Prevalence of Video Games Among Thai Children : Impact Evaluation

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Abstract

The present study was performed in order to determine prevalence and favored types of video games among altogether 679 primary and secondary school children in Thailand. To that end, the authors distributed questionnaires comprising detailed questions as to demographic data, playing frequency, available location and preferred type of video games among the parents of the children and adolescents to be investigated. Consistent with the literature, our results showed an early onset of video game playing (7.6 years), a higher prevalence among boys compared with girls, and a predilection for games invoking some aggressive behavior. In conclusion, although health hazards created by video game playing have remained beyond proof we still recommend parents and teachers to play a more active part as to the choice of games and the time spent playing.

Key word : Video Game, Children, Prevalence

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Substituting sports and other physical activities by television and video may ultimately contribute to reduced physical fitness and obesity (1) increasingly observed in urban settings. Moreover, some scholars of gambling suspect that arcade video game playing in some adolescents may develop into a behavior resembling a gambling addiction(2). A study performed in Ohio, USA, established approximately half of the video games preferred by 7th- and 8th-grade students to belong to one of two categories of violent games, whereas, only 2 per cent of preferred games were educational(3). Since playing aggressive video games has been reported to suppress prosocial behavior(4) and as computer game playing in general represents a popular

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activity among children and adolescents we undertook the present study in order to determine prevalence and type of video games preferred in relation to age and socioeconomic group of the children and adolescents investigated in Bangkok, Thailand.

MATERIAL AND METHOD

Population study

We distributed questionnaires among the parents of altogether 679 individuals with a female:male ratio of 376:287, who were further divided into

1. Primary school children between 6 and 12 years of age subdivided into

1a. One hundred and seventy nine cases of the low to middle income group randomly selected from a metropolitan primary school with a female:male ratio of 101:68, and

1b. One hundred and eighty one cases of the high income group randomly selected from the Chulalongkorn Demonstration School with a female:male ratio of 83:96;

2. Secondary school children between 12 and 18 years of age subdivided into

2a. One hundred and fifty seven cases of the low to middle income group randomly selected from a secondary school of the Ministry of Education with a female:male ratio of 118:39, and

2b. One hundred and sixty two cases of the high income group randomly selected from the Chulalongkorn Demonstration School with a female:male ratio of 74:86.

METHOD

At the outset of the present study, we informed the school director as well as the parents of its objective and obtained their consent.

The questionnaires comprised demographic data such as age, sex, grade, age at which video game playing was initiated, frequency and duration of playing per week, the place available to play, etc.

The video games were classified into

- Entertainment ("Final Fantasy", "Mario", "Pac man"),
- Fantasy Violence ("Dragon ball", "Rock man"),
- Human Violence ("Street fighter", "Teken", "Doon 3D", "Virtual fighter"),
- Thriller, adventure ("Blood", "Biohazard 2", " Brain"),
- Sport, for example ("Bowling world", "Fifa", "Formula I"),
- Education ("English game", "My first dictionary").

The question inquiring as to which particular kind of video game is most favored was asked only of those children who upon having initiated it had kept playing.

RESULTS

Upon collecting the questionnaires which had not been answered by 14 individuals (2.06%), the questionnaires revealed the place available to the respective groups of children for playing video games as depicted in Table 1.

Table 1. Place available to play video games.

	No.	Home %	Shopping arcade %
Low/middle income			
Primary school children	106	68.9	25.5
Secondary school children	149	75.2	31.9
High income			
Primary school children	141	89.3	6.0
Secondary school children	129	93.8	14.0

As to the age at which playing video games appears to set in, this could be established at 7.56 ± 2.54 years.

Altogether, 83.2 per cent of the children and adolescents affirmed to be experienced in playing video games. With respect to sex distribution, the questionnaires showed that 222 out of a total of 243 boys (91.35%) and 330 out of altogether 420 girls (78%) had experience with video games. The average age at which primary school children regularly play video games was established at 6.24 ± 1.82 years for boys and 6.53 ± 1.19 years for girls, respectively, in the case of secondary school children at 9.00 ± 3.03 years for boys and at 9.65 ± 6.53 years for girls. On average, the duration of playing video games amounted to 3.2 hours per week.

With regard to the type of video game most favored by children and adolescents, the details are depicted in Table 2.

Table 2. Types of video game most favored by a total number of 408 children and adolescents.

Type of video games	No.	%
Entertainment	149	36.5
Fantasy violence	50	12.3
Human violence	55	13.5
Thriller / adventure	83	20.3
Sport	68	16.7
Education	3	0.7

DISCUSSION

In the course of the past two decades, Thailand has progressively been caught up in the process of ever accelerating economic growth and modernization. Moreover, vast practically undeveloped areas scattered all over town have been transformed into business centers, hotels, etc. so that formerly ideal playgrounds for children have gradually disappeared. Hence, the natural inclination of children towards discovery, mystery and adventure has been confined to passive experience by reading, watching movies or playing games. Furthermore, the increasingly acquisitive spirit surfacing along with industrialization has caused the education system to be geared towards competition among students, which on its part has led to progressive alienation between the children. Therefore, even the pastime of playing games indoors has become almost obsolete since without friends, whom will the children play with? Consequently, the personal computer and video games have actually filled a vacuum, apparently salvaging most of humanity from either boredom or unsavory activities during their spare time.

As our data have shown, already at primary-school age the majority of children are not only versed in the art of video games but also have the necessary equipment in their homes, with the children from high-income families clearly favored over those from low- to middle-income background. At secondary-school age, this has reached a level even more striking as by then video games at home have become even more prevalent, be that among the high- or low- to middle-income children. Moreover, the types of games favored are to a large extent associated with aggressive behavior, especially those focusing on the expression of violence. Thus, in effect, children (are made to) start at a rather tender age to withdraw into a virtual reality which does not require them to relate to others.

Also, the potential health hazards brought about by extensively sitting in front of a TV screen deserve some consideration. There have been several studies investigating potential adverse effects on the health of video game players, which established that individuals genetically predisposed towards photosensitivity might develop photogenic epilepsy characterized by seizures induced by visual stimuli alone(5). Another study examining the effects of video games on visual function in children showed the visual loads for video games to be similar to those for visual display terminal work suggesting that regulating the playing times to 60 minutes or less per day is essential to prevent negative health effects in children(6). A study conducted to investigate the impact of video games on physical fitness and the assumed trend towards obesity among the players discovered that playing video games significantly increased metabolic rate and cardiovascular stimulation, similar in magnitude to mild-intensity exercise(1).

Whatever the purely physical impact, the psychological effects might be more far-reaching and ultimately accountable for most if not all of the physical manifestations observed. The probability to develop a gambling dependence appears rather high among video game players. A study conducted in the UK found that one in five adolescents were currently "dependent" upon computer games with boys playing significantly more regularly than girls and hence more likely classifyable as "dependent"(7).

On the other hand, choosing suitable video games might have immeasurable benefits. For example, a computer biofeedback game designed to teach deep relaxation to patients with a stress related disorder has been shown to teach deep relaxation rapidly and effectively so that half the patients with refractory irritable bowel

syndrome found the technique helpful on most occasions applied[8]. Also, the development of Spatial-Temporal Math Video Game software designed to teach fractions and proportional maths has proven strikingly successful in a study involving 237 second-grade children in that after a very short training time on the video game the children reached a high level of performance[9].

In conclusion, video games have some adverse effects, but they are also valuable learning tools. Hence, parent education about the influence of the media should include recommendations to monitor game playing and influence game selection, as well as possibly limiting the time spent playing video games at least to a reasonable extent.

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ความชุกของการเล่นวิดีโอเกม ประเมินผลกระทบในเด็กไทย

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ปัจจุบันวิดีโอเกม เป็นที่รู้จักและเล่นกันอย่างแพร่หลายในกลุ่มเด็กวัยเรียน รายงานนี้เป็นการศึกษาถึงความชุกในการเล่นวิดีโอเกมและเกมที่เด็กชอบ โดยทำการศึกษาในกลุ่มนักเรียนชั้นประถมและมัธยมศึกษาในเขตกรุงเทพมหานคร จำนวน 679 ราย โดยใช้แบบสอบถามที่ประกอบไปด้วยข้อมูลพื้นฐานของเด็ก ความถี่ สถานที่ในการเล่น และชนิดของเกมที่ชอบ โดยการถามเด็กและผู้ปกครอง พบว่าเด็กเริ่มเล่นเกมมีอายุเฉลี่ย 7.6 ปี เด็กชายเล่นเกมมากกว่าเด็กหญิง โดยที่เด็กชายเคยเล่นเกมร้อยละ 91 และเด็กหญิงเคยเล่นเกมร้อยละ 78 เกมที่เด็กชอบเล่นส่วนใหญ่ จะเป็นเกมที่เพลิดเพลิน (36.5%) ความรุนแรงต่อสู้ (25.8%) ตื่นเต้นผจญภัย (20.3%) เกมกีฬา (16.7%) และเป็นเกมที่เกี่ยวกับการศึกษาโดยตรงร้อยละ 0.7 ครูและผู้ปกครองควรมีส่วนร่วมในการเลือกชนิดของเกมและกำหนดเวลาการเล่นให้เหมาะสมเพื่อให้เด็กได้ใช้เวลาไปในทางการศึกษาและสังคมมากขึ้น

คำสำคัญ : วิดีโอเกม, เด็ก, ความชุก

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