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ABSTRACT

The aim of this study was to investigate the relationship between electronic gaming addiction and the level of psychological loneliness. To address and control this issue, a selection of secondary schools in the province of Bordj Bou Arreridj was chosen to implement field study procedures. The researchers employed a descriptive-analytical methodology in this study, relying on a questionnaire as a tool for investigation. The questionnaire included an electronic gaming addiction scale prepared by [Author Name] and the Russell Loneliness Scale. It was distributed to a sample of 80 orphaned adolescents. To verify the study hypotheses, appropriate statistical methods were utilized for analysis and interpretation, including means, Cronbach's alpha coefficient, Pearson correlation coefficient, among others. The study arrived at several conclusions:

The level of electronic gaming addiction is high among orphaned adolescents.

The level of psychological loneliness among orphaned adolescents is high.

There is a statistically significant correlation between electronic gaming addiction and the level of psychological loneliness among orphaned adolescents.

Keywords: Electronic gaming, psychological loneliness, orphaned adolescents.

Study Problem

The family is considered one of the basic units forming social structure as it constitutes the foundation for individuals' values, social upbringing, and it is influenced by and influences changes occurring in society. The family environment aims to transform the child from a biological being to a social being through specific methods and techniques that qualify them for the transition to the subsequent stage, which is adolescence, the most complex and delicate stage in various societies. This stage is one of the most dangerous stages humans go through within their various developmental stages characterized by continuous renewal, it is the stage that mediates between childhood and youth, beginning at puberty and ending with youth.

The healthy development of adolescents in this stage depends on the role played by others in their lives, especially parents, as the basis for the psychological health of adolescents is derived from the close relationship they have with their parents, contributing to their adaptation and self-realization. Therefore, any disruption in the family triangle (father, mother, child) and the loss of one or both parents often lead to disturbances and problems in psychological adjustment, which constitutes the starting point for social isolation and immersion in various electronic media, including electronic games known for their psychological tranquility due to the various visual, auditory, and sensory effects they contain. However, these electronic games cause addiction among adolescents, threatening their psychological health and leading to the emergence of several psychological problems, including the feeling of psychological loneliness, which is a condition experienced by individuals as a result of their failure to adapt to social relationships, making them feel suffering due to their sense of non-acceptance by others and their neglect, generating feelings of estrangement or isolation from the outside world.

The feeling of psychological loneliness represents one of the serious problems in human life, leaving its impact on the individual as it can affect all their activities and serve as a nucleus for other problems. Furthermore, the feeling of psychological loneliness is a complex phenomenon caused by negative emotional outcomes resulting from the pain of separation and the absence of forms of affection.

Based on the aforementioned, this study sheds light on the most significant behavioral problems among orphaned adolescents, focusing on electronic gaming addiction, psychological loneliness, and the relationship between them. In light of the above, the study problem revolved around the following questions: What is the level of addiction to electronic games? What is the level of psychological loneliness? And is there a statistically

significant correlation between addiction to electronic games and the level of psychological loneliness among orphaned adolescents?

Study Hypotheses

1. The level of electronic gaming addiction is high among orphaned adolescents.
2. The level of psychological loneliness is high among orphaned adolescents.
3. There is a statistically significant correlation at a significance level of 0.05 between electronic gaming addiction and the level of psychological loneliness among orphaned adolescents.

Study Objectives

The primary objective of the research is to address the study problem, which aims to understand the relationship between electronic gaming addiction and psychological loneliness among orphaned adolescents. Additionally, the study seeks to determine the levels of electronic gaming addiction and psychological loneliness.

Significance of the Study

The importance of this study lies in its focus on an important segment of society, namely orphaned adolescents, and revealing how electronic games affect various psychological behaviors among them. Furthermore, the study's significance also extends to research as it opens up many research dimensions for future studies related to the care of children and adolescents.

Study Limitations

Temporal Scope

This study was conducted during the month of May 2023.

Human Scope

The study sample consisted of 80 orphaned adolescents.

Spatial Scope

The study was conducted in 3 high schools (Ramarch Omar High School, Rabah Brothers High School, Sharif Larqat High School) in the province of Bordj Bou Arreridj.

Study Terminology

- **Electronic Games:** These are activities in which players engage in a simulated conflict governed by specific rules, leading to quantifiable outcomes. An electronic game is defined as a digital form of entertainment typically played on computer platforms, the internet, television, video game consoles, and mobile phones.
- **Psychological Loneliness:** Defined as a state in which individuals experience painful, sad, and inhumane feelings when they perceive a void of social and emotional relationships in their lives.
- **Orphaned Adolescent:** An individual aged between 14 and 19 years who has been deprived of parental care due to the death of one or both parents.

Theoretical Framework

Concept of Electronic Games: Electronic games represent a modern and highly popular form of entertainment, played either individually or in dedicated electronic gaming venues. They have become widespread and are among the most engaging activities individuals of different ages and genders engage in for extended periods without boredom. (Al-Shahrouri, 2007, p. 46)

Negatives of Electronic Games

Children and adolescents are negatively influenced by the content of electronic games, which tend to instill tendencies toward violence, aggression, imitation, laziness, and passivity. These games have led them to develop pathological behaviors due to their attachment to such hazardous games. Additionally, they foster a sense of evil and crime in their minds and instill selfishness, disregarding anything beyond the fulfillment of their gaming desires. Often, conflicts arise among siblings over gaming, unlike the communal nature of traditional games. Furthermore, the fantastical themes in these electronic games affect children's psychology, distancing them from reality and drawing them into an unreal world, where imaginative thinking prevails over realism, reflected in their behaviors, statements, and outlook on life. (Kouider, 2012, p. 146)

Concept of Psychological Loneliness

Zainab Shqeir defines psychological loneliness as the desire to distance oneself from others, to enjoy solitude away from them, with difficulty in approaching them and holding onto them. Additionally, it involves feelings

of inadequacy, lack of self-confidence, feeling unloved, unable to engage in strong social relationships, preferring to spend more time alone, feeling shy and tense in the presence of others, and being unresponsive to them in a positive and acceptable manner. Such a person lacks self-trust and often feels lonely in the presence of others. (Khouaytar, 2010, p. 41)

Furthermore, studies by Mac and Eyrter (1990) and Ernest and Casio Bo (1999) found that psychological loneliness is an unwanted, painful experience that significantly affects individuals' emotional, physical, and spiritual states. It is associated with psychiatric illnesses, hostility, alcohol addiction, low self-esteem, and depression. (Ashaboun, 2013, p. 25)

Based on the aforementioned definitions, we can summarize psychological loneliness as an individual's sense of a psychological gap between themselves and the surrounding environment due to a lack of opportunities for engagement or fulfillment in relationships.

Causes of Psychological Loneliness

Psychological loneliness has multiple causes, some of which relate to individuals' nature, while others result from quantitative or qualitative disruptions in their relationships. Rog argues that psychological loneliness is a need to feel a sense of belonging. Each individual has three psychological needs:

- The need for play and emotional participation.
- The need for the presence of another party that understands different feelings and emotions.
- The need for someone whose presence one feels the need for. When these three needs are not satisfied, the individual feels a void, and psychological loneliness arises as a result of a lack of social opportunities to communicate with others. Additionally, according to Rocatch (1988), one of the most important factors is the loss of a loved one due to death. The experience of children losing one of their parents in childhood due to death or divorce makes them prone to feelings of psychological loneliness. (Ben Dahnon, 2016, p. 34)

Technological advancement is also considered a source of psychological loneliness and insecurity at times. The nature of human interaction in modern technological society weakens social ties among community members, reduces the importance of the family's role, disrupts its structure, and deprives individuals of many elements needed to build a strong personality. The proliferation of complex media in social communication, such as media and the internet, leads individuals to diverge from their family's customs. (Mohamed Khawaj, 2002, p. 22)

Field Study Procedures: Study Methodology

Since the current study aims to determine the level of addiction to electronic games, the level of psychological loneliness, and whether there is a relationship between addiction to electronic games and the level of psychological loneliness, the descriptive-analytical approach was adopted as the appropriate method for the phenomenon. It involves describing the current phenomenon studied quantitatively and qualitatively by collecting, classifying, interpreting, and analyzing information and results.

Study Population and Sample

The study population consists of a group of orphaned teenagers in the province of Bordj Bou Arreridj, totaling 80 orphaned teenagers. A sufficient number was selected through purposive random sampling from the original community members.

Characteristics of the Study Sample

Table 1: Distribution of Sample Individuals According to Personal Variables:

Ratio	Repetition	Property	Sample
60%	48	Female	Gender
40%	32	Male	
23.75%	19	Fatherless	Type of Item
30%	24	Motherless	
46.25%	37	Fatherless and Motherless	
100%	80		Total

Study Tools and Their Psychometric Characteristics

Data Collection Tool: The researchers utilized a "questionnaire" as a tool for gathering the necessary data and information for the study, considering it one of the most suitable tools for scientific research. The questionnaire consisted of two parts:

- The first part: Personal data (gender, type of orphanhood).
- The second part: Eyüp Yılmaz, Mark D. Griffiths, and Adnan Kan's scale on addiction to electronic games, consisting of 21 items.
- The third part: Russell's Psychological Loneliness Scale, consisting of 20 items. Tool Correction: The correction of the tool relied on alternatives to the Likert five-point scale outlined in Table (02).

Table 2 : illustrates the correction scores of the study tool.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Alternatives
01	02	03	04	05	Degree

Based on this, the total score of the questionnaire is calculated.

Table 3 : Response Levels for the Likert Five-Point Scale.

Low	Medium	High	Level
≤2.33	3.66 ↓ 2.33	≥3.67	Arithmetic Mean

Psychometric Characteristics of the Questionnaire

Reliability

Table 4 : illustrates the values of Cronbach's Alpha coefficient for the study tool.

Reliability	Cronbach's Alpha Coefficient	
High and Acceptable	0.87	Scale of Addiction to Electronic Games
High and Acceptable	0.98	Scale of Psychological Distress
High and Acceptable	0.94	The Questionnaire as a Whole

Prepared by the researchers based on the outputs of the SPSS program, we note that the value of Cronbach's Alpha coefficient is high for the electronic gaming addiction scale, indicating the stability of the variable, reaching 0.87, which is an acceptable value.

Additionally, the value of Cronbach's Alpha coefficient is high for the psychological loneliness scale, reaching 0.98, which is an acceptable value, indicating the stability of the variable.

Moreover, the Cronbach's Alpha coefficient value for the entire questionnaire is high, reaching 0.94, which is an acceptable value indicating the stability and validity of the study tool for data collection.

Validity: Internal Consistency Validity: It expresses the correlation of the estimated score of each item's correlation coefficient with the total score of the dimension to which it belongs. Internal consistency validity is achieved by using the correlation coefficient between the score of each item and the dimension to which it belongs.

By using Pearson's correlation coefficient and relying on the Statistical Package for the Social Sciences (SPSS), we obtained the following results:

Table 5 : illustrates the internal consistency validity of the items.

Level of Significance	Correlation Coefficient	Number	Level of Significance	Correlation Coefficient	Number
0.000	**0.712	12	0.000	**0.829	01
0.000	**0.620	13	0.000	**0.735	02
0.000	**0.942	14	0.000	**0.869	03
0.000	**0.927	15	0.000	**0.550	04
0.000	**0.942	16	0.000	**0.668	05
0.000	**0.927	17	0.000	**0.894	06
0.000	**0.886	18	0.000	**0.813	07
0.000	**0.959	19	0.000	**0.959	08

0.000	**0.853	20	0.000	**0.966	09
0.000	**0.733	21	0.000	**0.829	10
			0.000	**0.798	11

Based on the presentation in Table (05), it is evident that the correlation coefficient for all items is significant at the 0.01 level (99%), indicating that the scale is valid for its intended measurement.

Table 6 : illustrates the internal consistency validity of the items.

Level Significance	of	Correlation Coefficient	Number	Level Significance	of	Correlation Coefficient	Number
0.000		**0.966	11	0.000		**0.938	01
0.000		**0.966	12	0.000		**0.927	02
0.000		**0.730	13	0.000		**0.942	03
0.000		**0.899	14	0.000		**0.937	04
0.000		**0.924	15	0.000		**0.886	05
0.000		**0.969	16	0.000		**0.966	06
0.000		**0.766	17	0.000		**0.959	07
0.000		**0.620	18	0.000		**0.966	08
0.000		**0.865	19	0.000		**0.966	09
0.000		**0.865	20	0.000		**0.853	10

Source:Prepared by the researchers based on the outputs of the SPSS program.

Through the presentation in Table (06), it is evident that the correlation coefficient for all items is significant at the 0.01 level (99%), indicating that the variable is valid for its intended measurement.

Statistical Methods Used

In processing the study data, we relied on a set of statistical methods using the Statistical Package for the Social Sciences (SPSS), including:

- Frequencies, percentages, standard deviations, and means.
- Pearson correlation coefficient to ensure the internal consistency and construct validity of the study tool.
- Cronbach's Alpha coefficient to calculate the reliability coefficients of the research tool.
- Pearson correlation coefficient to measure the relationship between study variables.

Presentation and Discussion of Study Results

Presentation of the first hypothesis

Hypothesis statement

- The level of addiction to electronic games is high among orphan teenagers.
- To test this hypothesis and determine the level of electronic gaming among the study sample, we calculated the arithmetic mean and obtained the result shown in the following table:

Table 7 : illustrates the level of addiction to electronic games.

Judgment	RelativeImportance	Deviation	Mean Standard	Item Number
High	0.91	0.90	3.68	01
High	0.99	0.78	4.33	02
High	0.97	0.94	3.91	03
High	0.84	0.84	4.69	04
High	0.79	0.89	3.93	05
Medium	0.76	0.86	3.51	06
High	0.93	0.91	3.74	07
High	0.94	0.85	4.84	08
Medium	0.87	0.95	3.14	09
High	0.92	0.69	4.66	10
High	0.82	0.90	3.99	11
Medium	0.68	0.83	3.42	12
High	0.73	0.79	3.69	13
High	0.77	0.66	3.87	14
مرتفع	0.96	0.91	4.36	15

مرتفع	0.89	0.79	4.27	16
Medium	0.75	0.74	3.65	17
High	0.94	0.88	4.72	18
High	0.88	0.90	4.41	19
High	0.75	0.94	3.76	20
High	0.99	0.76	4.95	21
High	4.07			Total Score of Addiction to Electronic Games

Source: Prepared by the researchers based on the outputs of the SPSS program.

It is evident from the presentation in the table above that the level of addiction to electronic games is high among orphan teenagers. The arithmetic mean of the electronic gaming addiction scale was estimated to be 4.07, which is a high score according to the Likert five-point scale. This indicates that the level of addiction to electronic games is high among orphan teenagers. Therefore, the first hypothesis is confirmed.

Presentation of the Data for the Second Hypothesis: Hypothesis Statement

- The level of psychological loneliness is high from the perspective of orphan teenagers.
- To test this hypothesis and determine the level of psychological loneliness among the study sample, we calculated the arithmetic mean and obtained the result shown in the following table:

Table 8 : illustrates the high level of psychological loneliness from the perspective of orphan teenagers.

Judgment	RelativeImportance	Deviation	Mean Standard	Item Number
High	0.91	0.78	4.56	01
High	0.99	0.96	4.98	02
High	0.97	0.68	4.87	03
High	0.84	0.84	4.22	04
High	0.79	0.73	3.99	05
High	0.76	0.71	3.84	06
High	0.93	0.92	4.66	07
High	0.94	0.76	4.74	08
High	0.87	0.96	4.35	09
High	0.92	0.81	4.62	10
High	0.82	0.59	4.13	11
High	0.68	0.83	3.42	12
High	0.73	0.79	3.69	13
High	0.77	0.66	3.87	14
High	0.96	0.91	4.84	15
High	0.89	0.79	4.47	16
High	0.75	0.74	3.75	17
High	0.94	0.88	4.72	18
High	0.97	0.90	4.85	19
High	0.75	0.94	3.76	20
High	4.31			Total Score of Psychological Distress

Source: Prepared by the researchers based on the outputs of the SPSS program.

It is evident from the presentation in the table above that the level of psychological loneliness is high among orphan teenagers. The arithmetic mean of the psychological loneliness scale was estimated to be 4.31, which is a high score according to the Likert five-point scale. This indicates that the level of psychological loneliness is high among orphan teenagers. Therefore, the second hypothesis is confirmed.

Presentation of the Data for the Third Hypothesis Hypothesis Statement

There is a statistically significant correlation between addiction to electronic games and the level of psychological loneliness among orphan teenagers. By using Pearson's correlation coefficient and relying on the Statistical Package for the Social Sciences (SPSS), we obtained the following results:

Table 9 : illustrates the results of the correlation coefficient between addiction to electronic games and psychological loneliness.

Statistical Significance	Significance Level (sig)	Confidence Level	Pearson Correlation Coefficient	Standard Deviation	Mean	
Significant	0.000	0.01	0.87	6.30	41.22	Addiction to Electronic Games
				16.58	45.97	Psychological Distress

Source: Prepared by the researchers based on the outputs of the SPSS program.

From the data presented in Table (09), which shows the results of the fifth hypothesis, it is evident that the mean score for addiction to electronic games is 41.22, while for psychological loneliness, it is 45.97. Additionally, the standard deviation for addiction to electronic games is 6.30, while for psychological loneliness, it is 16.58. The Pearson correlation coefficient value is 0.87 at a confidence level of 0.01 (99%), with a significance level of 0.000. This indicates a strong positive statistically significant correlation between addiction to electronic games and the level of psychological loneliness among orphan teenagers. Thus, the third hypothesis is confirmed.

Interpretation and Discussion of Study Results

Interpretation and discussion of the first hypothesis

Through testing the first hypothesis, we found that the level of addiction to electronic games among orphan teenagers is high. Electronic games provide entertainment and happiness to users due to their exciting elements. This can be attributed to the lack of guidance or therapeutic programs provided by institutions caring for this group. These misconceptions may become entrenched over time, posing a greater risk and playing a clear role in causing psychological disorders.

Interpretation and Discussion of the Second Hypothesis

Through testing the second hypothesis, we found that the level of psychological loneliness is high among orphan teenagers. We interpret this result as indicating that orphan teenagers need to enhance their social relationships, especially during adolescence, which is a challenging stage. Therefore, it is essential to conduct counseling sessions to encourage integration and interaction with members of society. Psychological loneliness is one of the significant problems among this group, especially for those who struggle to establish successful relationships with others. They often exhibit negativity and shyness, which can lead to a lack of social skills.

Interpretation and Discussion of the Third Hypothesis

Through testing the third hypothesis, we found a strong positive statistically significant correlation between addiction to electronic games and the level of psychological loneliness among orphan teenagers. We interpret this result as stemming from the link between addiction to electronic games and social isolation. Teenagers increasingly prefer immersing themselves in these games over interacting with others, leading to feelings of psychological loneliness. The more they become addicted to electronic games, the more profound their sense of psychological loneliness becomes.

RECOMMENDATIONS

- Increase supervision by caregivers to prevent orphan teenagers from excessive engagement with electronic games.
- Engage in social and sports activities to utilize leisure time effectively.
- Integrate teenagers with their peers and develop their social skills.
- Develop counseling programs for teenagers addicted to electronic games to help them overcome their addiction.

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