

## Research Article

# The Psychiatric Impact of Video Game Addiction in a Sample of Ain Shams University Student

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## Abstract

**Background:** The WHO initiative on excessive gaming did not start out with the preconception that it was an addictive disorder. The term used at the outset was (Excessive use of the Internet, computers, smart phones and similar electronic devices) [15].

A decision was made that the delineation of disorders was to be based primarily on the content and behavior, such as gaming, pornography and gambling. This notion corresponds with the recent DSM-5 including Internet gaming disorder as a “condition for further study” [15]. The prevalence of the disorder in 37 cross-sectional studies widely ranged from 0.7% to 27.5%.

**Methodology:** This was a cross sectional study , took place from January 2018 till January 2020 ,conducted on 30 male and female which were diagnosed according to video game addiction questionnaire recruited from outpatient clinics of Ain Shams University undergraduates hospital located in eastern Cairo, Egypt, aging from 18 to 25 years, participants were assessed using (A self- administered questionnaire, -Fahmy and El sherbini socioeconomic classification, video gaming addiction scale, ICD 10 symptoms checklist for mental disorders).

**Results:** This study found that there were statistically non-significant differences in age, gender, relation with the family and friends and also the time spent on video games daily in hours in correlation with video gaming addiction types.

This study found statistically significant correlation between both the salience and conflict with others parts of lemmens scale in relation to types of addiction.

The results were statistically non significant of the ICD-10 psychiatric morbidities in relation to video gaming addiction subcategories of lemmens scale that could be attributed to the small sample size.

**Conclusion and Recommendations:** This study aimed to increase the awareness of psychiatrists and all mental health professionals regarding the importance of managing video gaming addicted gamers, it was recommended to measure the prevalence video gaming addiction and psychiatric morbidities for in a larger sample and multiple age groups.

**Keywords:** Video gaming; Addiction; Internet

## Introduction

The WHO initiative on excessive gaming did not start out with the preconception that it was an addictive disorder. The term used at the outset was (Excessive use of the Internet, computers, smart phones and similar electronic devices) [15].

A decision was made that the delineation of disorders was to be based primarily on the content and behavior, such as gaming, pornography and gambling. This notion corresponds with the recent DSM-5 including Internet gaming disorder as a “condition for further study” [15]. The prevalence of the disorder in 37 cross-sectional studies widely ranged from 0.7% to 27.5%; it was higher among males than females in the vast majority of studies and tended to be higher among younger rather than older people [16]. Various

psychological and social problems were found in adolescents with IGD. A problematic internet game use group showed more severe depression, conduct disorder, emotional symptoms, hyperactivity, peer problems, and perceived stress, a higher percentage of self-injurious behavior more severe rule-breaking behavior, aggressive behavior and somatic complaints compared with a normal internet use group [19].

In the clinic of the Tung Wah Group of Hospitals Integrated Centre on Addiction Prevention and Treatment in Hong Kong, the medical and psychosocial problems experienced by patients include mood problems, refusal of school and social activities, physical inactivity, extreme anger and aggression, family conflicts, reduced amount of food intake, and various other health consequences. In this

clinic, those seeking help have been progressively younger, with most help seekers being in the early teenage years [10].

## Methods

### Participants

This study was a cross sectional study, took place from January 2018 till January 2020, conducted on 30 male and female which were diagnosed according to video game addiction questionnaire recruited from outpatient clinics of Ain Shams University undergraduates hospital located in eastern Cairo, Egypt, aging from 18 to 25 years old who don't have recent changes in the drug treatment over the last 6 months. We excluded students whose study depends on internet work e.g., faculty of Computer sciences & Information technology) and also students with substance use disorder, psychotic or bipolar mood disorders.

### Procedures

The following approvals were obtained in order to conduct the study:

1. An approval was obtained from the ethical committee of the Department of psychiatry, Ain Shams University.
2. An Informed verbal consent was obtained from the studied subjects after explaining the objectives of the study. Confidentiality of the studied subjects was explained and made clear through the consent through assuring the subjects that they will be (anonymous) when submitting their response to the questionnaires.
3. A self- administered questionnaire: was used to collect.
  - a) Demographic characteristics: age, sex, number of siblings, educational grade, social class.
  - b) Social relations: with family member and student's relationship with (his/her) friends.
  - c) Video gaming addiction variables.

Devices used during video gaming playing, internet time use per day and presence of internet at home among studied subjects.

4. Scales were given to them in the form of questionnaires upon their approval of the consent and Participation was totally voluntary.

All of the subjects responded very well, no one refused to discontinue answering the questionnaires. Regarding the presence of psychiatric disorders, we asked them verbally if they ever sought psychiatric help. Regarding smoking and drug use, it was totally subjective by asking them in the questionnaire of sociodemographic data whether they smoke or use drugs or not. Results later on were grouped all together and were analyzed statistically by SPSS computer program.

### Tools

1. Designed questionnaire Sheet was been designed by the researchers, included brief personal profile questions about the participants age, sex, Academic achievement and grade of the last course, Time Spent on playing video games, devices used in playing video games ,Tobacco use and drug use and the previous psychiatric consultancy.

2. Fahmy and El sherbini socioeconomic classification :was used to assess the socio-economic level of the family.

3. The Video Gaming Addiction Scale [13].

It was applied on the studied subjects assessing their behavior over the past 6 months and results were interpreted into 4 groups (Addicted gamers, Problem gamers, Highly engaged gamers and lastly non-addicted/problem or high engagement gamers.

It was translated into Arabic Language by Associate [1].

The criteria of Video Gaming Addiction Scale were grouped as follows:

- Core criteria for the addicted gamers: Those who score all four factors of relapse, withdrawal, conflict & problems.
- Criteria for the problem gamers: Those who scored 2-3 relapse, withdrawal, conflict & problems.
- Criteria for the highly engaged gamers: Those who score all 3 factors of (salience, tolerance and mood modification) and got none or one of the core factors mentioned above.
- The rest are considered non-addict/non-high engaged/non-problem gamers.

4. The ICD-10 Symptom Checklist for Mental Disorders (version 1.1) a semi-structured instrument intended for clinicians' assessment of psychiatric symptoms and syndromes in the F0-F6 categories of the ICD-10 system. It allows the quick determination of a preliminary diagnosis from an initial brief interview.. The module comprises a symptom list and lists of states that, according to ICD-10 criteria, should be excluded or could be associated with the syndromes of substance abuse or dependence [9].

### Data Management & Statistical Analysis

Data were revised, coded, tabulated and entered to excel sheet.

Statistical analysis was performed with (IBM Corp. Released 2011\*, IBM SPSS® Statistics for Windows Version 20.

## Results

### The Demographic Characteristics of Studied Subjects Associations with Video Gaming Addiction Scale (Lemmens Scale)

The studied subjects sex were 11 males (36.7%) & 19 females (63.3%) the mean age of studied subjects was (20.7 years) with a minimum age 18 years and a maximum age 25 years.

In correlating video game scores with gender, results showed 6 male addicted gamers (60%) and 4 female gamers (about 40%). They also showed 2 gamers were male problematic gamers (71.4%) and 5 female problematic gamers (71.4%). For highly engaged gamers, there were 3 males (23.1%) and 10 females (about 76.9%). All results were statistically non-significant with p-value of 0.1.

Results showed the number of siblings of the subjects who play video games subjects was 4 subjects (13.3%) which are the only sibling, 1 subject (3.3%) had 1 siblings, 25 subjects (83.33%) had more than 1 siblings with statistically non-significant p-value of 0.302.

Also results showed the order of birth of the subjects who play

video games with statistically non-significant p-value of 0.1577.

### **The Father and Mother Education Level and Work of the Studied Subjects In Relation To Lemmens Scale Subcategories**

The father's education level of the subjects there was (3.3%) illiterate, (10.0%) primary, (13.3% secondary), (53.3%) were university learned and 20% master degree which was statistically non significant (p-value=0,609). The mother's education level were (3.3%) illiterate, (10.0%) primary, (10.0%) preparatory, (13.3%) secondary and (63.3%) were university learned which was no significant (p-value=0,635). The mothers work of the subjects were (56.7%) working mothers, (43.3%) not working mother which was statistically highly significant (p-value=0,007).

### **The Association between Relationship of Studied Subjects with Their (Fathers, Mothers, and Siblings & Friends) and Subcategories of Video Game Addiction (Lemmens Scale)**

Results showed the relationship of the adolescents who play video games towards their family members and friends statistically non significant results with p-value of 0.662 were found in the relationship towards the fathers by all gamers. And the relationships towards the mother with p-value of 0.584, siblings and friends were statistically non-significant with p-values of 0.306 and 0.776 respectively.

The Social class of the family of the studied subjects in relation to lemzens scale: was no statistically significant with p value =.933.

### **The Distribution of Smoking Habits among Studied Subjects**

There were (86.7%) nonsmokers, (3.3%) smoking cigarettes only while 10% substance use disorder with statistically non significant p-value of 1.000 for all types of gamers.

**Regarding previous psychiatric consultations:** The subjects who sought psychiatric advices were 4 subjects (13.3%) that was statistically non significant with p-value of 1.000 for all types of gamers.

**The Academic year and grades of studied subjects in relation to Lemmens scale subcategories:** Results of Association between academic year and categories of video game addiction were statistically non-significant with p-value of 0.056 for all types of gamers. And last year grade marks and categories of video game addiction were statistically non-significant with p-value of 0.085 for all types of gamers.

**The presence of internet at home, devices used and internet hours daily use in relation to game addiction types:** 3.3 % of the subjects use Play Station, 23.3% use the mobiles, 20% use the computer, 10% use laptops, 20% use PlayStation & mobile and 23.3% use mobile & laptop which was statistically highly significant in correlation with video gaming addiction scale (p value = .006). As regards the presence of internet at subjects' home, 90% having internet at their home While 10% don't have with statistically non significant difference (p value = 1.000). the subjects daily time using internet were 33.3% less than 2hours and 66.7% more than 2h that was statistically non significant (p value = 0.0826).

**The subcategories of lemzens scale among studied subjects:** The addicted gamers were (33.3%), problematic gamers (23.3%), highly engaged gamers were (43.3%).

**Different Lemmens scale subcategories in relation to salience item of lemzens scale:** (70.0%) of subjects were not having salience while (30.0%) were salience positive with statistically significant p value = 0.000 in relation to types of addiction.

### **Different Lemmens Scale Subcategories In Relation To Conflict with Others Item of Lemmens Scale**

43.3% of subjects were not having conflicts while 56.7 % of subjects were having conflict with statistically significant p value = 0.002 in relation to types of addiction.

**The different psychiatric morbidities among studied subjects via ICD-10:** 13.3% of subjects suffered from depressive disorder , 16.7% suffering from cyclothymic disorder, 3.33 % subject suffering from generalized Anxiety disorder, 3.33% subject having Personality disorder and 63.33% are free from psychiatric morbidities with statistically non-significant p value = 0.413 in relation with Lemmens scale subcategories yet non statistically significance in correlation with salience and conflicts items of the scale with p values 0.3242 and 0.2028 respectively.

## **Discussion**

### **A-Sociodemographic Data of Studied Subjects**

This study found that there were statistically non-significant differences in Age variation in the prevalence of video gaming addiction types with a p-value of 0.597 that appears to differ between adolescent and adults samples because they may be prevented from online game play during their time in college [14].

No statistically significant gender differences in this study, with a p-value of 0.8 .This was in line with studies of Kyunghye et al., (2006), Lam et al. (2009) and not in line with the studies carried of Reda et al. (2012), Desouky et al. (2015), Saied et al. (2016) and Mentzoni et al. (2011) which all reported that the prevalence of problematic internet use was higher among male students than females.

Regarding the Association between internet addiction scores and relationship with family members and friends, results were statistically non-significant that was not in line in significance with those found in a study. by Kamal et al. (2013) and Schneider et al. (2017).

### **B-The studied subjects Academic Achievement**

No statistically significant association between internet addiction scores and Academic achievement with a p-value of 0.056 which was consistent with Wang et al. (2014) and In contrast to Frangos et al., (2010) and Saied et al., (2016) who showed significant negative correlation between internet addiction scale scores and academic grades of the students; (the higher the grade the lower was the score).

### **C-The Time Spent In Playing Video Games by the Studied Subjects**

The correlation between the time spent on video games daily in hours correlation and video game addiction scores was statistically non-significant with a p-value of 0.214.

The time spent on gaming was positively correlated with gaming addiction in studies by Grüsser et al. (2007), Rehbein et al. (2010), Porter et al. (2010), Gentile et al. (2011), Haagsma et al. (2012).

### D-The Video Gaming Addiction Scale (Lemmens Scale)

In our study 33.3% were addicted gamers, 23.3% problematic gamers and 43.3% highly engaged gamers that appeared to be higher than in the study of Wittek et al. (2016), Mentzoni et al. (2011) and Ferguson et al. (2011).

### E-The Item “Salience” of Lemmens Scale of Videogaming Addiction

This study found that the part of salience of Lemmens scale in relation to types of addiction show p value = 0.000 which is statistically significant.

### F-The Item “Conflict with Others” Of Lemmens Scale of Videogaming Addiction

This study found that the part of conflict of Lemmens scale in relation to types of addiction show p value = 0.002 which is statistically significant.

It was also observed in previous studies where internet addiction was associated with disturbed social relationships and increase conflicts with friends and parents as Chatterjee et al. (2012), Desouky et al. (2015).

### G-Psychiatric Morbidities According To ICD-10 and the Association with Videogaming Addiction Subcategories of Lemmens Scale

The results were statistically non significant of the ICD-10 in relation to videogaming addiction subcategories of Lemmens scale.

This was in contrast with Carli et al. (2011) which report the association between internet addiction and depression and anxiety and also, Todd F et al. (2004) reported psychiatric co-morbidities associated with pathological internet users. 75% suffer from depression and 57% from anxiety. In our study and this could be explained by the small sample size.

## Conclusion

The study took place from January 2018 till January 2020. The tools were selected to fulfill the purpose of the study & all studied subjects were assessed by using: Sociodemographic scale of Fahmy & Sherbini: to detect sociodemographic items, also Lemmens scale was done: to diagnose videogame addiction severity, finally ICD-10 for assessment of psychiatric morbidities of the studied subjects.

This study was considered one of the studies scaling the videogaming addiction of Lemmens scale in adolescents. Assessments of sociodemographic data in details of the studied subjects were done. Also, it evaluated psychiatric comorbidities of the videogaming addiction in adolescents. This study was assessed special characters of Lemmens scale in details “salience, conflict with others” in addicted gamers.

This study found that there were statistically non-significant differences in age, gender, relation with the family and friends and also the time spent on video games daily in hours in correlation with video gaming addiction types.

This study found statistically significant correlation between both the salience and conflict with others parts of Lemmens scale in relation to types of addiction.

The results were statistically non significant of the ICD-10 psychiatric morbidities in relation to videogaming addiction subcategories of Lemmens scale that could be attributed to the small sample size.

## Strengths

- This study was focusing on the videogaming addiction scale of Lemmens in adolescents & young adults.
- Evaluating psychiatric comorbidities with the videogaming addiction in adolescents.
- Assessment of special characters of Lemmens scale “salience, conflict with others” in addicted gamers.

## Limitations

The possible limitations were (Small sample size, The cross-sectional nature of the present study, Specific age group).

## Recommendations

Increase awareness of psychiatrists and all mental health professionals regarding the importance of managing videogaming addicted gamers.

Measure the prevalence video gaming addiction and psychiatric morbidities for further assessment in a larger sample and multiple age groups.

Studying the other characters of Lemmens scale.

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