
	Male	240	8,98	3,37		

*p<0,05

In the analysis of DGASC total score and sub-dimensions according to the gender variable of the participants, it is seen that the addiction levels of male participants are higher than female participants and this difference is statistically significant.

Table-6. The t-test analysis of gender variable of DGMPS scores.

Total Score of Scale	Gender	N	X̄	Sd	t	p
Total Score of DGPMS	Female	177	51,86	11,36	-4,716	,00
	Male	240	57,41	12,20		
1.Sub Fact. of DGPMS	Female	177	12,36	4,65	-4,479	,00
	Male	240	14,52	5,02		
2.Sub Fact. of DGPMS	Female	177	22,27	9,01	-4,609	,00
	Male	240	26,64	9,90		
3.Sub Fact. of DGPMS	Female	177	17,17	5,51	1,688	,00
	Male	240	16,24	5,62		

*p<0,05

As a result of the analysis made for the total score and subscale scores of the DGPMS, according to the gender variable, the total score of the scale and the sub-dimension scores are in favor of the male participants.

Table-7. The t-test analysis of DGASC scores for "having an athlete license" variable.

Total Score of Scale	Athlete license	N	X̄	Sd	t	p
Total Score of DGASC	Have	144	56,01	18,29	1,795	,07
	Not Having	273	52,68	17,88		
1.Sub Fact. of DGASC	Have	144	15,45	6,55	1,373	,17
	Not Having	273	14,59	5,75		
2.Sub Fact. of DGASC	Have	144	16,61	5,60	1,439	,15
	Not Having	273	15,76	5,71		
3.Sub Fact. of DGASC	Have	144	12,62	5,33	2,122	**,03**
	Not Having	273	11,50	5,00		
4.Sub Fact. of DGASC	Have	144	8,94	3,19	1,258	,20
	Not Having	273	8,52	3,32		

*p<0,05

Although the level of addiction of the participants who have an athlete license is higher than the ones who not have an athlete license in general, it is seen that there is a statistically significant difference in only the 3rd sub-dimension scores.

Table-8. The t-test analysis of DGPMS scores for "having an athlete license" variable.

Total Score of Scale	Athlete license	N	X̄	Sd	t	p
Total Score of DGPMS	Have	144	56,07	11,09	1,236	,21
	Not Having	273	54,52	12,66		
1.Sub Fact. of DGPMS	Have	144	14,09	5,13	1,448	,14
	Not Having	273	13,35	4,89		
2.Sub Fact. of DGPMS	Have	144	24,98	9,55	,289	,77
	Not Having	273	24,69	9,89		
3.Sub Fact. of DGPMS	Have	144	16,99	5,54	,942	,34
	Not Having	273	16,45	5,62		

*p<0,05

Although the level of addiction of the participants who have an athlete license is higher than the ones who have an athlete license in general, this difference is not statistically significant.

Table-9. The t-test analysis of the DGASC scores for The Parents to Play Digital Games.

Total Score of Scale	Parent play status	N	X̄	Sd	t	p
Total Score of DGASC	Yes	107	56,41	15,91	1,710	,08
	No	309	52,94	18,73		
1.Sub Fact. of DGASC	Yes	107	15,46	5,64	1,146	,25
	No	309	14,68	6,18		
2.Sub Fact. of DGASC	Yes	107	17,26	5,24	2,545	**,01**
	No	309	15,64	5,79		
3.Sub Fact. of DGASC	Yes	107	12,38	5,21	1,151	,25
	No	309	11,71	5,12		
4.Sub Fact. of DGASC	Yes	107	8,99	3,24	1,155	,24
	No	309	8,56	3,28		

*p<0,05

When Table 9 is examined, it is seen that the addiction scores of the participants who children playing parents digital games are high and but this difference is statistically for 3rd sub-dimension.

Table-10. The t-test analysis of the DGPMS scores for The Parents to Play Digital Games.

Total Score of Scale	Parent play status	N	X̄	Sd	t	p
Total Score of DGPMS	Yes	107	56,52	12,88	1,41	,15
	No	309	54,59	11,88		
1.Sub Fact. of DGPMS	Yes	107	14,51	4,77	2,15	,03
	No	309	13,31	5,02		
2.Sub Fact. of DGPMS	Yes	107	26,15	9,38	1,67	,09
	No	309	24,31	9,88		
3.Sub Fact. of DGPMS	Yes	107	15,78	5,78	-1,89	,05
	No	309	16,96	5,47		

*p<0,05

When the total scores of the participants and their scores related to the sub-dimensions were examined, it was observed that the scores were statistically significantly higher in the 1st and 3rd sub-dimensions.

Table-11. ANOVA results for the age variable.

Scale	Age	X̄	Sd	F	p	Difference
Total Score of DGASC	10	49,26	13,09	3,029	,01	
	11	52,68	17,39			
	12	52,19	16,11			
	13	56,79	20,09			14*-10
	14	60,48	22,43			
Ölçek	**Age**	**X̄**	**Sd**	**F**	**p**	**Difference**
Total Score of DGPMS	10	52,45	13,00	2,637	**0,2**	
	11	53,46	11,32			
	12	55,51	13,07			14*-10
	13	56,97	11,84			14*-11
	14	58,76	11,42			

"The groups that are in favor of the score average are indicated by (*)"*p<0,05

When the total score of DGASC is examined according to the age variable of the participants, it is seen that there is a difference between all age groups, but it is seen that the scores of the participants in the 14 age group are significantly higher than the participants in the 10 age group.

When the total scores of the DGPMS scores of the participants were examined, it was seen that there was a difference between all age groups, but it was seen that the scores of the participants in the 14 age group were significantly higher than the participants in the 10 and 11 age groups.

Table-12. Simple Linear Regression Analysis for DGPMS.

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	,92	3,14	,64	,29	,76
MOTTOP	,96	,05		17,21	,00

R= 64, R²= 41, F=29, p= ,00. Dependent Variable: Digital Game Addiction Level
In Table 12, DGPMS revealed DGASC at 41% and this was statistically significant.

4. Discussion and Conclusion

In this part of the study, the results obtained from the analyses are discussed and contrasted with the literature.

When Table-1 is examined, while the mean scores of the participants in digital game addiction is higher among male participants, it is seen that the mean scores of both female and male (female: 48.71, male: 57.60) participants are in the risk group according to the scale evaluation criteria(*The lowest score to be obtained from the scale is "24" and the highest score is "120". In the rating of the scale scoring; "1-24 are accepted to be   Normal group, 25-48 to be   Low risk group, 49-72 to be   Risky group, 73-96 to be   Addict group, and 97-120 to be   Highly addict group*). When the participants' mean scores for motivation for playing digital games are examined, it is seen that both female and male participants have similar scores (female: 51.86, male: 57.41). Considering the mean scores, it can be said that the motivation levels of the participants are high.

When Table-2 is examined; it was found that there is a positive correlation between the participants' total scores of "digital game addiction" and "digital game playing motivation" and that this relationship is statistically significant (r:, 646).**, p:, 00). According to these results, it can be argued that there is a significant relationship between the digital game addiction and the motivation resources for digital gaming of the participants. Details of this relationship are shown in Table-3 and Table-4. When Table-3 is examined, it is seen that there is a positive and statistically significant correlation between the total score of the "digital game playing motivation scale" and the sub-dimension scores of the "digital game addiction scale" (1st Sub-dimension: r: .611 **, 2nd Sub-dimension: r: .664 **, 3rd Sub-dimension: r: .405. 4th Sub-dimension: .434 **).   When Table-4 is examined, it is seen that there is a positive and statistically significant correlation between the total score of the digital game addiction scale and the sub-dimension scores of the digital game playing motivation scale. (1st Sub-dimension-Intrinsic Motivation (r: .735**), 2nd Sub-dimension-External Motivation" (r: .673** 3rd Sub-dimension-Lack of Motivation "(r: -.425**). Especially the correlation between the addiction total score and the 1st sub-dimension- intrinsic motivation score is seen to be higher than other sub-dimensions. According to these results, it can be argued that the factors that drive participants into digital game addiction are more of the intrinsic motivation sources. Internal motivation is stated to involve the individual's taking action by his own will and desire to join an activity without the repression or instructions of others, as well as the individual's interest in and pleasure acquired from this situation; and it should totally stem from within the individual (Deci and Ryan, 1985; Wann, 1997). Terek-Unal and West (2011) state that intrinsic motivation sources such as joy, excitement, pleasure, and feeling of achievement are effective in pushing individuals into playing digital games. Kircaburun *et al*. (2018) stress that the problematic game-playing behavior that makes many negative psychological and physical effects on individuals is associated with poor will and aggressive personality characteristics. Still, it is seen that the external motivation sources are also important in digital game addiction of participants   (r: .673**, p: .00). Blinka and Mikuška (2014) found positive and high association between online game addiction and social motivation and duration of game-playing in their study entitled "The role of social motivation and socialization in online game addiction". Kneer *et al*. (2014) enumerate factors such as social interaction established through the games, success, lack of friends, bad family history, lack of other hobbies as motivation sources in their study entitled (*Risk Factor Awareness Related to Digital Game Addiction.* Bakan and Öztüfekçi (2018) state that the sound and effects in digital games affect the players and shape their play motivations and behaviors. While the results of this study are congruent with other studies in the literature, it can be stated that the intrinsic and external motivation sources are equally effective as the motivators dragging the participants to digital game addiction.

When Table 5 and 6 are examined, it is seen that there is a statistically significant difference in favor of males in all scale and sub-dimension total scores of participants from both the digital game addiction scale and the digital game-playing motivations scale. The main reasons of this finding can be the fact that digital games are mostly

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designed with a male-dominant approach and that the male participants access more easily to the off-home gaming venues such as internet cafes and gaming houses than females. These results are similar to several other studies in the literature. For example (Horzum, 2011) concludes that addiction levels of male students are significantly higher than female students, and as the main reasons for these results, the researcher points to the fact that computer games are considered to be more manly games and that boys are more likely to go to internet cafes, in his study entitled *Examination of Computer Game Addiction Levels of Primary School Students According to Different Variables.* In a study they address "*The Risk Factors Driving Individuals to Problematic Game Playing Behavior,* Kneer *et al.* (2014) state that gender is an important variable and that men are interested in these games more than women and they can be affected by these games more easily. Based on these results, it can be argued that male participants have higher motivation levels than females and therefore this situation enhance their level of digital game addiction.

When Table-7 and 8 are examined, it is seen that participants' scores from both the digital game addiction scale and the digital game playing motivation scale are higher in favor of the participants who do not hold any "athlete's license" but this difference is only significant in the 3rd sub-dimension of the digital game addiction scale. Although the differences found are statistically insignificant, the fact that the participants who does not hold athlete's licenses have higher digital game addiction and motivation for digital games than those who hold these licenses reveal the role of sports in the solution of this problem. Sports is the most practical, inexpensive and most useful method for individuals to be healthy in terms of cognitive, affective, psychomotor and social aspects and to stay away from substance and behavior addictions especially in today's world. For instance, in Hazar and Tekkurşun (2018) entitled "*The Impact of Games Involving Physical Mobility on the Digital Game Addiction of 11-14 Year old Elementary School Students*" students with high levels of addiction are detected and treatment (n=40) and control (n=40) groups are created with the random assignment method. After 12 weeks of training including "games with physical activities", post-test results are collected and analyzed from the treatment and control groups. The results showed that there are significant differences between pre-test and post-test scores of the treatment group in both sub-dimensions and total addiction scores and that the post-test scores are lower than the pre-test scores. The addiction post-test scores of the control group were found to be significantly higher than their pre-test scores. When the addiction post-test results of the control and treatment groups are examined, the addiction scores of the treatment group is found to decline significantly in comparison with the control group. Landade and Roderisk (2014) stress that although its psychological and physical benefits on human health is known, sports is not attached enough importance in the fight against addiction programs. Stating that the number of studies examining the role of sports in treating alcohol and substance abuse is rather limited, the scholar emphasizes that sports is of crucial importance in enhancing the life quality. These results suggest that exercise-sports might be an effective method in the fight against addiction. By the same token, when the literature is reviewed many other scholars state that one of the most effective ways in fighting against digital game addiction is to encourage people to sports.

When Table 9 and 10 are examined, it is seen that digital game addiction and digital game playing motivation scores of the participants whose parents regularly play digital games on a daily basis are higher than those whose parents do not play digital games, but this difference is only significant in the 2nd sub-dimension. According to these results, it can be argued that the participants whose parents play digital games are more motivated to these games and therefore these factors are important in their digital game addiction levels to be higher. Toran *et al.* (2016) suggest that children first experience digital games by means of their parents most of the time and the parents are the first role models in this regard. Moving from this suggestion, it can be argued that children first meet with the digital game addiction which is one of the important behavioral addiction types among children through their parents. In their study entitled "Internet-Usage Types of Elementary School Students: Risky Behaviors and Opportunities", Gökçearslan and Seferoğlu (2016) found that using with "parents" is the most commonly exhibited internet usage type and "playing games" is is the most commonly exhibited internet usage objective among children. Although the number studies on how parents might affect children in digital game addiction is limited in the literature, it can be argued that the results of this study show that parents' attitude can be among the important motivation sources in the participants' digital game motivation and digital game addiction.

When Table-11 is examined, it is seen that the participants' digital game addiction scores increase in parallel with age in all age groups, however the difference between the age groups is significantly higher in favor of the 14 age group between the 14*-10 age groups. Similarly, it is seen that the participants' digital game motivation scores increase in parallel with age in all age groups, however the difference between the age groups is significantly higher in favor of the 14 age group between the 14*-10 and 14*-11 age groups. According to these results, it can be argued that the participants' motivation and addiction levels for digital games enhance in parallel with age. When the literature is examined, the main reason for this situation is stated to be the fact that children exert great effort to emancipate from parent control and establish more peer relationships at this age period. Digital games account for a significant denominator of the fellowship relationships of especially the children of this age group. Digital games are accepted as an important means for children who try to get socialize more at this period in accommodating themselves to the peer environment. Kale and Erşen (2003) state that children start to get away from the family at the adolescence period, establish strong links with peer groups and construct these links on certain values. In terms of the classification of digital game playing according to age, Toran *et al.* (2016) contend that digital games reach as far as one year-old, but the usage is at the peak level for 5 year-old and above. In a study on the game choices of children, Sapsağlam (2018) found that digital games account for 5% of the game choices of 3 year-old children, that this is rate ascends to 15% for 4 year-old children, and 18% for 5 year-old children. Given these results, it can be asserted that there is a linear relationship between digital game playing motivation, digital game addiction and age.

In Table 12, DGPMS revealed DGASC at 41% and this was statistically significant. These results show that the motivation resources of digital games play an important role among the participants in the digital game addiction behaviors. In a similar study, Polat and Yıldız (2018) found that the motivation of playing games is an important factor in explaining the behavior of individuals in internet addiction.

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In conclusion, a positive and significant correlation was seen between the participants' digital game playing motivation and digital game addiction. In addition, higher levels of digital game playing motivation and digital game addiction among the participants whose parents play digital games; lower levels of digital game playing motivation and digital game addiction among the participants who hold athlete's license and the finding that digital game playing motivation and digital game addiction increase in parallel with age are important results of this study.

If the contribution of this study to the literature to be evaluated, In the literature review, it has been seen that the studies related to digital game addiction and digital game motivation are quite limited and that especially there is no correlational study using together the scales developed in relation to these two subject matters. When assessed in this regard, determination of the motivation sources in digital game addiction will shed light on the solution of the problem.

The biggest limitation of this study can be pointed out as the utilization of the quantitative research method only. Different aspects of the research problem can be revealed from various aspects and more comprehensive solution proposals can be introduced by benefiting from the qualitative research method as well in studies to be carried out in the following periods.

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