

Video Game Addiction and its Relation to Aggressive Behavior in Schooled Adolescents: Field Study at Wagaaf Sabti Middle School- Oum El Bouaghi Municipality, Oum El Bouaghi Province

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Abstract:

This research investigates the relationship between video game addiction and aggressive behaviors among adolescents attending Wagaaf Sabti Middle School in the Oum El Bouaghi Municipality, Oum El Bouaghi Province. The study aims to evaluate the intensity of video game addiction and aggressive tendencies, scrutinizing differences based on gender, and examining disparities between individuals with varying addiction intensities. Utilizing a descriptive methodology, the research employs a questionnaire to assess its psychometric properties, including validity and reliability. The participant cohort comprises 130 middle school students of diverse genders from Oum El Bouaghi. Data analysis, conducted using SPSS version 23, reveals:

- _ There is a positive correlation between video game addiction and aggressive behavior among schooled adolescents.
- _ The level of video game addiction is low among schooled adolescents.
- _ Aggressive behavior is moderately prevalent among schooled adolescents.
- _ There are gender differences in video game addiction, with females showing higher levels of addiction. However, no gender differences were found in aggressive behavior.
- _ There are differences in aggressive behavior levels between adolescents with high and low levels of video game addiction, with higher levels of aggressive behavior observed in those with higher levels of addiction.

Keywords: Video game addiction, aggressive behavior, schooled adolescents.

1. Introduction:

Over the past decade, the rapid evolution of media and communication technologies, notably video games, has provided not only comfort and entertainment but also introduced disturbances affecting various societal domains. These disturbances have sparked social maladies that submerge individuals into a realm of disarray and instability. Aggression, manifesting in various

forms and intensities, has particularly affected the youth, especially adolescents in educational settings.

Given the escalating occurrence of aggressive behaviors in recent years, there is an urgent need for scientific inquiry to unravel the root causes of this distressing trend that jeopardizes the social and cultural cohesion of societies. In Algeria, as in other nations, the repercussions of this trend are profound, marked by an increase not only in the frequency of aggressive acts but also in the severity of methods employed by students, including extreme violence and armed assaults against peers and educators.

This study addresses the urgent need to explore the extent to which video game addiction acts as a catalyst for aggressive behavior among middle school students, emphasizing the necessity of this investigation for educational and social interventions.

2. Problem Statement:

Video gaming has permeated adolescent culture extensively, captivating youths who delve into virtual realms, weaving their imaginations into digitally crafted environments that exert substantial influence over their behaviors. Adolescence is marked by significant developmental changes - physical, cognitive, sexual, and emotional- that manifest as rebellious and disobedient behaviors within familial and scholastic settings.

These changes render adolescents particularly susceptible to quick, stimulus-driven reactions that may precipitate aggressive behaviors, a condition often exacerbated by video games. In educational contexts, particularly within middle schools, aggressive behavior has escalated into a profound threat to both security and stability.

In Algeria, similar to global trends, the prevalence of aggression among middle school students is alarming, as underscored by a local study by Kassid (2016), which reported that 74% of these students engage with video games. This study aims to rigorously examine the linkage between video game addiction and the manifestation of aggressive behavior among middle school students. The central question driving our investigation is:

- _ Is there a relationship between video game addiction and aggressive behavior among schooled adolescents in middle education institutions in Oum El Bouaghi Province?

From the main question arise the following sub-questions:

1. What is the level of video game addiction among schooled adolescents in middle educational institutions?
2. What is the level of aggressive behavior among schooled adolescents in middle educational institutions?
3. Does the level of video game addiction vary among schooled adolescents based on gender?
4. Does the level of aggressive behavior vary among schooled adolescents based on gender?

5. Is there a difference in the level of aggressive behavior between adolescents with high and low levels of video game addiction?

2.1 Study Hypotheses:

1. To determine the level of video game addiction among schooled adolescents in middle educational institutions.
2. To determine the level of aggressive behavior among schooled adolescents in middle educational institutions.
3. To explore if the level of video game addiction varies among schooled adolescents based on gender.
4. To explore if the level of aggressive behavior varies among schooled adolescents based on gender.
5. To investigate if there is a difference in the level of aggressive behavior between adolescents with high and low levels of video game addiction.

2.2 Study Objectives:

- _ To examine the relationship between video game usage and aggressive behavior among schooled adolescents in middle educational stages.
- _ To assess the level of video game addiction and the level of aggressive behavior among schooled adolescents.
- _ To determine if there is a gender-based difference in the level of video game addiction or aggressive behavior among schooled adolescents.
- _ To ascertain if there is a difference in aggressive behavior between adolescents with high and low levels of video game addiction.

2.3 Study Significance:

- _ This research is pivotal as it delves into the intricacies of video game addiction and its consequential impact on aggressive behavior among a critical societal cohort, schooled adolescents. This age group is particularly vulnerable during the formative years of adolescence, where influences can have enduring effects on their personalities.
- _ Marking a national first, this study ventures into the relatively uncharted territory of video game addiction within the academic sphere.
- _ It endeavors to heighten the awareness of educators and parents regarding the selection of video games, emphasizing the need for discernment in choosing less violent content.
- _ Furthermore, the study provides guidance to adolescents, enlightening them about the potential dangers associated with violent video games and their adverse effects on personality development and behavioral patterns.

3. Operational Definitions:

- **Video Game Addiction:**

Defined as an irresistible compulsion among schooled adolescents to engage with video games, coupled with a persistent inability to cease playing. Attempts to discontinue or moderate play are often met with failure, underlining the addictive nature of this behavior.

- **Level of Video Game Addiction:**

Quantified through scores obtained from a specially developed video game addiction questionnaire, this metric encompasses five essential dimensions: psychological, physical, social, academic, and familial. (Zarouki, 2013, p. 18).

- **Aggressive Behavior:**

Characterizes actions by adolescents in middle educational settings that may manifest physically, verbally, or symbolically, indicating varying degrees of aggression.

- **Level of Aggressive Behavior:**

Assessed through scores on an aggression scale used in this study, this metric is divided into four key dimensions: physical violence, verbal violence, anger, and hostility.

- **Schooled Adolescent:**

Defined as a student aged between 11 and 14 years, actively enrolled in a middle educational institution. (Hussein, 2007, p. 12)

4. Video Games:

4.1 Definition of Video Games:

Constituting a complex assembly of digital play activities, video games involve dynamic dimensions and diverse visual manifestations, including movements and interactive features. Emerging around 30 years ago primarily in Japan and the United States, this industry has seen significant evolution, supported by:

- _ Teams specialized in design and visualization, crafting the foundational game elements such as rules, colors, and landscapes.
- _ Technical teams focused on programming and enhancing the game engines and control interfaces.
- _ Technicians devoted to defining and creating the audiovisual elements of the games, which include various characters, such as monsters and heroes, and objects like balls and cars. (Zarouki, 2013, p. 34)
- _ Often termed as "gaming software," video games represent a popular segment in recreational activities, particularly noted for the vivid imagery and interactive capabilities facilitated by various devices in the computer system, extensively utilized since early 2005. This includes controllers, central processing units, mice, and other interlinked control systems integral to gaming. (Hlilem, 2014, p. 15)

4.2 The Reality of Video Games in Algeria

Many industries from developed countries have started exporting electronic gaming equipment to Algeria. However, it is crucial first to differentiate between the source and the manufacturer of these games. For instance, the majority of devices that are exported and sold to Algeria originate from Dubai, United Arab Emirates.

Many traders in the Arab Gulf import goods from China, where there are large factories and assembly workshops. The researchers believe that the best source for importing is the markets located specifically in Dubai, as they are less costly compared to European markets. The goods from China, although often imitations, are of reasonable quality compared to their prices. This explains the significantly lower prices compared to other games of similar size and appearance, which often carry the same brand.

Moreover, there is a great variety in the same games, but categorized under other countries and exported to Algeria through other ports: from Asian countries such as Thailand, Hong Kong, and Malaysia, and from European countries such as France and Spain.

Despite the availability of other games like "Nintendo," "Xbox," "Sega," and others in Algerian stores, the "PlayStation" type dominates most countries without competition. It is distinguished by its high quality, especially in terms of graphics, three-dimensional images, and more appealing scenarios compared to other games. Additionally, the low cost of various game discs compatible with the PlayStation has been a key factor in its widespread popularity in our country and many others. (kassid, 2016, p. 67)

4.3 Addiction to Video Games:

According to the World Health Organization, addiction is a "psychological and sometimes physical state that results from the interaction between a living organism and a substance, with characteristics including responses and behavior patterns that always include a compulsion to take the substance continuously or periodically to experience its psychic effects or to avoid the discomfort of its absence." A person may be addicted to more than one substance.

Addiction is also defined as the inability of a person to stop using something, as long as it meets the other criteria of addiction, including the need for more of it continuously until it satisfies their needs when they are deprived of it.

Intensive use of video games provides a social dimension not found in real life, attracting individuals because of the excitement and the shared or competitive nature with or against other players. This makes it difficult to stop, offers no chance for a break, and thus, most video game players are described as addicts.

Marisa Hescht Ozak, director of Computer Services at Harvard University, states that the social role is a fundamental factor in many cases of addiction to video games. She added, "Many of these people suffer from loneliness and have never felt belonging to something in their lives until they find it in these games. In some cases, it becomes the only friend they interact with." (Kassem, 2011, p. 108)

5. Aggressive Behavior:

5.1 Definition of Aggressive Behavior:

According to the Encyclopedia of Psychology and Psychoanalysis, aggressive behavior is defined as an act characterized by hostility towards an object or self, aimed at destruction and demolition, the opposite of life, or an attack or act directed towards a person or object, meaning a desire to assault, harm, disparage, or ridicule others in various forms for the purpose of inflicting punishment or demonstrating superiority.

Fouad Al-Bahi defines it as a response that follows frustration and is intended to harm another individual or even oneself, with suicide as an example of self-aggression.

Albert Bandura defines it as behavior aimed at causing destructive or undesirable outcomes, or to dominate others through physical or verbal force. This behavior is socially recognized as aggressive. (Al-Raiman, 2018, p 56)

Muhieddin Ahmed Hussein and others categorize aggressive behavior into physical and verbal aggressive behavior, defining it as any aggressive behavior issued by an individual, explicitly or implicitly, characterized by situations of anger, frustration, or annoyance from others, or hostile feelings, resulting in physical, material, or psychological harm to others or oneself.

These definitions highlight the overlap in understanding aggressive behavior, whether it be verbal or physical, explicit or implicit, directed against oneself or others, but ultimately resulting in harm or damage, whether material, physical, or psychological.

5.2 Concepts Related to Aggressive Behavior:

There are some concepts that overlap with the notion of aggression to the extent that some consider them synonymous. However, due to differences among them, we will attempt to present some concepts related to aggressive behavior:

A. Aggression:

This is behavior that results in personal harm to others, which can be psychological or physical.

B. Rioting:

This refers to a temporary and sudden attempt at violence by some groups or an individual, often manifesting as a breach of security, disorder, and defiance of authority or its representatives. This can transform from negative demonstrations to organized disturbances declared by authorities into violent frenzies causing harm to lives and property.

C. Hostility:

This is an internal feeling of anger, hostility, and hatred directed towards oneself or towards a person or situation. Hostile feelings are used as a signal for the direction behind the behavior or the emotional component of the attitude. Hostility involves hostile feelings and negative evaluations of people and events.

D. Violence:

Saad Al-Maghribi views aggression as encompassing violence, where violence includes aggressive means and represents the behavioral response characterized by high emotional intensity that drives the individual towards violence unconsciously and without thought of the consequences. (Allouache, 2023, p. 67)

5.3 Manifestations of Aggressive Behavior:

A. General Phenomenon:

Aggressive behavior is considered a widespread phenomenon because it refers to a wide variety of behaviors that appear in many forms and are manifested in actions performed by adolescents that are inappropriate in the general context of the community.

B. Directed Towards School Administration:

The destructive activity of the aggressive student is centered on repeated violations of administrative instructions, tearing up their announcements, inciting others to disobey them, fabricating rumors, exaggerating the mistakes of the staff, attributing derogatory titles to the director aimed at diminishing his person, and leading other adolescents to encourage absenteeism and misconduct.

C. Directed Towards the Teacher in the Classroom:

This is manifested in fooling around during lessons, interrupting the teacher during his speech, and other poor behaviors, which leads to lost teaching opportunities on one hand, and undermining the teacher in front of his students on the other.

D. Directed Towards Other Students:

Some with aggressive tendencies exercise their aggression on their peers, especially those who regularly perform their duties and respond to the teacher's instructions, under the pretext that these are responsible for provoking the teacher and pointing out their shortcomings. Their aggression towards other students may take the form of direct aggression within the school, threats, or it may involve damaging their books and belongings secretly.

E. Directed Towards School Building and Properties:

Involves breaking windows, writing obscene words on the walls, and can extend to damaging water faucets or electrical switches. (Ali Amara, 2018, p. 45)

6. Adolescence:

6.1 Definition of Adolescence:

According to Le Halle, adolescence is the quest for economic independence and integration into society away from the family. Adolescence is seen as a critical transitional stage aimed at achieving psychological independence and liberation from the repercussions of childhood, leading to personal changes.

Fouad Al-Bahi defines it as the stage preceding adulthood that leads an individual to complete maturity. Generally, adolescence begins with puberty and ends at maturity, thus it is a biological process at the beginning and a social phenomenon at the end. In this context, an adolescent is one who is approaching dreams and full maturity.

We define adolescence as the transition from childhood to youth, characterized as a highly complex period due to the organic, psychological, and mental changes it involves, turning the child into a fully developed individual and significantly affecting later stages of life.

6.2 Characteristics of the Adolescent Stage:

The adolescent stage is marked by puberty accompanied by rapid physical growth different from previous stages. Between the ages of 12 and 21, adolescents undergo significant physiological changes during one of the most crucial growth phases they will experience, where the body begins to form into the full figure of a mature individual, and the growth process is irregular across all body organs. (Ali Amara, 2018, p. 57)

The mental functions that regulate a child's mental structure undergo changes through various life stages. During adolescence, an individual develops diverse mental capabilities, enhancing their ability to learn, interact, recognize relationships, and solve problems, transitioning from concrete cognitive processes to abstract ones.

Mental development plays a significant role in enabling adolescents to recognize their mental capacities and understand themselves, with intelligence being one of the most apparent aspects, continuing to mature until full maturity is reached between ages 15 and 18.

Emotional development is a fundamental aspect of the overall growth process for an adolescent, considered an emotionally turbulent stage marked by emotional tension, anxiety, and disturbance, representing a stage of reenacting emotional experiences from childhood, characterized by violent emotional fluctuations manifested as rebellion against parents and those around them in their family and school environment. "Indeed, anything that captures the adolescent's interest in life can trigger their emotions, whether their desires are fulfilled or frustrated."

Regarding emotional expression, it is often inappropriate in adolescents, characterized by being impulsive and excessively strong, especially when unable to meet their needs or achieve their personal goals, and asserting their independent and distinct selves from others. (Khaled, 2010, p. 126)

7. Field Study Procedures:

7.1 Pilot Study:

The primary objective of conducting the pilot study was to verify the accessibility of the targeted sample, the availability of the intended variables: video game addiction and aggressive behavior among schooled adolescents, and to determine the suitability of the questionnaire designed for gathering sufficient data and information about the studied phenomenon.

This involved estimating the time it would take, the clarity of its statements, and the ability of the study sample to respond to it. The pilot study was conducted at Wagaaf Sabti Middle School in Oum El Bouaghi Municipality, Oum El Bouaghi Province, from September 22, 2022, to January 15, 2023.

7.2 Data Collection Tools:

A. The Questionnaire:

Based on the nature of the data to be collected, the methodology followed in the study, the allowed time, and the available financial resources, we found that the most suitable tool to achieve the research objectives was the questionnaire. This was due to the difficulty of achieving this through other tools.

B. Construction of the Research Instrument:

We used the questionnaire as a tool to collect the necessary data and information for the study, considering it one of the most suitable scientific research tools for implementing psychological and social research. Given the research topic of video game addiction and its relation to aggressive behavior among schooled adolescents, the construction of the questionnaire was based on the following dimensions:

Table 01: Distribution of items across the dimensions of the Video Game Addiction Questionnaire

Dimension	Number of Items	Item Numbers	Source
Physical	06	1, 6, 11, 21, 26	Studies by Ganemi (2011) & Marrakchi (2014)
Psychological	06	2, 7, 12, 17, 22, 27	
Social	06	3, 8, 13, 18, 23, 28	
Academic	06	4, 9, 14, 19, 24, 29	
Familial	06	5, 10, 15, 20, 25, 30	

7.3 Main Study:

- A. **Spatial Scope:** The study was conducted at Wagaaf Sabti Middle School in Oum El Bouaghi Municipality, Oum El Bouaghi Province.
- B. **Temporal Scope:** The study was implemented from September 22, 2022, to January 15, 2023.

7.4 Methodology:

In line with the objectives and nature of the study topic, we adopted a descriptive approach starting from describing the study variables, the research population, to analyzing the results in light of the hypotheses and previous studies.

7.5 Population and Sample:

The population of our study consisted of schooled adolescents (male and female) at the Wagaaf Sabti Middle Education Institution in Oum El Bouaghi, totaling 224 adolescents. Due to the large size of the population, we conducted a sampling process, taking a stratified random sample estimated at 130 schooled adolescents of both genders, which was sufficient and representative of the original population.

7.6 Statistical Analysis Methods:

In the current research, a variety of statistical methods were employed, necessitated by the requirements of the field study. These methods are categorized as follows:

A. Statistical Methods Used for Verifying the Validity and Reliability of Instruments:

- **Pearson Correlation Coefficient:** Utilized to ascertain the internal consistency validity as well as to explore the relationship between video game addiction and aggressive behavior.
- **Cronbach's Alpha:** Employed to calculate the reliability of the scales used in the study.

B. Statistical Methods Used to Address the Research Questions:

- **Mean (Arithmetic Average):** Applied to compute the average scores of the sample population on video game addiction and aggressive behavior, thereby ranking these factors in terms of their significance.
- **Standard Deviation:** Used to determine the extent of variance from the mean value, providing insights into the distribution of scores within the sample.
- **Independent Samples T-Test:** Conducted to detect differences in the levels of video game addiction and aggressive behavior among the schooled adolescents.

8. Presentation and Analysis of Results:

8.1 Presentation of Results:

A. Results related to the first question:

- What is the level of video game addiction among schooled adolescents at Wagaaf Sabti Middle Education Institution in Oum El Bouaghi Province?

To answer this question, the arithmetic means and standard deviations for the five dimensions of video game addiction were calculated as shown in the following table:

Table 02: Sample response to the level of video game addiction

Dimension	Mean (Arithmetic Average)	Standard Deviation	Rank	Practice Level
Physical	2.38	0.95	2	Low
Psychological	3.45	0.87	1	High

Social	2.03	0.85	5	Low
Academic	2.27	1.05	3	Low
Familial	2.25	0.98	4	Low
Video Game Addiction	2.47	0.71	—	Low

From the previous table, we conclude that the degree of video game addiction among schooled adolescents, as measured by our research tool, was found to be weak from the perspective of the sample members, with an average value of 2.47 and a standard deviation of 0.71.

The table also shows that video game addiction levels among schooled adolescents were high in the psychological dimension, with an average of 3.45 and a standard deviation of 0.87.

The other dimensions of video game addiction were low, where the physical dimension ranked second with an average of 2.38 and a standard deviation of 0.95, followed by the academic dimension ranking third with an average of 2.27 and a standard deviation of 1.05. The familial dimension ranked fourth with an average of 2.25 and a standard deviation of 0.98, and finally, the social dimension ranked fifth with an average of 2.03 and a standard deviation of 0.85.

The low degree of video game addiction among schooled adolescents can be attributed to several factors, most notably the rise of social media platforms (Facebook, Twitter, WhatsApp, etc.), which have become increasingly popular and attracted various social groups, especially adolescents.

The predominance of social media usage has significantly contributed to the decline in video game addiction as it dominates the activities of schooled adolescents at all times (morning, evening, night).

The results indicate that addiction, particularly on the psychological level, can cause psychological issues such as anxiety. These findings are consistent with the results of a study by Eshrat Zamani et al. (2009), which noted that video game addiction could lead to psychological problems.

This contrasts with the study by Flaag (2009), which suggested that video games are one of the most beloved recreational activities among schooled children and that video games create a physical, mental, and emotional immersion that makes the child greatly receptive to behavioral models. This implies that there is a significant level of addiction among schooled children, unlike schooled adolescents.

B. Results Related to the Second Question:

- What is the level of aggressive behavior among schooled adolescents at Wagaaf Sabti Middle Education Institution in Oum El Bouaghi Province?

To answer this question, the arithmetic means and standard deviations for the four dimensions of aggressive behavior were calculated, as shown in the following table:

Table 03: Sample Response to the Level of Aggressive Behavior

Dimension	Mean (Arithmetic Average)	Standard Deviation	Rank	Practice Level
Physical Violence	2.62	0.85	4	Low
Verbal Violence	2.72	0.87	3	High
Anger	0.93	0.97	1	Low
Hostility	0.81	0.97	2	Low
Aggressive Behavior	2.77	0.78	—	Medium

From the previous table, we can conclude that the level of aggressive behavior among schooled adolescents is moderate, with an overall mean of 2.77 and a standard deviation of 0.78.

The table also shows that the levels of aggressive behavior across all dimensions were moderate among schooled adolescents, with the dimension of anger ranking first with an average of 2.93 and a standard deviation of 0.97, followed by hostility with an average of 2.81 and a standard deviation of 0.97.

Verbal violence ranked third with an average of 2.72 and a standard deviation of 0.87, and finally, physical violence ranked fourth with an average of 2.62 and a standard deviation of 0.85.

C. Results Related to the Third Question:

- Do levels of video game addiction differ between male and female schooled adolescents?

To answer this question, arithmetic means, standard deviations, and the t-test values were calculated to determine the significance of differences in video game addiction levels between genders (males and females). The following table illustrates these findings:

Table 04: Arithmetic Means, Standard Deviations, and t-test for Significance of Differences in Video Game Addiction by Gender.

Dimension	Gender	Count	Mean	Standard Deviation	t-value	Degrees of Freedom	p-value (sig)	Significance
Physical	Males	93	2.00	0.87	-4.18	127	0.00	Significant
	Females	37	2.89	0.93				
Psychological	Males	93	3.33	0.85	-2.57	127	0.01	Significant
	Females	37	3.76	0.85				

Social	Males	93	1.97	0.81	-0.91	127	0.36	Not Significant
	Females	37	2.12	0.88				
Academic	Males	93	2.22	1.00	-0.60	127	0.54	Not Significant
	Females	37	2.35	1.17				
Familial	Males	93	2.15	0.93	1.54	127	0.12	Not Significant
	Females	37	2.45	1.09				
Overall Addiction	Males	93	2.37	0.66	-2.54	127	0.01	Significant
	Females	37	2.71	0.78				

The results of the independent samples t-test indicate that there are no statistically significant differences at the 0.05 level in video game addiction for social, academic, and familial dimensions. However, significant differences exist in the physical and psychological dimensions, and in the overall addiction scores, with females showing higher addiction levels than males.

This can be interpreted as females being more addicted to video games than males, possibly due to the nature of social upbringing within the Algerian family where patriarchal authority, harshness, absence of dialogue, and differential treatment among children prevail, often favoring males. This could lead adolescent girls, who do not find their desired status and value within their families, to seek other sources such as video games to compensate for feelings of deficiency and deprivation and to alleviate the anxiety they experience, thus becoming more addicted to video games than males.

D. Results Related to the Fourth Question:

- Do levels of aggressive behavior differ between male and female schooled adolescents?

To answer this question, arithmetic means, standard deviations, and the t-test values were calculated to determine the significance of differences in aggressive behavior levels between genders (males and females). The following table illustrates these findings:

Table 05: Arithmetic Means, Standard Deviations, and t-test for Significance of Differences in Aggressive Behavior by Gender.

Dimension	Gender	Count	Mean	Standard Deviation	t-value	Degrees of Freedom	p-value (sig)	Significance
Physical Violence	Males	93	2.57	0.85	-0.90	127	0.36	Not Significant
	Females	37	2.72	0.83				
Verbal Violence	Males	93	2.67	0.93	-0.90	127	0.36	

	Females	37	2.83	0.70				Not Significant
Anger	Males	93	2.84	0.99	-1.62	127	0.10	Not Significant
	Females	37	3.15	0.89				
Hostility	Males	93	3.00	0.98	-1.35	127	0.17	Not Significant
	Females	37	3.35	0.91				
Overall Aggression	Males	93	2.71	0.82	-1.41	127	0.15	Not Significant
	Females	37	2.92	0.66				

The recorded results from the application of the t-test for independent samples reveal no statistically significant differences at the 0.05 level or less in aggressive behavior scores between males and females across all dimensions and the overall score. Therefore, the level of aggressive behavior does not differ between male and female schooled adolescents.

This interpretation aligns with the views of the psychoanalyst Karen Horney, who argued that aggression is not an instinct but a response primarily to anxiety. A sense of helplessness in a hostile world creates an aggressive response towards others, regardless of gender.

This finding is also supported by Dollard's hypothesis, which views aggression as an innate drive but not triggered by an instinct; rather, it is prompted by external stimuli. The occurrence of aggressive behavior always presupposes the presence of frustration, and frustration invariably leads to aggression. This proves that if the same provocative and conducive conditions for aggression are present, they will lead to its manifestation, regardless of gender.

These results differ from most previous studies, including a 2010 study by Jeroen S., which found that physical aggressive behavior varies by gender (males and females). They also contrast with the findings of Quwaish (2012), whose results indicated gender differences in aggressive behavior favoring males, as well as the findings of Bouachache (2013), which suggested gender differences in aggressive behavior among students at Mouloud Mammeri University of Tizi Ouzou, favoring males.

Similarly, they differ from the results of a 2013 study by Bouaziz, which found gender differences in aggressive behavior among adolescents favoring males, and a 2013 study by Yahiaoui, which found statistically significant differences in aggression levels favoring males.

These findings also differ from Ben Halim's 2004 study, which indicated gender differences in aggressive behavior among schooled children favoring males. Additionally, a 2016 study by Magda M. et al. found gender differences in aggression among schooled adolescents in Sharqia, favoring males.

E. Results Related to the Central Question:

- Is there a relationship between video game addiction and aggressive behavior among schooled adolescents at Wagaaf Sabti Middle Education Institution in Oum El Bouaghi?

Table 06: Pearson correlation coefficient between video game addiction and aggressive behavior among schooled adolescents.

Study Variables	Pearson Correlation Coefficient	p-value (sig)
Video Game Addiction	0.67**	0.000
Aggressive Behavior		

****Correlation is statistically significant at the $\alpha = 0.01$ level of significance.**

The table shows that the correlation coefficient between video game addiction and aggressive behavior is 0.67, with a p-value of 0.00, which is less than the significance level ($\alpha = 0.05$). This indicates a positive correlation at the 0.01 significance level between video game addiction scores and aggressive behavior scores among schooled adolescents, suggesting that increased video game addiction is associated with higher levels of aggressive behavior.

This result can be explained through Albert Bandura's social learning theory, which suggests that aggressive behavior is learned through observation and imitation. Individuals learn aggressive behaviors by observing models and examples of such behavior, whether presented by people, friends, television viewing, or playing video games.

This aligns with the results of a 2010 study by Jeroen S., which identified a positive relationship between pathological gaming and aggressive behavior among Dutch adolescents. It also agrees with a 2011 study by Kassem, which found a positive correlation between electronic gaming and aggressive behavior among high school students in Riyadh. Similarly, a 2011 study by Al-Ghamdi found that video games are characterized by speed and movement dynamics, which are reflected in children's drawings, often containing symbols of violence and crime derived from playing violent video games.

Additionally, the findings agree with a 2016 study by Kassid, which indicated a relationship between the use of violent video games and aggressive behavior among a sample of Algerian adolescents, translating into various violent acts and aggressive behaviors they expressed. Lastly, this aligns with a 2017 study by Douglas et al., which found that violent video games lead to the emergence of aggressive thoughts in children.

General Conclusion:

- ✓ There is a positive correlation between video game addiction and aggressive behavior among schooled adolescents.
- ✓ The level of video game addiction is low among schooled adolescents.
- ✓ Aggressive behavior is of moderate intensity among schooled adolescents.

- ✓ There are gender differences in video game addiction, favoring females, but no gender differences in aggressive behavior.
- ✓ There are differences in aggressive behavior between those with high and low levels of video game addiction, with the differences favoring those with higher addiction levels.

Conclusion

Adolescents represent a pivotal demographic for the future of humanity, with their challenges posing significant concerns for families, societies, and educational institutions alike. Among these challenges, aggressive behavior is particularly alarming due to its detrimental impact on the functional dynamics of families and communities, often leading to adolescents becoming marginalized within their various social circles.

This research was conducted with the objective of examining the extent of video game addiction and its correlation with aggressive behavior among schooled adolescents. The study also sought to identify effective strategies to mitigate these behaviors.

Findings indicate that the most frequently used video games by Algerian adolescents, particularly those who are schooled, predominantly feature themes of violence, including depictions of killing and other aggressive acts. A notable deficiency in state regulations governing the importation of such games compounds this issue.

Furthermore, the lack of consistent parental supervision over the gaming activities of adolescents, unmindful of the games' content, genre, and potential societal impact, has facilitated the persistence and growth of these violent engagements. Consequently, this permissive environment has significantly contributed to the proliferation of aggressive behaviors within educational settings and society at large.

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