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Cyberspace problems (video game addiction, cyber bullying, cyber blackmail) among a sample of students at Ziane Achour University in Djelfa

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Abstract :

The present study aimed to investigate certain cyber space problems (video game addiction, cyberbullying, and cyber extortion) among a sample of students from Ziane Achour University in Djelfa. It also sought to determine the overall level of these cyber space problems and identify the most prevalent issue among them. To achieve the study's objectives, the descriptive exploratory method was adopted, and the following scales were used: the Video Game Addiction Scale, the Cyberbullying Scale, and the Cyber Extortion Scale. The study was conducted on a sample of 1,322 university students selected by convenience sampling.

The results revealed that the most widespread issue among university students was video game addiction, with a prevalence rate of 52.16%. The findings also showed that the levels of the studied cyber space problems (video game addiction, cyberbullying, and cyber extortion) were low among the study sample.

Keywords : Cyber space problems; Cyber space; University students.

Introduction

Cyberspace is having a major impact on modern human cultures, shaping new behaviors and redefining social interactions. Critical problems like online gaming addiction, cyberbullying, and cyberextortion have increased as a result of the substantial changes it has brought about in everyday life patterns and the distortion of long-held beliefs and values. Students are especially affected by these trends, as social media has become an integral part of their daily lives.

In light of this, cyberpsychology has become a contemporary discipline that studies how people interact with the digital world. It focuses on examining online activities such as online incitement, phony accounts, and digital temptation. In addition to examining how technology might be utilized to treat tech-related psychiatric illnesses, this field is particularly interested in how the internet affects vulnerable populations, such as children and adolescents. Understanding and interpreting human behavior in cyberspace, as well as forecasting online behavior and educating people about cyber problems, are the main goals of cyberpsychology. By doing so, the detrimental effects on mental health and social well-being can be avoided.

1. Problem Statement

The usage of social media and the internet has significantly increased in the current period, which is also seeing tremendous technological improvement. As a result, people now rely more and more on the internet as their main communication, learning, and working medium. Nonetheless, there are a lot of issues and difficulties that both students and universities must deal with in this digital environment.

Cyberspace has become essential for research, learning, and communication, especially for college students. However, these kids deal with a number of problems that affect their social and academic lives. One prevalent misconception is that online interactions are less dangerous than in-person ones, or that the virtual world is somehow safer than the real one. Being in a cyber environment might skew one's thinking, promoting carelessness and a lack of moral conviction. In cyberspace, this sensation is strengthened, particularly when people see themselves as anonymous or unobserved and when they feel physically separated from other people. (Aiken, 2017, p. 33)

Cyber concerns are a group of subjects, problems, and difficulties that students have when utilizing contemporary technology, particularly the internet. To fully comprehend the nature, causes, and effects of these issues, more research is necessary. To lessen these issues' detrimental effects, more people must be aware of them and take part in solving them. Internet addiction, online gaming addiction, cyberbullying, cyberextortion, and even digital narcotics are a few examples. (Hassan, 2023, p. 60)

Based on the above, the following questions can be raised:

- What is the most widespread problem among a sample of students from Ziane Achour University?

- What is the level of certain cyberspace-related problems—such as online gaming addiction, cyberbullying, and cyber extortion—among students from Ziane Achour University?

2. Objectives of the Study

This study aims to examine the extent of cyberspace-related problems among a sample of students from Ziane Achour University, with a focus on the following specific objectives:

- To identify the most widespread cyber issue among the university student sample.
- To assess the level of online gaming addiction among the students.
- To assess the level of cyberbullying experienced by the students.
- To assess the level of cyber extortion among the student sample.

3. Importances of the Study

- This study offers a valuable scientific contribution by enriching the existing literature related to cyberpsychology and the problems of cyberspace among university students. The findings of the research may also pave the way for future studies in this growing field.
- It sheds light on the variable of cyberspace-related issues and examines how these problems impact university students.
- By identifying the most widespread cyber problem within the university environment, the study can support the development of effective intervention programs that help students cope with and prevent these challenges.
- The research focuses on a vital segment of society—university students—due to their pivotal role in advancing and developing communities. As a driving intellectual and knowledge-based force, they play a central part in fostering positive change across various fields and form one of the foundational pillars of societal progress.

4. Operational Definitions

4.1 The Online Gaming Addiction :

It refers to the university student's addiction to a set of games available in digital form, whether they are video games, mobile games, computer games, or internet games, and the excessive use thereof. This is measured by the Electronic Game Addiction Scale by Boufara and Mokhtar (2023), with a score range between 10 and 50. A university student is considered addicted to electronic games if their score is equal to or greater than 38.

4.2 Cyberbullying :

Cyberbullying is the practice of tormenting or disturbing someone through a website or social media platform. It is measured using the Cyberbullying Scale, which was created by Amal Youssef Abdullah Al-Ammar (2016). The measure includes three dimensions: physical, verbal, and emotional bullying.

4.3 Cyber-extortion :

Threatening or pressuring a student to carry out or refrain from a particular action using digital means—usually in order to collect money, personal

information, or accomplish other illegal objectives—is known as cyber extortion. This is evaluated using Shahd Subeih Hameed's Cyber Extortion Scale (2023).

5. Theoretical Framework

5.1 The Cyberspace Concept

According (Cohen, 2007), cyberspace is a boundless domain through which millions of computers are interconnected via a global network such as the Internet, which is constructed as a multi-layered structure. It consists of physical components and a logical framework of interconnection that allows for the processing, utilization, and amplification of information, as well as interaction between people and information.

From the above, cyberspace can be defined as a digital world invented by humans, comprising both tangible elements (such as devices) and intangible elements (such as software), and it is also represented by the users of these devices and software—whether they are users, developers, or operators of these technologies.

Interaction is considered one of the most significant characteristics of cyberspace and is the fundamental reason for its existence. It enables interaction among individuals within digital virtual environments that aggregate an unlimited and infinite amount of data and information within a single domain. This reflects the boundless openness of distances between virtual worlds through the creation of a virtual language that unites all networks within one space. This is what distinguishes cyberspace from the physical or material world. (Aiken, 2017)

Cyberspace is considered a virtual domain in which the electronic and electromagnetic spectrum is used to store and exchange information through networked systems and their associated physical infrastructures. This intangible digital environment represents an open space for information exchange and communication among a vast number of users—estimated in the billions—where opportunities for sharing ideas and opinions, providing services, and forming relationships are made possible without political or physical constraints. (Maizi, 2022)

Cyberspace is defined as: "The convergence of all communication networks, databases, and information sources into a global virtual system. This space consists of a physical layer made up of electrical power, integrated circuits, telecommunications infrastructure, optical fibers, and transmitting/receiving devices; a software layer, referring to the computer programs that process information; and a hard layer composed of data". (Liaropoulos, 2013, p. 138)

5.2 Issues Concerning Cyberspace

5.2.1 Addiction to Online Gaming

The emergence of electronic games in their recognizable form dates back to the late 1940s and early 1950s. In 1953, some specialists managed to use a massive computer—costing millions of dollars at the time—for basic simulations of games like checkers and chess. In 1960, the game Space War, designed by three students from the Massachusetts Institute of Technology (MIT), gained attention. Later, Ralph Baer developed the first home video game console, Magnavox

Odyssey, which included thirteen preloaded games on cartridge tapes. In 1972, Nolan Bushnell and Ted Dabney founded an electronic game company in the United States and introduced the game Pong. During the 1990s, electronic games witnessed significant development: in 1993, processors and compact discs (CDs) emerged, and in 1995, a major Japanese company released the PlayStation console, equipped with a vast library of games and high capabilities in terms of sound and graphics. (Hamida, 2012)

From what has been discussed regarding the origin and definition of electronic games, it can be said that these games have seen remarkable growth and are still widely spreading, becoming a part of the emerging digital culture—namely, cyberspace. They have become especially widespread among children, adolescents, and young adults.

(Heron, 2003) defined electronic game addiction as a behavioral disorder involving a loss of control over the amount of time spent using the Internet, experiencing noticeable psychological pressure, and facing social, occupational, and financial problems.

5.2.2 The Cyberbullying Concept

The concept of bullying emerged in the 1990s and was regarded as a serious challenge across various fields—political, social, and educational. It has been referred to by several terms, including intimidation, tyranny, and abuse of power, in an attempt to highlight the severity of this form of violence.

Despite scientific evidence suggesting that humans have known bullying since ancient times, this phenomenon did not undergo systematic scientific study in psychology—particularly educational psychology—until the 1970s. Bullying is considered one of the manifestations of aggressive behavior, and aggression is a problem as old as human life itself.

However, in 1983, bullying became a subject of growing interest among researchers in many countries. The first exploratory study on bullying was conducted in schools to determine the prevalence of the phenomenon. Since then, the term has been widely addressed in academic theses and research by scholars concerned with studying this issue. (Al-Riqas, 2021, p. 644)

5.2.3 The Cyber Extortion Concept

Cyber extortion is the act of threatening and intimidating a victim by publishing photos, video materials, or leaking confidential information related to the victim, in exchange for sums of money or to coerce the victim into performing unlawful acts that benefit the blackmailer. These acts may include disclosing confidential information related to the victim's workplace or engaging in other illegal activities.

Victims are typically targeted through email or various social media platforms such as Facebook, Twitter, Instagram, and others, due to their widespread popularity and heavy usage across all segments of society. Incidents of cyber extortion are increasingly common in light of the growing number of social media users and the rapid proliferation of various messaging applications. (Al-oudi, 2022, p. 18)

6. Methodology

6. Study Methodological Procedures

6.1 Research Approach Employed

Because it is a good fit for the study's goals, the exploratory descriptive approach was employed. This approach seeks to address the research questions and reveal the characteristics of the correlations among the variables. It is one of the research methodologies commonly used in the early phases of scientific inquiry, aiding in the collection of preliminary data regarding the phenomenon being studied and allowing for an understanding of it in its natural setting—free from manipulation or interference.

"A set of research procedures aimed at identifying subjects worthy of study within a specific field, determining research problems, and thoroughly clarifying their various aspects" is the definition of the exploratory descriptive approach. (Al-Rasheedi, 2000, p. 55)

6.1-1 Study Sample :

Students enrolled at Ziane Achour University for the 2023–2024 academic year made up the study population. The convenience sampling method, a form of non-random sampling, was used to pick the 1,322 university students that made up the overall sample size.

This method chooses participants based on accessibility or availability in a particular area. Convenience sampling works especially well for studies that are targeted at a particular target group or when it is challenging to obtain a complete random sample. Students from a range of academic fields were included in the research sample, offering diversity and serving as a general representation of the university community.

Characteristics of the Study Sample

The main characteristics of the study sample are as follows:

By Gender:

Table (01): Basic Characteristics of the Sample by Gender

Gender	Frequency	Percentage
Male	549	42%
Female	773	58%
Total	1322	100%

As shown in Table (03), the percentage of **female participants** (58%) is higher than that of **male participants** (42%).

6.2 Data Gathering Instruments

The right choice of research tools—those that best fit the process of obtaining data and information about the cases being studied—is determined by the research objective, the nature of the hypotheses that are being put forth, and the scientific inquiry surrounding the research problem. Consequently, the following scales were used:

6.2.1 Addiction Scale for Online Gaming

Boufera and Mokhtar created this scale (2023). Ten items make up the test, and answers are scored on a five-point Likert scale with the following choices:

Completely Agree

I concur.

Indifferent

I disagree

Totally Disagree

The following is the assignment of the response weights: 1, 2, 3, 4, 5.

On this scale, a student can receive a minimum score of 10 and a maximum score of 50.

Table (02) represents the levels of the Electronic Games Addiction Scale.

Score Range	Level
10–23	Low
24–37	Moderate
38–50	High

6.2.2 Cyberbullying Scale

This scale was developed by **Amal Youssef Abdullah Al-Ammar (2016)** and consists of 30 items, divided into three dimensions that measure:

Physical bullying

Verbal bullying

Emotional bullying

Each dimension contains **10 items**, and responses are given using a **three-point rating scale**:

Often (3 points)

Sometimes (2 points)

Never (1 point)

Scores for each **dimension** range from **10 to 30**, while the **overall score** on the scale ranges from **30 to 90**. A **higher score** indicates a higher level of exposure to cyberbullying.

Table (03): Dimensions of the Cyberbullying Scale

Dimension	Items
Physical Bullying	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Verbal Bullying	11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Emotional Bullying	21, 22, 23, 24, 25, 26, 27, 28, 29, 30

Table (04): Levels of the Cyberbullying Scale

Score Range	Level
30–50	Low
51–71	Moderate
72–90	High

6.2.3 Cyber Extortion Scale

This scale was developed by **Shahd Subeih Hameed (2023)** and consists of **20 items**. The response options are:

Always
Often
Sometimes
Rarely

These responses are scored as follows: **1, 2, 3, 4**, respectively. The **maximum score** a respondent can obtain is **80**, while the **minimum score** is **20**.

Table (05): Levels of the Cyber Extortion Scale

Score Range	Level
20–44	Low
45–67	Moderate
68–80	High

6-3 The Scales' Psychometric Properties:

6-3-1 Using Discriminant Validity through Extreme Group Comparison:

The extreme group comparison method was used to confirm the scale's validity. A legitimate scale should be able to differentiate between people at both ends of the trait it measures, according to the theory behind this method. (Mammeri, 2007, p. 158)

This was applied by sorting the sample's scores in descending order. Two equal extreme groups, each with 33 participants, were then created by taking 33% of the participants from either end of the distribution. The high scores are represented by one group, and the low scores by the other.

Mean scores and standard deviations were calculated for both groups, and then a t-test was conducted to check for significant differences between them. The following table shows the results:

table (06) illustrates the significance of the differences between the means of the upper sample and the lower sample in the measures of cyber space problems (electronic game addiction, cyberbullying, electronic blackmail).

Variable	High Group (n = 33)		Low Group (n = 33)		t-value	Significance
	Mean	Std. Dev.	Mean	Std. Dev.		
Video Game Addiction	34.61	3.27	13.97	4.21	22.24	Significant at $\alpha = 0.01$
Cyberbullying	41.21	10.79	30.00	0.00	5.969	Significant at $\alpha = 0.01$
Cyber Blackmail	38.91	7.91	20.88	0.99	12.984	Significant at $\alpha = 0.01$

As shown in the table, all t-values indicate statistically significant differences between the high and low groups at the 0.01 level. This means the

scales are capable of effectively distinguishing between individuals with high and low levels of the measured traits — supporting the discriminant validity of the tool.

6-3-2 Reliability Using Cronbach's Alpha:

The reliability of the tool was measured using Cronbach's Alpha coefficient.

Table (07): Cronbach's Alpha Reliability Results for Cyber Space Problem Scales (Video Game Addiction, Cyberbullying, Cyber Blackmail)

Scale	Sample Size	Number of Items	Cronbach's Alpha
Video Game Addiction	100	10	0.927
Cyberbullying	100	30	0.955
Cyber Blackmail	100	20	0.906

As shown in the table, Cronbach's Alpha values for all three scales range between 0.91 and 0.95, which are considered high. This indicates a strong level of internal consistency between the items in each scale, suggesting that the tools are reliable and provide consistent measurements.

6-3-3 Reliability Using Split-Half Method:

This method involves dividing the scale into two halves and calculating the correlation between them. Then, a correction formula — either Spearman-Brown or Guttman — is applied, depending on whether the variances are equal or not.

Table (08): Split-Half Reliability Results for Cyber Space Problem Scales (Video Game Addiction, Cyberbullying, Cyber Blackmail)

Scale	Number of Items	Pearson Correlation	Spearman-Brown	Guttman
Video Game Addiction	10	0.889	0.941	0.941
Cyberbullying	30	0.938	0.968	0.967
Cyber Blackmail	20	0.840	0.913	0.912

From the table, we see that the split-half reliability coefficients for the three scales are 0.89, 0.94, and 0.84 respectively. After applying the Spearman-Brown correction, these values increased to 0.94, 0.98, and 0.91. These results are considered very good to excellent, indicating that the scales have high reliability and internal consistency.

6-4 Results of the Study:

6-4-1. Answer to the First Question:

The question is as follows:

What is the most prevalent cyberspace problem among the students in the sample?

This hypothesis was tested using the relative weight equation, which is represented by the following formulas:

$$\text{Relative Weight} = (\text{Maximum Possible Score} / \text{Arithmetic Mean}) \times 100$$

Table (09): Relative Weight Table

Variable	Mean Score	Maximum Score	Number of Items	Relative Weight (%)
Video Game Addiction	26.08	50	10	52.16%
Cyberbullying	34.61	90	30	38.45%
Cyber Blackmail	29.27	80	20	36.58%

It is observed from Table (09) that the most prevalent problem, and the primary one, is electronic game addiction, with a rate of **52.16%**, followed by cyberbullying at **38.45%**, and then cyber extortion, also at **36.58%**.

6-4-3. Answer to the Second Question:

The question is as follows:

What is the level of cyberspace-related problems among the students of Ziane Achour University?

Table (10): One-Sample t-Test Results

Variable	Sample Size	Hypothetical Mean	Actual Mean	t-Value	Sig. (p-value)	Significance Level	Statistical Significance
Video Game Addiction	1322	30	26.08	-14.70	0.000	0.01	Significant
Cyberbullying	1322	60	34.61	-117.66	0.000	0.01	Significant
Cyber Blackmail	1322	50	29.27	-85.41	0.000	0.01	Significant

It is observed from the table that the one-sample t-value for electronic game addiction is ($t = -14.70$), which is statistically significant, as the calculated significance value (**sig = 0.000**) is less than the adopted significance level (**0.01**). This indicates that there are statistically significant differences between the hypothetical mean and the mean of the students in the study sample regarding the

level of electronic game addiction, with the differences in favor of the hypothetical mean.

It is also noted that the one-sample t-value for cyberbullying is ($t = -117.66$), which is statistically significant, as the calculated significance value ($\text{sig} = 0.000$) is less than the adopted significance level (0.01). This indicates that there are statistically significant differences between the hypothetical mean and the mean of the students in the study sample regarding the level of cyberbullying, with the differences in favor of the hypothetical mean.

It is further noted that the one-sample t-value for cyber extortion is ($t = -85.41$), which is statistically significant, as the calculated significance value ($\text{sig} = 0.000$) is less than the adopted significance level (0.01). This indicates that there are statistically significant differences between the hypothetical mean and the mean of the students in the study sample regarding the level of cyber extortion, with the differences in favor of the hypothetical mean.

Conclusion

By the study's conclusion, the internet-related worries of Ziane Achour University students were becoming more noticeable. The results show that their main problems are electronic gaming addiction, cyberbullying, and cyberextortion, all of which have a major impact on students' behavior as well as their mental and emotional well-being.

Despite the fact that these issues are widespread worldwide, the study discovered that the overall prevalence of online problems among the students evaluated was surprisingly low. This may be partially explained by increased awareness of the risks associated with internet use as well as community and institutional efforts to increase awareness of cybersecurity and digital safety.

The findings show that these issues affect students equally, regardless of gender or academic standing, highlighting the pressing need for widespread awareness and educational programs to effectively address these issues and advance a safe and healthy learning environment for everyone.

It is essential that the university and other institutions move decisively to address these problems. For children who are addicted to technology, this means developing treatment and rehabilitation plans, organizing educational seminars and campaigns to increase awareness about safe internet usage, and offering social and psychological support.

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