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Gender differences, playing digital games, leisure time physical activity and health problems in youngsters of Dehdasht

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ABSTRACT

A number of studies indicate that electronic games are now a routine part of normal childhood and adolescence lifestyle and they spend a lot of times for playing digital games in their leisure time activities. This can cause many physical and mental disorders. So the purpose of this study was to study the relationship between leisure time physical activity and playing digital games of youngsters. The subjects were 188 adolescences studying in high schools of Dehdasht in three grads that were selected randomly. From these subjects, 90 (47.8 %) of them were male while 98 (52.12%) of them were female. Data were collected by a self administered questionnaire. The validity of the questionnaire calculated through Alpha Chronbach and obtained 0.82. Statistical analyses were performed using Spearman correlation and independent t-test. Result of this study indicated that there was a positive correlation between leisure satisfaction and time amount in digital games ($r=0.441$, $\rho=0.001$), there were significant differences in health of boys and girls ($p=0.003$), there was no significant difference between girls and boys in digital games ($p=0.140$) and there was significant differences in leisure time physical activity among girls and boys ($p=0.001$, $\alpha \leq 0.05$). Based on the present results, playing digital game can improve youngsters' leisure satisfaction as they can gain self-confidence and achievement from playing digital game and has a positive relationship with their leisure time.

Key words*:* Leisure time, Physical activity, Health, Digital games

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INTRODUCTION

Digital games are immensely popular around the world. They are played on computers, handheld devices, cell phones, and game consoles. They are played at home, at school, in automobiles, and virtually anywhere that an electronic device can be operated. The video game industry's revenues surpassed the movie industries several years ago and surpassed the music industries in 2008. A recent, nationally representative sample of U.S. teens found that 99% of boys and 94% of girls played video games [1]. The amount of time spent playing games has increased over time [2,3]. Many children and adolescents play more than 20 hours each week; 40 hours of gaming per week is not uncommon among males [4]. Computer and video games have become among the most popular leisure time activities for children, adolescents, and young adults in Western and Asian societies. However, a substantial gender

difference in computer game involvement has been observed, both in the U.S. and in Germany, despite the use of digital games being on the rise [5]. Many studies conducted in social science fields such as psychology report that girls and young women display less interest in digital games, have less game-related knowledge, and play less frequently and for shorter durations than do boys and young men [6-9]. For youngsters with different gender, according to Cherney and London (2006), boys will spend most of their leisure time in sports and playing digital game but girls will spend most of their leisure time watching television [10]. Recent publications suggest that the amount of female game playing has increased, at least in the U.K. and the U.S. [11,12]. According to current user data for the U.S. market, 43% of all video game players are female [13].

According to Wang et al, (2008), deep absorption in digital game may result in poor school grade, deterioration in interpersonal relationships and use it as an excuse for not facing their own problems. It may also create a sense of anxiety and have a negative effect on their normal living habits [14]. According to Wang et al., (2008), youngsters suffered discouragement and failure in life may comfort through communication with game peers, or gain encouragement by winning digital game which can enable them to gain a sense of confidence and achievement. Wang et al (2008) show that playing digital game can increase communication with their peers and increase social well-being.. Also, digital gaming was associated with higher level of depression even though heavier user did not feel more loneliness or boredom [15]. Some studies indicated that youngsters who heavier playing digital game is due to lack of self-discipline and self-management, which will affect their emotional management, problem solving skill, relationship with family [16]. Chan & Chan (2003) found youngsters will play digital game when they feel lonely with worse relationship with parents and playing digital game is the only interest for some youngsters [16]. Wan and Chiou (2006) showed that playing digital game can improve youngsters' leisure satisfaction as they can gain self-confidence and achievement from playing digital game [17]. Also, youngsters were with greater enjoyment and interest in continuing to play, and greater acquisition of new friends [18]. According above statements it is important to investigate the following questions in order to find possible methods to improve physical activity level of youngsters in their leisure time.

1. Are there any relationships between the motives of playing digital game and time spent in digital game among youngsters?
2. Are there any differences in health problems, time amount in leisure time physical activity and time amount in playing digital games between girls and boys?

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MATERIALS AND METHODS

Subjects: In this study were 188 youngsters between forms 1 to form 3 studying in high school in Dehdasht that were interviewed. Of the 188 respondents, 31.5% (n=59) of the respondents were form 1, 39.2% (n=74) of respondents were form 2 and 29.3% (n=55) of respondents were form 3. About the proportion of respondents with their gender, 90 (47.8 %) of them were male while 98 (52.12%) of them were female.

Data collection: a self administered questionnaire was used in order to data gathering (the content validity of the questionnaire assessed by the physical education experts and was found acceptable). In addition, construct validity of the questionnaire was calculated using factor analysis method and obtained statistically significant (K MO = 0.852). Obtained reliability by calculating Cronbach's alpha was equal to 0.82. From all distributed questionnaires, 188 cases were returned, which was about 95 percent of the questionnaires. The sample was acquired by using Convenient Sampling. Only for those who were willing to participate in the study were interviewed by questionnaire. Data was collected at the class meeting lessons in the school. Students in each class generally used about 8 minutes to finish each questionnaire.

Statistics analyses:

Data are presented as Mean±Standard deviation (M±SD). The calculated mean scores were used to analyze with other items. The correlation between amount of time in digital game and different digital game participation motives were examined using Spearman Coefficient. Independent T-test was used to test the level of leisure time physical activity, the amount of time in digital game and health problems between boys and girls. Value of α=0.05 considered as the significance for all hypotheses. Statistical analyses were performed using the SPSS software version 16 for Windows.

RESULTS

Table1. Gender frequency distribution of the study sample.

Sex	Frequency	Percent
Male	90	47.8
Female	98	52.12
Total	188	100
Not answered	0	0

According to the table1, about the proportion of respondents with their gender, 90 (47.8 %) of subjects were male while 98 (52.1%) of them were female.

Table 2. Form frequency distribution of the study sample

Form	Frequency	Percent
1	86	31.5
2	106	39.2
3	80	29.3
Total	272	100
Not answered	0	0

Table 2 shows that of the 188 respondents, 31.5% (n=59) of the respondents were form 1, 39.2% (n=74) of respondents were form 2 and 29.3% (n=55) of respondents were form 3.

Table 3. K-S test results for the variables

Index	Leisure time	Playing digital games	Health
No	272	272	272
Z value	2.59	2.25	3.12
Significant(p)	0.024	0.047	0.013

Table4. Correlation between Leisure satisfaction and time amount in digital games.

Variables	N	r	P-value
Leisure satisfaction and time amount in digital games	188	0.441	0.001
Social Wellbeing and time amount in digital games	188	-0.678	0.001
Personal motivations and time amount in digital games	188	0.879	0.001

Table 4 shows that there is a positive correlation between Leisure satisfaction and time amount in digital games ($r=0.441$, $\rho<0.01$). It can be said that as playing digital games increases, youngsters satisfy their leisure time more than ever. There is negative correlation between social wellbeing and time amount in digital games. It means that while time amount in digital games increases, social wellbeing (Lack of interest in social activities, Create a relationship with others) decreases($r= -0.678$, $p=0.001$). Also it shows that positive correlation between personal motivations (relieving stress, Create interest and hobbies, refreshment, rather computer games on sports, Overcome Loneliness and etc) and time amount in digital games($r=0.879$, $p=0.001$).

Table 5. T-test results for comparison between the health of girls and boys

Variable	Gender	n	t	P-value
Health	Male	90	2.93	0.003
	Female	98		

Table5 shows that based on the results of the independent t, there are significant differences in health of boys and girls ($p = 0.003$).

Table 6. T results to compare the times amount in digital games between girls and boys

Variable	Gender	n	t	P-value
Times amount in digital games	Male	90	1.47	0.140
	Female	98		

Table 6 shows that Based on the results of the independent t, there is no significant difference between girls and boys in digital games (p = 0.140). Time digital games have statistically difference between boys and girls.

Table7.T-test results for comparison of leisure time physical activity among girls and boys

Variable	Gender	n	t	P-value
Times amount in leisure time physical activity	Male	90	3.11	0.001
	Female	98		

Table 7 shows that according the results of independent t, there is Significant differences in leisure time physical activity among girls and boys (p = 0.001). Also according to the comparison of means in this table, we conclude that boys spend more time in leisure time physical activity (154.4 vs. 123.48).

DISCUSSION

A number of studies indicate that electronic games are now a routine part of normal childhood and adolescence [1,19-21]. Because, competence in computer games may require media literacy and technical skills, involvement with computer games presumably facilitates the acquisition of general computer-related knowledge and abilities [20]. Thus gaming can help users participate successfully in the information society [7,8]. It follows that if computer games are more attractive to boys than to girls, they perpetuate gender imbalance in access to modern information technologies. Computer games have been identified by several scientists [1-4] as one of the most appropriated computer applications to produce strong motivation in computer users. This media keeps people playing the game even in the presence of failure; in other words, games encourage persistent behaviors in players to master the game they are engaged in. It is important to provide a sense of control, curiosity and ownership [5-7].

The results of this study showed that there is a positive relationship between time amount in digital games and leisure satisfaction. This result support Wan and Chiou (2006) study that playing digital game can improve youngsters' leisure satisfaction as they can gain self-confidence and achievement from playing digital game. But for social well-being, the result showed that there is a negative relationship between leisure time physical activity and social well-being (interest in social activity, maintaining relationship with others) [17]. This opposes to Wang et al (2008) that playing digital game can increase communication with their peers and increase social well-being [14].

The result found that playing digital game is positively related to the digital game participation factors such as game can provide interest, share same topics with friends, game can provide success and achievement, game can relieve boredom, game can relieve stress, Relieve lonely when parents not stay at home, play game because no other interest, prefer to play game rather than sports. This supports Wang et al., (2008) and Mannell et al., (2005) that youngsters can gain a sense of confidence and achievement by winning digital game and relieve boredom and stress [14,15]. Also, it supports the study of Breakthrough in Hong Kong that youngsters will play digital game when they feel lonely with worse relationship with parents and playing digital game is the only interest for some youngsters [16]. Also the findings on health problems gender differences were unexpected. Females reported lower health problems than the males.

For youngsters with different gender, according to Cherney and London (2006), boys will spend most of their leisure time in sports and playing digital game but girls will spend most of their leisure time watching television [10]. This study also reflected no significant mean difference in playing digital game between boys and girls. Also, there is significant mean difference in leisure time physical activity between boys and girls. Last but not least, I suggest that to improve the leisure time physical activity among youngsters, the school can create an atmosphere which encourages students to join at least one sports team in school and help them to apply for the training courses hold by the different sport associations. For parents, they should play the role model to their children that they have regular leisure time physical activity. And they can find some leisure time physical activity which they can participate with

their children. For the government, they can encourage students to join the sports training courses in their leisure time by subsidizing their application fee.

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