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EFFECT OF VIDEO GAMES ON AGGRESSION AND LACK OF SPORT PARTICIPATION IN GIRLS

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ABSTRACT

The purpose of the present research was to examine the effect of videogames on aggression and lack of sport participation in girls. The population of this correlational research consisted of all the 4th, 5th, and 6th grade female students of Tehran in 2013-2014 who played videogames at least twice a week. Given the limited population, 230 students were selected using convenience sampling and Morgan's table. Data were collected using a questionnaire that recorded demographic variables (age, household income, parents' education, and playing hours) and measured different dimensions of sport participation, playing videogames, and aggression. The instrument included 21 items which were rated on a 5-point Likert scale. A Cronbach's alpha of 0.79 was obtained for the entire questionnaire. Data were analyzed using descriptive statistics, Kolmogorov-Smirnov test of normality, and Pearson and Spearman correlation. The results showed that there is a significant relationship between playing videogames, aggression, and lack of sport participation. Playing videogames was also significantly associated with age and grade. However, there was no significant relationship between sport participation and age and grade. Implications for practice and research are provided.

Keywords: Videogames, aggression, sport participation, elementary schools

INTRODUCTION

Today videogames have become an influential media with different groups spending a significant amount of time playing them. As a result, a thorough examination of this phenomenon can provide useful insights for families and game developers [1].Growing urbanization and technological advances have somehow deprived children of active lifestyles [2].

Therefore, not monitoring the use of computers and videogames can put children's physical, social, and psychological development at risk. Physical activity and social interaction are essential to health, especially in children and adolescents. Playing videogames for long sessions may have a negative relationship with psychological health and cause aggressive behaviors, anxiety, depression, and isolation in the youth [3].

Sport is a key institution in modern societies with various functions such as health, recreation, social identity, and economic welfare. It is especially important for health and vitality of children and adolescents as the determinants of societies' future. Like other social phenomena, sport is affected by sociocultural factors. Sport participation can enhance physical, social, cognitive, and psychological development [4].

However, computer games may have a negative impact on sport participation [5]. Research has shown that have reported reduced physical activity and aggressive behavior as the main consequences of playing videogames. For instance, Motamedi and Bakhtiary[6] showed the negative impact of playing videogames on creativity and academic achievement of students. McLean and Grift [7] argued that the effects of videogame playing are larger than the effects observed with television and film viewing, and that children and young people may be at a greater risk of negative effects as a consequence of exposure to violent videogames.Ferguson et al. [5] argued that video games can cause aggression and depression in gamers.

Bushman and Gibson [8]studied thelong-term causal effects of violent video games on aggression. Results showed that violent video games increased aggression 24 hours later, but only among men who ruminated about the game. They concluded that in players who ruminate about the violence in a game the aggression-stimulating effects of the game persist long after it has been turned off.

In a review of the research on the relationship between video games and health-related behavior change, Baranowski et al. [9] showed that most articles have reported positive health-related changes from playing video games. Also Shariati et al., [10] examined the effects of video games in high school students and found that playing video games had no significant impact on interpersonal relationships and sport participation. The purpose of the present research was to examine the effect of

playing video games on aggression and sport participation in girls.

MATERIALS AND METHODS

The present research was descriptive-correlational. The population consisted of all the 4th, 5th, and 6th grade female students of Tehran in 2013-2014 who played video games at least twice a week. Given the limited population, 230 students were selected using convenience sampling and Morgan's table. Data were collected using a questionnaire that recorded demographic variables (age, household income, parents' education, and playing hours) and measured the dimensions of sport participation, playing video games, and aggression. The instrument included 21 items which were rated on a 5-point Likert scale. Cronbach's alphas of 0.87, 0.80, and 0.79 were obtained respectively for sport participation, aggression, and the entire questionnaire. Data were analyzed using descriptive statistics, Kolmogorov-Smirnov test of normality, and Pearson and Spearman correlation in SPSS 21.

RESULTS AND DISCUSSION

Table 1 provides the demographic data of the sample.

Table 1 : Demographic data

Variable		Percentage
Age	9 yrs.	5.7
	10 yrs.	35.0
	11 yrs.	54.3
	12 yrs.	5.0
Father's education	High school diploma and less	30.7
	Associate degree	21.4
	Bachelor's degree	30.0
	Master's degree	16.4
	PhD	1.4
Mother's education	High school diploma and less	60.7
	Associate degree	14.3
	Bachelor's degree	15.7
	Master's degree	9.3
Physical activity	Never	30.0
	1-3 hrs. a week	38.5
	4-6 hrs. a week	17.6
	> 6 hrs. a week	13.6
Playing video games	Never	5.7
	< 1 hr. a day	13.6
	1-2 hrs. a day	42.9
	> 2 hrs. a day	37.8

The results of the K-S test showed that all the variables were normally distributed ($p < 0.05$).

Table 2.Results of Pearson correlation

Variables		Playing video games	Age	Grade	Income	Residence	Father's education	Mother's education
Physical activity	r	-0.47	0.11	-0.16	0.25	0.04	0.31	0.23
	Sig.	0.001	0.19	0.057	0.001	0.78	0.0001	0.001
	N	140	140	140	250	250	250	250

The data in Table 2 shows that there is a significant negative relationship between playing video games and physical activity ($r140 = -0.47$; $p < 0.01$). However, there is no significant relationship between playing video games and age, grade, and residence. Moreover, a significant positive

relationship is observed between physical activity and household income (r140 = 0.25; $p < 0.01$), mother's education (r140 = 0.31; $p < 0.01$), and father's education (r140 = 0.23; $p < 0.01$).

As age and grade are nominal variables, Spearman correlation is used to test the main hypothesis of the research (Table 3).

Table 3. Results of Spearman correlation

Variables		Age	Grade	Aggression
Playing video games	rho	0.21	0.27	0.41
	Sig.	0.010	0.001	0.010
	N	140	140	140

The results of Spearman correlation indicate that there is a significant positive relationship between playing video games and age (rho140 = 0.21; $p < 0.05$), grade (rho140 = 0.27; $p < 0.01$), and aggression (rho140 = 0.41; $p < 0.05$).

CONCLUSION

Physical activity can enhance quality of life in all age groups. An active lifestyle can help individuals find new friends and interact with others. It has been shown that mental illnesses are less prevalent in active individuals. Physical activity can have a positive role in the treatment of certain mental disorders such as depression. Regular systematic physical activity can enhance physical, cognitive, social, and psychological development in children. Although computer literacy is regarded as a critical skill for children, there are potential detriments to uncontrolled use of computers. Playing video games and using computers for long period of time can lead to a sedentary lifestyle and cause a variety of illnesses and disorders in children, especially memory loss. This underlines the importance of planning for the use of these technologies and sport participation by parents. Violent video games can increase aggressive behaviors in children, and premature use of computers and video games is a potential threat to their lifestyle and health. Future research can focus on the effect of video games on other behaviors. Also a similar research can be done in boys.

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