

Research Article

# **IMPACT OF ELECTRONIC GAMING ADDICTION ON PHYSICAL AND PSYCHOSOCIAL STATUS AMONG SECONDARY SCHOOL'S CHILDREN**

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## **Abstract**

**Background:** The impact of electronic games on the child is a great influence, due to the widespread use of these games in recent times by children. Dangerous in his hand leads to addiction to it and affects many aspects, including: Health, psychological, and social aspects. In this sense, we have tried through this article to address the issue of electronic games and their various psychological, social and physical effects on the child.

**Study aim:** To assess the electronic gaming addiction among secondary school children, to assess the impact of electronic gaming addiction on physical and psychosocial status among secondary school children, in addition to find out relationship between electronic gaming addiction on physical and psychosocial status among secondary school children and their demographic data.

**Study design:** A cross-sectional descriptive quantitative design is done in the current work. The study has been carried out between the 1st of September 2022 and the 1st of February 2023 to assess the impact of electronic gaming addiction on physical and psychosocial status among secondary school's children.

**Sample of the study:** A probability sampling technique is conducted on the schools selected randomly (32) school's boys and girls, from (110) total schools in Al Najaf Al Ashraf city, from each school (30) students were randomly selected, and their age between 15 to 19 years.

**Sitting of the study:** The current study has been including (32) schools, (16) high school (preparatory), (16) secondary school, which are distributed in eight district of Al Najaf Al-Ashraf City in Iraq, four schools from each quarters.

**Results:** Study findings indicate there is impact of electronic game addiction on psychosocial and physical status and in both the control and study groups, the overall assessment of electronic game addiction, psychosocial and physical status is moderate.

**Conclusion:** Electronic game addiction, psychosocial and physical status were given a moderate rating in both control and study groups, and also, the study group socio-demographic characteristics the age of student, gender, grade classroom, father and mother educational level, mother alive, period of using electronic gaming and type of favorite game and finally SESS have impact on most study dimensions (Electronic game addiction, psychosocial and physical status).

**Recommendations:** Trying to finding out interesting new pastimes that are not games. Exercise is necessary for filling spare time, preserving health, and lowering the danger of playing and sitting for extended periods of time. *ASEAN Journal of Psychiatry, Vol. 24 (S4) December, 2023; 01-09*

**Keywords:** Electronic Game Addiction; Psychosocial Status; Physical Status; Secondary School Children

## **Introduction**

During the beginning of the modern period, Latin derivatives of “addicere” were desirable due to their illustrious classical history. “Addict” was a word that indicated attachment; introduced the word “positive addiction” to describe a good habit, like yoga or running, that improves individual ability to function. One can achieve a non-critical, transcendental frame of mind by frequently engaging in either of those actions for approximately an hour each day. He determined the addiction to be that enjoyable state of mind [1]. Addiction frequently develops when a person attempts to relax and escape reality but is unable to do so because addiction can lead to emotional dysregulation, social withdrawal, low mood, anxiety and depression. Excessive gaming has a detrimental impact on social and individual relationships as well as a person’s subjective well-being. Therefore, excessive gaming prevents a person from leading a regular life, not because of physical problems but rather because of mental health, which is shown in lower performance and concentration [2]. In order to avoid suffering from back pain, dark circles under eyes, obesity, wrist pain, lack of sleep, fatigue, and depression, one neglects his/her social life, his/her personal and professional obligations, and his/her diet (the majority of internet addicts spend outrageous amounts of money in addition to eating in front of a computer screen) [3]. Electronic games are described as “games that individuals are constantly addicted to use, whether they are online or offline, and this negatively affects the individual in general and the child in particular, as it has a social, psychological, and health impact on him” The phrase “extensive use of electronic games on the network, whether on computers, mobile devices, PlayStation, and various fictitious types” was also used [4].

### *Concept of game*

It is evident that playing games is an innate aspect of human life. The game’s appearance conveys the idea that it is an amusement that is not taken seriously. To determine what is truly referred to as a game. Physical and cerebral games are the two categories [5]. The majority of individuals have developed an addiction to the Internet’s development; factors contributing to this include game design, psychological factors, and social factors. Long-term gaming can cause deterioration of eyesight, disruption of sleep patterns, shorter sleep duration, physical deterioration, emotional

instability, mental retardation, and other health issues. Fortunately, gaming problem may be treated with therapies including self-control, Cognitive Behavioral Therapy (CBT), and family-based interventions despite the potentially harmful effects it may have on people’s health and quality of life [6]. Electronic game addiction actions a child’s ability to develop psychologically by exposing him to feelings of fear, tension, distress, and insomnia caused by the disturbing and adverse content of some electronic games, as well as by exposing him to withdrawal anxiety disorders like excessive anxiety, depression, and severe sadness. It also causes the child to develop the desire for violence and cruelty [7].

### *The crucial transitional stage of adolescence in terms of physical, behavioral, and emotional development*

EMU has a special effect on brain areas that undergo considerable developmental change during adolescence [8]. Playing is one of a child’s most crucial activities; it’s not just something they do for fun; it’s also thought to be the most crucial activity for their mental and psychological growth. As a natural instinct and a mental activity, play is benefits of digital gaming. Electronic games teach addicts certain academic skills including learning new languages, typing, writing, and critical thinking. Negative effects include headaches, quivering hands and arms, musculoskeletal disorders brought on by frequent, quick movement, and eye redness and dryness from electromagnetic fields released by displays [4]. Electronic games have a variety of purposes, particularly for teens, including winning, rivalry, challenge, enjoyment, adventure, imagination, hobbies, curiosity, skill development, and cognitive development. It’s normal to play electronic games, with the exception of when you overdo it, and some games even have benefits like emotional relief or relaxation and a greater use of amusement and problem-solving skills. There are many different kinds of electronic games, including fighting, puzzle, sports, adventure, and strategy games [9]. Halley Pontes and Mark Griffiths in 2000 they defined these type of addiction operationally “non-chemical (behavioral) addictions involving human-machine interactions, can be regarded as a sub-set of behavioral addictions [10].

## **Materials and Methods**

### *Study design*

A cross-sectional descriptive quantitative design

is done in the current work. The study has been carried out between the 1st of September 2022 and the 1st of February 2023 to assess the impact of electronic gaming addiction on physical and psychosocial status among secondary school's children.

*Administrative agreements and ethical considerations*

The researcher obtained permission from the Ethics Committee of the University of Kufa's Faculty of Nursing has given an agreement; Furthermore, before collecting the data, formal administrative agreements acquired for conducting the study, the initial agreement was obtained from the Kufa-University/College of Nursing/Department of Graduate Studies. Written official permissions had been obtained from the Ministry of Planning Central Statistical System, for the acceptance of the questionnaire draft. Another permission obtained from the Ministry of Education and The General Directorates of Education in Al- Najaf Al-Ashraf City for getting sample from the secondary schools. Finally, subject's agreement from the Ministry of Municipalities and public works/ Directorate of Najaf Municipality.

*Setting of the study*

The current work was carried out in has been including (32) schools, (16) high school (preparatory), (16) secondary school, which are distributed in eight district of Al Najaf Al-Ashraf City in Iraq, four schools from each quarters, shows in Table 1.

**Table 1. Distribution of adolescents according to the type and locations of the schools in Al-Najaf Al-Ashraf City.**

Level of school / School location	High school (preparatory)	Secondary	Total schools selected
First District	2	2	4
Second District	2	2	4
Third District	2	2	4
Fourth District	2	2	4
Fifth District	2	2	4

Sixth District	2	2	4
Seventh District	2	2	4
Eighth District	2	2	4
Total	16	16	32

*Sample of the study*

A multi stage sample of (911) subjects, it is selected throughout the use of probability sampling. The sampling of study is divided into two stage which include:

- A. First stage: school's selection by stratified cluster. Al Najaf Al Ashraf city divided to eight district. The schools selected randomly (32) school's boys and girls, from (110) total schools in Al Najaf Al Ashraf city.
- B. Second stage: student's selection by using the disproportional stratified sampling (Nieswiadomy, 2008; Joan, 2009). From each school (30) students were randomly selected, and their age between 15 to 19 years.

*The study instrument*

The researcher makes the study's instrument is formats developed by the investigator. In addition to the demographic socio-economic data form. The reliability was done after experts reviewed and content validity was established. As well, a slight modification has been made to the questionnaire for sundry terms in conformity with the commendations and observations of the supervisor, specialists and the Ministry of Planning/Central Council of Statistics.

This tool consists of two parts:

- Part I: Socio-Demographic Data
- Part II

**Part I:** Socio-demographic data: This part contains three subsections as the following:

*Student's demographical data:* This part consists of six items, that include: Gender, age, grade classroom, number of sibling, order of student in the family and residency.

*Family of student's demographical data:* This part consists of fourteen items, that include: Father

alive, mother alive, parent's marital status, father educational level, mother educational level, SESS.

*Electronic game items:* This part consists of eleven items; Do you use electronic games, how long (time) do you use electronic game, You are under 12 years old, Were you over 12 years old when you started using electronic games, The duration of your use of electronic games is from half an hour to an hour, The duration of your use of electronic games is from one to two hours, The time period for using electronic games is from two to four hours, The time period for using electronic games is from four hours or more, Fighting games are the favorite type of electronic games, Adventure and thinking games are the favorite type of electronic games, Intelligence games are the preferred type of electronic games and Sports games are the preferred type of electronic games.

**Part II:** This part illustrates three dimensions to examine the Electronic Game Addiction among secondary school's children in Al-Najaf school's. These domains along with the items associated with each one are demonstrated.

#### *Score interpretation*

Electronic game addiction part of the study instrument consist one type of scale with five responses (never (1), rarely (2), sometime (3), often (4), all time (5)). Psychosocial status part: This domain was measured through (14) sub-domains which represented psychosocial measure for children in secondary schools. This part of the study instrument consists one type of scale with five responses (never (1), rarely (2), sometime (3), often (4), all time (5)). Physical status part: This domain was measured through (8) sub-domains which represented physical measure for children in secondary schools. The items are arranged as 1- to 4-point response scales. To make the things easier for children to understand, each point on the answer scales has a name. The first item, for instance, has ratings ranging from 1 (I run very slowly) to 4 (I run extremely quickly). When playing, performing physical education exercises, or participating in sports, children must keep their own needs in mind. Participants are asked to select which of the four statements for each item best describes their own sentiments. Items 1, 3 and 5 receive scores ranging from 1 to 4, whereas items 2, 4, 6, 7 and 8 is reversed. Therefore, the total test score can range from 1 to 32. High scores indicate a strong sense of a person's physical abilities, while low scores would indicate a weak sense of

a person's physical ability. It has been emphasized that there is no lost data and then transforms the data into calculated data, arranged them in the Microsoft Office Excel 2016 program, and for statistical analysis transfer them to the Statistical Package of Social Sciences program (SPSS) version 26. Besides, to move the tables to the final results and presented for study, transforming the data to Microsoft Office Word 2016.

#### *Reliability of the study instrument*

It's statistically formed for testing the reliability coefficient for the instrument of the present study, its results show that there is an acceptable level of Cronbach's alpha reliability value for each scale, and then there is a highly acceptable level of reliability for all scales.

#### *Data collection*

The data is collected *via* self-report using the developed questionnaire (Arabic version). The participants' data is collected *via* self-report that lasted from December 21, 2022, to February 1, 2023. From 911 subjects, a total of 917 have been obtained for statistical analysis. Six responses were eliminated because the participants did not complete the questionnaire in its entirety. The researcher met with the children after receiving permission from the school's administrators to clarify the study subjects' and obtain their verbal agreement to participate in the study with the right to reject or withdraw participation and confidential details, then a copy of the questionnaire is distributed for each subject to be answers in full, before their retrieval by the researcher.

#### **Results**

Table 2 shows statistically descriptive and assessment the electronic gaming addiction on secondary school children. In control group it indicates that the evaluation of items is (low addiction) for all numbered items and for study group items it demonstrates that assessing of items is (moderate addiction) also for all numbered items assessment.

This Table 3 gives statistically descriptive (mean of scores) and assessment the psychosocial well-being among secondary school children, in the control group It demonstrates that the majority of the items' assessments are accurate (moderate) for numbered items (3,4,5,6,7,9,10,12,14), while it is considered (good) for five items is

numbered (1,2,8,11,13); and for study group items it demonstrates that the assessment of items is (moderate) for all items numbered assessment.

This Table 4 gives the descriptive statistics (mean of scores) and assessment of the perceived physical ability among secondary school children, in the

control group it demonstrates that the assessment of the majority items is (moderate) for items numbered (1,2,3,4,5,6,8), while it is considered (good) for one items is numbered (7); and in the study group it demonstrates that the assessment of the majority items is (moderate) for items numbered (1,2,3,4,5,6), while it is considered (good) for two items is numbered [7,8].

**Table 2. The assessment the electronic gaming addiction on secondary school children.**

Items	Control		Study	
	Mean	Asses.	Mean	Asses.
1. Did you think about playing a game all day long?	1.44	Low Add.	2.85	Moderately Add.
2. Did you spend much free time on games?	1.58	Low Add.	3.38	Moderately Add.
3. Have you felt addicted to a game?	1.53	Low Add.	2.7	Moderately Add.
4. Did you spend increasing amounts of time on game?	1.67	Low Add.	3.06	Moderately Add.
5. Did you play longer than intended?	1.25	Low Add.	2.98	Moderately Add.
6. Were you unable to stop once you started playing?	1.54	Low Add.	2.87	Moderately Add.
7. Did you play games to forget about real life?	1.6	Low Add.	2.66	Moderately Add.
8. Have you played games to release stress?	1.53	Low Add.	3	Moderately Add.
9. Have you played games to feel better?	1.99	Low Add.	3.3	Moderately Add.
10 Have others unsuccessfully tried to reduce your game use?	1.18	Low Add.	2.94	Moderately Add.
11. Were you unable to reduce your game time?	1.41	Low Add.	2.8	Moderately Add.
12. Have you failed when trying to reduce game time?	1.19	Low Add.	2.59	Moderately Add.
13. Have you felt bad when you were unable to play?	1.26	Low Add.	2.74	Moderately Add.
14. Have you become angry when unable to play?	1.45	Low Add.	2.72	Moderately Add.

15. Have you become stressed when unable to play?	1.16	Low Add.	2.52	Moderately Add.
16. Did you have fights with others (e.g., family, friends) over your time spent on games?	1.41	Low Add.	2.76	Moderately Add.
17. Have you neglected others (e.g., family, friends) because you were playing games?	1.43	Low Add.	2.37	Moderately Add.
18. Have you lied about time spent on games?	1.23	Low Add.	2.57	Moderately Add.
19. Have you neglected other important activities (e.g., school, work, sports) to play games?	1.55	Low Add.	2.67	Moderately Add.
20. Has your time on games caused sleep deprivation?	1.76	Low Add.	2.8	Moderately Add.
21. Did you feel bad after playing for a long time?	1.66	Low Add.	2.77	Moderately Add.
<b>Note:</b> Freq: Frequency; MS: Mean of score; Low: MS=1-2.33; Moderate: MS=2.34-3.65; high: MS=3.69-5.				

**Table 3. The assessment the psychosocial well-being among secondary school children.**

Items	Control		Study	
	Mean	Asses.	Mean	Asses.
1. I've been feeling optimistic about the future.	3.69	Good	3.4	Moderate
2. I always feel helpful and helpful to myself and others.	3.68	Good	3.48	Moderate
3. A lot of the time I feel relaxed.	2.95	Moderate	2.94	Moderate
4. You feel cared for by others.	3.22	Moderate	3.11	Moderate
5. I have week energy or feel energy in general	3.15	Moderate	3.11	Moderate

6. I handle problems well.	3.39	Moderate	3.41	Moderate
7. I think clearly about the things around me	3.52	Moderate	3.54	Moderate
8. I feel good about myself.	3.8	Good	3.58	Moderate
9. I feel close to others	3.59	Moderate	3.44	Moderate
10. Make the right decision about things.	3.45	Moderate	3.54	Moderate
11. I feel loved by family and friends.	3.71	Good	3.62	Moderate
12. I have an interest and a desire for new things, such as modern electronic games	2.66	Moderate	3.26	Moderate
13. I feel fun with family and friends	3.77	Good	3.64	Moderate
14. I get anxious and nervous sometimes	3.34	Moderate	3.44	Moderate

**Note:** Freq: Frequency; MS: Mean of score; Low: MS = 1-2.33; Moderate: MS = 2.34-3.65; high: MS = 3.69-5.

**Table 4. The assessment of the perceived physical ability among secondary school children..**

Items	Control		Study	
	Mean	Asses.	Mean	Asses.
Physical status Q1	2.59	Moderate	2.84	Moderate
Physical status Q2	2.46	Moderate	2.66	Moderate
Physical status Q3	2.5	Moderate	2.7	Moderate
Physical status Q4	2.95	Moderate	2.99	Moderate
Physical status Q5	2.75	Moderate	2.7	Moderate
Physical status Q6	2.9	Moderate	2.89	Moderate
Physical status Q7	3.05	Good	3.22	Good
Physical status Q8	2.93	Moderate	3.16	Good

**Note:** Freq: Frequency; MS: Mean of score; Poor : MS = 1-2 ; Moderate: MS=2.01-3; Good: MS=3.01-4.

## Discussion

The study findings shows that the electronic gaming addiction on secondary school children in study group, the result reflects that there is a moderate assessment for this dimension, this result supported by [11], who found that addicted to gaming were more likely to be stressed (moderately as well as highly) compared to those who were not addicted to gaming. About with regard the children's psychosocial well-being among secondary school for study Group, the result shows that there is a moderate assessment for this dimension, this result come with [12], who found that moderate assessment for psychosocial functioning. Concerning the children's perceived physical ability among secondary school for study group, the result shows that there is a moderate assessment for this dimension, this result come with [13], who found that moderate assessment for physical ability.

## Conclusion

Electronic game addiction, psychosocial and physical status were given a moderate rating in both control and study groups, and also, the study group socio-demographic characteristics the age of student, gender, grade classroom, father and mother educational level, mother alive, period of using electronic gaming and type of favorite game and finally SESS have impact on most study dimensions (Electronic game addiction, psychosocial and physical status).

## References

1. Rosenthal RJ, Faris SB. The etymology and early history of 'addiction.' *Addict Res Theory*. 2019;27(5):437-449.
2. Abbasi AZ, Khan MK, Naeem F, Albashrawi M, Ting DH, et al. Gamers' subjective well-being: the role of peripheral and core elements of esports videogame addiction. *Curr Psychol*. 2023;10(2):1-10.
3. Hagra SA, ELSayed EH. Negative health effects on addiction of internet among primary schools' students in Zagazig city. *Saudi Journal of Nursing and Health Care*. 2021;4(7):189-204.
4. Cena L, Rota M, Trainini A, Zecca S, Zappa SB, et al. Investigating adolescents' video gaming and gambling activities, and their relationship with behavioral, emotional, and social difficulties: protocol for a multi-informant study. *JMIR Research Protocols*. 2022;11(2):e33376.
5. Rosyati T, Purwanto MR, Gumelar G, Yulianti RT, Mukharrom T. Effects of games and how parents overcome addiction to children. *J Crit Rev*. 2020;7(1):65-67.
6. Hu H, Ji X. An analysis of gaming disorders cause, impact and therapy. *Journal of Education, Humanities and Social Sciences*. 2023;8(6):1770-5.
7. Elsayed W. COVID-19 pandemic and its impact on increasing the risks of children's addiction to electronic games from a social work perspective. *Heliyon*. 2021;7(12):e08503.
8. Li TMH, Chan NY, Li CT, Chen J, Chan JWY, et al. The associations of electronic media use with sleep and circadian problems, social, emotional and behavioral difficulties in adolescents. *Front Psychiatry*. 2022;13(6):1-11.
9. Fahim HA, El-aty NSA, Mohammed FM. Association of playing electronic games with different health aspect among secondary school students in Assiut city. *Assiut Scientific Nursing Journal*. 2023;8(5):270-86.
10. Hasan NN, Mehammed-Ameen OH, Sameen FY. Smartphone addiction among nursing college students in Kirkuk university. *Kufa Journal for Nursing Sciences*. 2018;8(2):1-5.
11. Rajab AM, Zaghoul MS, Enabi S, Rajab TM, Al-Khani AM, et al. Gaming addiction and perceived stress among Saudi adolescents. *Addict Behav Reports*. 2020;11(2):100261.
12. Przybylski AK, Orben A, Weinstein N. How much is too much? examining the relationship between digital screen engagement and psychosocial functioning in a confirmatory cohort study. *J Am Acad Child Adolesc Psychiatry*. 2020;59(9):1080-1088.
13. Çar B, Ahraz AO. A study on the relationship between secondary school students' digital game addiction awareness and participation motivation to physical activity. *Int J Progress Educ*. 2022;18(4):175-190.



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