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The reality of the prevalence of electronic games among secondary school students: A field study on a sample of students in Saida province

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Abstract

The current study intended to investigate the reality of the prevalence of electronic games among secondary school students, and to reveal the possibility of the existence of differences in their level of prevalence according to the variables of gender and age. A sample consisting of (135) male and female students from secondary education institutions in the Wilaya of Saida was relied upon, and to achieve the objectives of the study, the researchers constructed a questionnaire consisting of (14) items, and its psychometric properties were verified using internal consistency validity, where its values ranged between (0.508) and (0.874). As for reliability, its value using Cronbach's alpha reached (0.940), which are indicators that demonstrate the high efficiency of the questionnaire. The study concluded with the following results:

- The level of prevalence of electronic games among secondary school students is high.
- There are statistically significant differences in the level of prevalence of electronic games among secondary school students attributed to the gender variable in favor of males.
- There are no statistically significant differences in the level of prevalence of electronic games among secondary school students attributed to the age variable.

Keywords: Electronic games; students; secondary.

Problematic of the study

Nowadays, like the rest of the countries of the world, we live a reality from which we cannot escape: the virtual world, which has surrounded our lives with both its positive and negative aspects. Regardless of the positive side, its negatives are numerous and almost endless. The virtual world known as the Internet and its countless applications from Facebook to Twitter, Instagram, TikTok, and electronic games all constitute applications that distract the mind, whether for children, adolescents, or even adults.

Playing is a mental or physical activity practiced by the individual, whether young or old, in order to satisfy and gratify various needs, which can be achieved through playing such as recreation, education, and the release of excess energy, among other needs. Further, its importance alters according to different age groups, and gaming could be individual or collective, organized or spontaneous, as well as guided or self-directed (Qwaider, 2012, p. 32).

Gaming presently differs from what it was in the past. Previously, playins was a mean of entertainment through which the child would play collectively or individually, manually and in the real world, using simple tools and means such as stones, dolls, toy cars, skipping rope, and football. Through it, children would sing and perform physical movements such as jumping or running, learning the spirit of competition, love, and friendship. In contrast, today's play is abstract virtual play, in which

the individual is confined with his electronic device for long hours, whether using a computer or a tablet with the game, forgetting everyone around him. This is what Jones pointed out: "For some people, computer games or video games are real life, as they immerse themselves in them more than in reality" (Al-Aswad, 2019, p. 46).

Electronic games, especially mobile games, have witnessed increasing demand and use in all telecommunications markets around the world. Recent data published by the global institution "News," specialized in electronic games data and statistics, showed that the number of electronic game users worldwide reached 2.7 billion users in the current year. Furthermore, the report mentioned that this number increased by 6.4% compared to the number recorded in the previous year, 2019, which amounted to 2.54 billion users. The data also indicated that Asia accounted for the largest share of electronic game users worldwide, with approximately 1.5 billion users, representing 55% of the total number of users. On the other hand, Europe and the Middle East accounted for 28% of the total number of electronic game users worldwide, with about 758 million users. The figures also showed that the number of electronic game users in Latin America reached about 259 million users, representing 9% of the total number of electronic game users worldwide. The data further mentioned that the total number of electronic game users worldwide reached approximately 203 million users (Ibrahim, 2020).

Electronic games provide an opportunity for everyone to play through the "Play Store" application, which contains various free games across different fields, some of it simulate cognitive and educational behaviors such as intelligence games, others are violent. "Electronic games are not innocent entertainment; rather, they are a media tool that contains encrypted and coded messages through which the sender aims to achieve cultural, political, and religious goals. For, the rules of the game impose on the player a forced role-playing and immersion in a specific reality of intellectual, military, cultural, or ideological warfare, and the danger also lies in the possibility of bringing the player closer to fantasy and reality to the extent that he attempts to apply the contents of these games in his daily life, which means shaping behavior in the way desired by the makers of these games" (Qwaider, 2012, pp. 14-15). Inasmuch as, the contents of these electronic games negatively affect the individual; among their effects is that the individual acquires a set of maladaptive behaviors. For example, an individual who plays a game containing violent content will inevitably imitate this behavior which is confirmed by the view that video games have become a kind of school through which the learner acquires the finest combat arts and criminal tricks, and gradually trains on them, especially when there are incentives and reinforcements to commit violent acts learned in this digital school (Tahami, 2019, p. 12).

This is also indicated by Noura Al-Saad (2005), who mentions that according to many studies and research, practicing electronic games has been the cause of some tragedies. The results of these games over the past thirty-five years have been associated with an increase in violent behavior and a rise in rates of murder, rape, and serious assaults in many societies. The common factor in these countries is the violence presented by the media or electronic games and offered to children and adolescents as a form of entertainment and enjoyment (Balamouchi, 2019, p. 47).

Electronic games also affect students' academic achievement, and here Professor Yaqoub Al-Baloushi sees that one of the negatives of electronic games is that they lead to a decline in academic achievement among children and adolescents who practice them continuously, because they stay up for long hours at night and consequently wake up late for school, and even if they go to school, they are unable to listen attentively to the teacher, which leads to disturbances in their ability to understand and achieve good academic performance, and may even lead them to fall asleep in class (Al-Aswad, 2019, p. 53).

We should not forget to state the impact of electronic games on the social, cultural, and value dimensions of the individual, as they affect his relationships with others, making him an introverted, unsociable individual dependent on others, facing a conflict between the messages he receives through electronic games related to Western culture and values and what he observes within his Arab society.

Based on the above, the following questions are raised:

- What is the level of prevalence of electronic games among secondary school students?
- Are there statistically significant differences in the level of prevalence of electronic games among secondary school students attributable to the gender variable?
- Are there statistically significant differences in the level of prevalence of electronic games among secondary school students attributable to the age variable?

Hypotheses:

- The level of the spreading of electronic games amidst secondary school students is high.
- There are statistically significant differences in the level of prevalence of electronic games among secondary school students attributable to the gender variable in favor of males.
- There are statistically significant differences in the level of prevalence of electronic games among secondary school students attributable to the age variable.

Objectives of the Study:

The current study aims to reveal the level of prevalence of electronic games among secondary school students, in addition to identifying the possibility of differences in the level of this addiction according to the variables of gender and age.

Importance of the Study:

The importance of the study stems from the importance of the topic it addresses, namely addiction to electronic games, in terms of its novelty and its widespread prevalence among students of different educational stages, especially the secondary stage.

Operational Definitions:

Electronic Games: These are electronic games displayed on computer screens or through tablets or smartphones, providing the individual with entertainment. Operationally, they are defined as the score obtained by the student through his response to the electronic games questionnaire designed for this purpose.

Secondary School Students: They are students enrolled in the secondary education stage for the academic year 2023/2024, whose ages range from 15 to 21 years.

Theoretical Framework:

Definition of Electronic Games:

In the informational concept, electronic games are defined as software that simulates a real or virtual reality by relying on the computer's capabilities to handle various media, display images, animate them, and produce sound. In the social concept, they are an interaction between humans and machines to benefit from their capabilities in education, entertainment, and recreation. Scientifically, electronic games represent a tool that challenges the player's abilities by placing him in front of difficulties and obstacles that range from simplicity to complexity and from slowness to speed. They are also a tool for developing culture and abilities, as they attract attention and convey information with ease and enjoyment (Al-Azhar, 2019, pp. 27-28)

Qouider (2012) defined them as a recreational activity that emerged in the late sixties, primarily a mental activity that includes video games, computer games, and mobile phone games. In general, it includes all games with an electronic nature (Mahria, 2020, p. 177).

A game is defined as an activity in which players engage in an artificial conflict governed by specific rules, leading to quantifiable outcomes. Besides, a game is called electronic when it is available in digital form and is usually operated on platforms such as computers, the Internet, television, video game consoles, mobile phones, and handheld devices (Balamouchi, 2019, p. 46).

From the above, we conclude that electronic games are games available on computers, smartphones, or tablets, characterized by digitalization, and may be played individually or collectively.

Definition of Electronic Game Addiction:

Internet gaming addiction is a behavioral problem that has been classified and explained

in several ways. According to Griffiths, 13 psychosocial processes lead to the development of addiction, such as Internet gaming addiction, which includes the following components. First, the behavior is salient (the individual is preoccupied with gaming). Second, the individual uses the behavior to modify mood (for example, gaming is used to escape reality or to create feelings of euphoria) (Daria, 2013, p. 127).

Reasons for Attraction to Electronic Games:

The reasons for individuals' attraction, whether young or old, to the Internet in general and video games in particular are numerous, and are characterized by excitement, thrill, interactivity, and deviation from the ordinary. This attraction may be attributed to deadly boredom filled with monotonous routine in an environment that restricts freedoms and limits abilities. Moreover, the video game addict may consider games as a means to achieve gratification and as an outlet from everything that restricts, frustrates, or stresses him. In this context, Dr. Haider Mohammed Al-Kaabi states: "We can explain the reason for the interaction of many people with highly bloody games or games with atmospheres foreign to their own, due to excitement, thrill, and fantasy. This is clearly evident in the intense popularity of the game (GTA), through which the player lives a completely different lifestyle from his real life, even for those who play it in Western societies, as the game's protagonist, who belongs to the world of crime, releases his aggressive instincts without fear of punishment" (Boubidi, 2019, p. 10).

Previous Studies:

Study by Rong Shao and Yunqiang Wang (2019): Titled The Relationship Between Violent Video Games and Adolescent Aggression. The study aimed to examine the moderated mediation effect of normative beliefs about aggression and the family environment in exposure to violent video games and adolescent aggression. The results showed a significant positive correlation between exposure to violent video games and adolescent aggression, and normative beliefs about aggression had a mediating effect on this relationship.

Study by Mehria et al. (2020): This study aimed to reveal the impact of electronic games used via smartphones on students' academic achievement at different educational stages from the parents' perspective. A sample of (120) families (father or mother) in the city of Tamanrasset was selected. The results indicated that students continuously use their parents' smartphones whenever given the opportunity, driven mainly by boredom and the desire for entertainment, which negatively affects their academic achievement in the end.

Study by Chaib et al. (2020): This study aimed to reveal the effects of electronic game addiction on adolescent behavior. Among the various types of games available on the Internet, the game PUBG was chosen as a model due to its recent widespread popularity. To achieve the study's objectives, the descriptive method was used, and a questionnaire related to the study topic and the game PUBG was administered to a sample of (60) adolescents who play this game online. The results indicated an effect of PUBG on adolescent behavior in the following areas: academic, social, violence and aggression, psychological, and health and physical domains.

Study by Ibrahim Hilal Al-Anzi (2020): This study aimed to investigate the nature of youth use of electronic games, explore the underlying motivations behind this engagement, and monitor the resulting negative consequences. An electronic questionnaire was administered to a sample of (600) participants from secondary and university students. The results showed high rates of electronic game addiction among many youths, with the most important driving factors being the high attractiveness and excitement elements of electronic games, as well as cases of social isolation and some health problems.

Study by Ahmed Randa Mohamed Sayed (2020): This study sought to identify the correlational relationship between early maladaptive cognitive schemas and electronic game addiction. The study relied on Jeffrey Young's Early Maladaptive Schemas Scale

and an Electronic Game Addiction Scale, and was conducted on (125) female university students. The results revealed a correlational relationship between the psychological and social aspects of electronic game addiction and maladaptive cognitive schemas. It also showed that the most predictive maladaptive schemas of electronic game addiction had an impact on the social aspect surrounding students' lives, represented in schemas of (impaired performance, other-directedness, excessive vigilance, disconnection, and rejection).

Practical Framework:

Study Methodology:

Since the two researchers are studying "the reality of the prevalence of electronic games among secondary school students," the descriptive method was adopted because it suits the nature of this study and expresses it quantitatively, with the aim of providing a numerical descriptive portrayal that clarifies the spread of this phenomenon.

Exploratory Study:

Study Sample: The pilot study sample consisted of (30) male and female secondary school students who were selected using a purposive sampling method, distributed according to their characteristics as follows:

Table No. (01) shows the distribution of the exploratory study sample in terms of gender.

Gender	Frequency	Percentage %
Males	18	60%
Females	18	40%
Total	30	100%

From the table above, it is evident that the number of male students reached (18), representing a percentage of (60%), while the number of female students reached (12), representing (40%). This indicates that the number of males is greater than the number of females.

Description of the Study Instrument:

In this study, the researchers relied on a questionnaire that measures "the use of electronic games among secondary school students." The questionnaire consisted of (14) items accompanied by five response alternatives as follows: always (05) points, often (04) points, sometimes (03) points, rarely (02) points, and never (01) point.

Psychometric characteristics:

Before applying the study instrument, it was necessary to ensure its validity by estimating its psychometric properties using validity in its two forms: internal consistency validity and self-validity. As for reliability, Cronbach's alpha was used.

1. **Validity:**

Internal Consistency Validity: Pearson's correlation coefficient was applied to determine the extent to which each item is correlated with the total score of the questionnaire. The results showed that the values of the correlation coefficients ranged between (0.508) and (0.874), all of which are acceptable values and statistically significant

at the (0.01) level. Self-validity was calculated based on reliability, which reached a value of (0.94). Since self-validity is the square root of reliability, the value of self-validity reached (0.96), indicating that the questionnaire has high validity.

2. **Reliability:**

Reliability was calculated using Cronbach's alpha, and its value reached (0.94), which is a high value indicating that the instrument has high reliability.

The Main Study:

Main Study Sample: The study sample consisted of secondary school students, where (135) male and female students were selected using a random sampling method and were distributed as follows:

Table No. (02) shows the distribution of the individuals in the main study sample.

variable	Frequency		percentage
Gender	Male	73	54.1%
	Female	62	45.9%
	Total	135	100%
Age	15-17	98	72.6%
	18-20	37	27.4%
	Total	135	100%

From the above table, it is clear that the number of males was (73), representing (54.1%), while the number of females was (62), representing (45.9%). As for the ages of the sample, the predominant group was students aged between 15 and 17 years, with a percentage of (72.6%), whereas students aged between 18 and 20 years constituted (27.4%).

Presentation and Discussion of the Study Results:

Presentation of the Study Results:

Presentation of the Result of the First Hypothesis: It stated that the level of prevalence of electronic games among secondary school students is high.

Table No. (03) Level of prevalence of electronic games among secondary school students

Total responses	Percentage	Level
3583	70%	Elevated

Based on the results shown in the table, we observe that the total responses of the sample members on the electronic games questionnaire reached (3583), with a

percentage of (70%), which indicates that the level of prevalence of electronic games among secondary school students is high. Therefore, the study hypothesis has been confirmed.

Presentation of the Result of the Second Hypothesis:

It stated that there are statistically significant differences in the level of prevalence of electronic games among secondary school students attributable to the gender variable in favor of males, and to test this hypothesis, the "t-test" for differences between two independent samples was used, and the following results were obtained:

Table No. (04) shows the result of the T-test for the significance of differences in the level of prevalence of electronic games among secondary school students according to gender

Gender	Sample	Arithmetic Mean	t-value	Standard Deviation	Degrees of Freedom	Signifi-cance	Significance Level
Males	73	54.1	16.706	3.677	103	0.000	0.05
Females	62	45.9	12.412				

The table above illustrates the differences in the level of prevalence of electronic games among secondary school students according to gender. The mean score for males was (54.1) with a standard deviation of (16.706), whereas the mean score for females was (45.9) with a standard deviation of (12.412). Using the test for differences between means, the value of "t" reached (3.677) at a degree of freedom of (103) and a significance level of (0.05), which is greater than the observed significance level (0.000). Since the significance value is less than (0.05), it can be concluded that there are statistically significant differences in the level of prevalence of electronic games among secondary school students attributable to the gender variable in favor of males. This result is further supported by the mean values, as the mean scores of males are higher than those of females, indicating that electronic games are more prevalent among males than among females.

Presentation of the Result of the Third Hypothesis:

It stated that there are statistically significant differences in the level of prevalence of electronic games among secondary school students attributable to the age variable

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Table No. (05) shows the result of the T-test for the significance of differences in the level of prevalence of electronic games among secondary school students by age

Age	Sample	Arithmetic Mean	Standard Deviation	T-value	Degrees of Freedom	Significance	Significance Level
15-17	98	72.6	15.719	1.341	103	0.183	0.05
18-17	37	27.4	15.346				

This table clarifies the differences in the level of predominance of electronic games among secondary school students according to age. The mean score for students aged 15 to 17 years was (72.6) with a standard deviation of (15.719), while for students aged 18 to 20 years, the mean score was (27.4) with a standard deviation of (15.346). Using the test for differences between means, the value of "t" reached (1.341) with a degree of freedom of (103) and a significance level of (0.05), which is less than the observed significance level (0.183). Since the significance value is greater than (0.05), it can be concluded that there are no statistically significant differences in the level of prevalence of electronic games among secondary school students attributable to the age variable.

Discussion of the Study Results:

The results of this study are consistent with the findings of Elham Dirandeh et al. (2015), which revealed that nearly all adolescents are interested in video games, with a rate of 76.8%. The current study also aligns with Qadi Soumia (2018), which found statistically significant differences in electronic game addiction among primary school students according to gender, in favor of males. Similarly, Hussain Khard et al. (2020) reported that males are more susceptible to Internet gaming disorder.

This can be explained by the fact that electronic games are designed for entertainment and to occupy free time. These games are attractive and stimulating, capturing attention through continuous scenarios and the use of realistic images and sounds, which appeal to adolescents. McGonigal (2011) noted that individuals spend long hours on electronic games, equal to the time they spend on various life activities. By the age of 21, an individual may have spent at least ten thousand hours playing games. These extended periods

lead to Internet Gaming Disorder (IGD) (Ahmed, 2020, p. 886).

Nevertheless, this high level of game addiction leads to various effects that threaten an individual's physical and psychological health. Parents report that children addicted to electronic games often face health and educational problems, such as exhaustion, eye strain, poor vision, spinal curvature, and other health issues caused by excessive gaming (Qwaider, 2012, p. 142).

The reasons for attraction to electronic games, especially video games, are multiple. They are characterized by excitement, interactivity, and deviation from the ordinary. Often, this attraction stems from a monotonous routine and restricted environment, where gaming becomes a means to achieve gratification and release stress. In this regard, Dr. Haider Mohammed Al-Kaabi expounds: "We can understand why many interact with highly violent games or games with atmospheres different from their own, due to the excitement, thrill, and fantasy." This is clearly evident in the popularity of GTA, where players experience a life completely different from their reality, where the game's protagonist who belongs to the world of crime, releases aggressive instincts without fear of punishment (Boubidi, 2019, p. 10).

Many studies also provide strong evidence that children who spend long hours playing electronic games, especially violent ones, experience poor academic performance and receive lower evaluations from teachers compared to children who play less violent games or do not play at all. One of the documented negative effects of electronic games is that staying up late at night to play affects children's academic efforts the following day, sometimes causing them to be unable to wake up for school or fall asleep in class (Tahami, 2019, p. 93).

These games also negatively impact adolescents psychologically, fostering cowardice, aggression, imitation, laziness, and inactivity in addition to the excessive engagement which leads to pathological behaviors, the development of aggressive tendencies, and criminal inclinations.

In Addition, many games promote unethical content, such as insults, obscene language, and sexualized or indecent images, undermining moral values taught in Muslim societies and causing behavioral instability (Qwaider, 2012, pp. 147-148).

Ultimately, many researchers note that prolonged exposure to electronic gaming can result in social isolation. Further, children addicted to these games often show weak social interaction both within the family and in society due to the extended hours spent on electronic entertainment (Qwaider, 2012, p. 148).

Conclusion

Electronic games are considered among the most widespread forms of entertainment across the world. For, the visual and audio effects embedded in these games strongly capture adolescents' attention and are among the main motives driving their engagement. Based on the findings reached by the researchers through conducting this study, which showed that the level of prevalence of electronic games among secondary school students is high, the following recommendations and suggestions are proposed:

- Educating parents and informing them about the positive and negative aspects of electronic games.
- Raising adolescents' awareness and guiding them to understand the psychological harms resulting from practicing violent electronic games. Developing guidance and counseling programs to reduce and limit the spread of electronic games.
- Filling free time through the practice of beneficial sports activities.
- Assigning psychological and social specialists to study and analyze the content of electronic games.

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