

Patterns of, and factors associated with video game play among primary school children in Jeddah 2015: A cross-sectional study

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Abstract

Background: The majority of children and adolescents aged 2–17 years (92%) have been reported to play video games. Several studies have shown that children who play computer games frequently perform more poorly at school. A negative association between the amount of time spent playing video games and school performance for children, adolescents, and college students has been shown in other studies.

Objective: We assessed the impact of video games on nocturnal enuresis, physical activity, and school performance among primary school children and checked if there is any association between these factors.

Materials and Methods: This was a cross-sectional study carried out in a male primary school in Jeddah, in June 2015. An interview-based questionnaire was used to collect responses from 407 school children and a self-administered questionnaire for their parents.

Results: Playing video games was observed in 385 children (95.1%) and reported by 246 parents (93.2%). Out of the 29 children with enuresis, 27 (93.1%) reported playing video games. Among the 392 school children who engaged in physical activity, 374 (95.4%) reported playing video games, while video game playing was reported by 11 out of 11 (100%) children who did not engage in physical activity. Among the 365 children who had grade A at school, 330 (90.4%) reported playing video games.

Conclusions: The prevalence of playing video games was high. However, it was not significantly higher among children who were physically inactive, non-enuretics, with grade A school performance.

KEY WORDS: Nocturnal enuresis, video games, physical activity, school performance

Introduction

We assessed the impact of video games on nocturnal enuresis, physical activity, and school performance among primary school children and checked if there are any associations between these factors. A video game is defined as

an “electronic game played by means of images on a video screen which often emphasizes fast action”.^[1] The term nocturnal enuresis is defined as an involuntary urination that occurs at night (involuntary urination that happens during the day is known as diurnal enuresis). There are two kinds of enuresis: primary and secondary. Someone with primary nocturnal enuresis has wet the bed since he or she was a baby.^[2] The term physical exercise is defined as “any bodily activity that enhances or maintains physical fitness and overall health and wellness”.^[3] The majority of children and adolescents aged 2–17 years (92%) have been reported to play video games.^[4] More than two-thirds of all children aged 2–18 years live in a home with a video game system. A third of all children aged 2–18 years have a video game system in their bedrooms.^[5] The amount of time young people spend watching TV, playing video games, and social networking is

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considerable. 80% of children, aged 5–16 years have their own TV. Almost all had a computer at home, with more than half having their own computer.^[6]

Several studies have shown a negative association between the amount of time spent playing video games and school performance for children, adolescents, and college students.^[7] In one study, 26% of children who played video games evidenced a negative effect on their homework and school performance.^[4]

Game content could also affect the relationship between the amount of play and school performance. For example, if students played only educational games, they would be less likely to show a corresponding deficit in school performance.^[8] Several studies have shown that children who use computers to play games frequently perform more poorly at school. However, those who use computers for school work perform better at school. Regardless of content, the amount of play could affect scholastic achievement negatively by displacing time spent in educational and social activities. The average child plays video games for 7 hours a week.^[7] Children who spend less than one third of their daily free time playing video games usually have conduct problems and lower levels of hyperactivity. According to a recent research, video games have either a positive or negative effect on children's psychosocial adjustment, which depends on the duration of playing.^[9]

The overall volume of media viewing (watching TV, playing video games, and using computers) has been suggested as 35–40 hours per week for children aged 11–17 years.^[6]

Materials and Methods

The aim of this study was to determine the pattern of playing video games and its determinants among primary school children in the city of Jeddah, in 2015.

This was a cross-sectional study carried out in a male primary school in Jeddah in June 2015. An interview-based questionnaire was used to collect responses from 407 school children and a self-administered questionnaire for their parents. A school information sheet was used to assess children's performance at school. Information regarding video game playing, age, nationality, type of housing, region, physical activity, nocturnal enuresis, school performance, and educational and occupational backgrounds of parents was obtained. The study was conducted with full ethical approvals, including the Institutional Review Board (IRB), Ministry of Information, and with parental approval. Statistical tests (eg, chi-square and t-tests) were carried out using SPSS version 21, with a *P*-value <0.05 used as the criterion for significance.

Results

Prevalence and patterns of video games

About 270 out of 407 (66.33%) parents completed the questionnaire. However, all school children were successfully interviewed. Ages of school children ranged from 5–13 years

with a mean of 9.28 ± 1.84 years. A majority (318; 78.9%) of them were Saudis. Playing video games was observed for 385 children (95.1%) and was reported by 246 parents (93.2%).

The number of school children who played video games every day was 187 out of the 407 (46.9%). Video games were played for more than 4 hours per day by 132 out of 407 (32.7%) children and 1–2 days per week by 115 (44.2%) children.

The earliest age at which playing video games began ranged from 2–11 years with a mean of 6.17 ± 1.88 years. The most popular types of games were racing games and action games, which were reported by 195 (79.9%) and 185 (78.1%) children, respectively. The most popular game was FIFA and was reported by 262 (66%) children.

The most popular video game devices reported by children and parents were PlayStation, Wii, and X-box, followed by iPad, iPod, and tablets [Table 1].

Factors associated with playing video games

Age

The mean age of the 239 children who reported playing video games was 9.32 ± 1.84 years, while the mean age of the 18 children who did not play video games was 8.89 ± 1.96 years. This age difference was not statistically significant.

Nationality

Playing video games was reported in 302 out of 317 (95.3%) Saudi children and 79 out of 84 (94%) non-Saudi children. This nationality difference was not statistically significant.

Enuresis

Out of the 29 children with enuresis, 27 (93.1%) reported playing video games. Out of the 229 (94.5%) school children without enuresis, 208 played video games. This difference regarding enuresis was not statistically significant. Conversely, 11.2% of the children who played video games every day had nocturnal enuresis.

Physical activity

Among the 392 school children who engaged in physical activity, 374 (95.4%) reported playing video games. Video game playing was reported by 11 out of 11 (100%) children who did not engage in physical activity. This physical activity difference was not statistically significant. Conversely,

Table 1: Types of video game devices reported by children and parents

Type of device	By children	By parents
	No. (%)	No. (%)
PC and laptop	108 (27.1)	52 (20.2)
iPad, iPod, and tablet	221 (55.4)	175 (68.1)
PlayStation, Wii, and X-box	309 (77.3)	181 (70.4)
Other devices	55 (13.8)	19 (7.4)

97.5% of the children who engaged in physical activity played video games every day.

School performance

Among the 365 children who had grade A at school, 330 (90.4%) also reported playing video games. However, playing video games was reported by 35 out of 365 (9.6%) school children who had grades below A. Sixteen out of 20 (80%) school children who did not play video games had grade A, while 4 out of 20 (20%) had grades below A. The difference in educational achievement among video game players was not statistically significant.

Parents' occupation

The percentage of children who played video games and whose parents had semi-professional jobs was 34.5%, while the percentage of non-players who had parents with the similar jobs was 46.7%. All children of parents who performed skilled work reported playing video games. These differences were not statistically significant.

Type of housing

About 78% of video game players and 55.6% of non-players were living in flats. All school children living in traditional houses reported playing video games. The differences in terms of housing were not statistically significant.

Region

The majority of school children (138 out of 229; 60.3%) who played video games were living in the center of the city. A similar proportion (10 out of 17; 58.8%) of non-players was living in the center of Jeddah city.

Discussion

As expected, the prevalence of video game playing in this study was high and similar to other studies that confirmed that more than 97% of teens routinely play video games.^[9] However, we did not expect that all of the school children who did not engage in physical activity would also be video game players. The high distribution of PlayStation, Wii, and X-Box devices among primary school children might be explained by the general popularity of these different devices and the rapid growth of wealth in the Saudi nation. This study contradicts other studies that confirmed a statistically significant relationship between playing video games and psychosocial

adjustment. The absence of significant relationships might be due to the large proportion of video game players in our sample.

Conclusion

Playing video games was observed among the majority of school children, most of whom were Saudis. Daily playing of video games was reported by nearly half of the parents. The most popular devices were iPads, iPods, and tablets, and the most popular game was FIFA. Video game playing was reported by all inactive school children.

The prevalence of playing video games was high. However, it was not significantly higher among children who were physically inactive, older, Saudis, living in flats, living in the city center, non-enuretics, with grade A school performance, and with semi-professional parents.

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