

# Exploring The Relationship Between Gaming Addiction, Depression, Anxiety And Stress In Young Males

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Received: January 07, 2019

Accepted: February 10, 2019

**ABSTRACT:** *The study compared internet gaming disorder, depression, anxiety and stress among male school students and male college students. The study also examined the relationship between internet gaming disorder, depression, anxiety and stress among male students . The participants were 100 male school students and 100 male college students from Chennai city in the age range of 13-25 years who play games either online or offline or both on their phones, or tablets, or computers/laptops or gaming consoles. Participants were administered the Internet Gaming Disorder Scale short form IGDS9-SF (Pontes & Griffiths, 2015), and Depression Anxiety Stress Scale short form DASS-21 (Lovibond, S.H & Lovibond, P.F., 1995). Pearson's Product Moment Correlation was computed to find the relationship between internet gaming disorder, depression, anxiety and stress . Independent samples t-test was computed to examine if there were any differences in internet gaming disorder, depression, anxiety and stress among male school students and male college students. Findings revealed that there were no significant differences in internet gaming disorder and stress among male school students and male college students. The analysis also showed that there was a significant difference in depression and anxiety among male school students and male college students. Male college students experienced more depression and anxiety than male school students . There was a significant positive relationship between internet gaming disorder and depression, internet gaming disorder and anxiety, and internet gaming disorder and stress among males.*

**Key Words:** *Internet gaming disorder, depression, anxiety, stress, male school students and male college students.*

## Introduction

### Gaming addiction

Video gaming has become really popular all over the world and has been growing exponentially for the past 20 years. Video games can be played practically at anyplace including on computers, netbooks, tablets, smart phones and gaming consoles. People play video games for many reasons such as for entertainment, fun , for a challenge, for companionship, for connecting with friends during online gaming, for emotional satisfaction, escapism and as a form of stress relief. Besides social entertainment, some games improve decision-making skills, problem-solving and , linguistic skills . There are many types of video games such as action games, adventure games, massively multiplayer on line role playing games, simulation games, strategy games, sports games and puzzle games. The most popular video games are PUBG, Grand Theft Auto (GTA), FIFA, Fortnite. Gamers who play Massively Multiplayer Online Role-Playing Games (MMORPGs) tend to be at a greater risk for developing internet gaming disorders as these type of games involve many players playing the same game which can be very engrossing, exciting and time consuming as all the players have to play together to complete certain tasks in the game. Unfortunately, many players become so immersed in their gaming activity, and play excessively that it results in many negative effects such as relationship problems, distraction from the real-life activities, reduction of spending time with friends and family, poor performance in school and workplace, less concentration in education, loss of ambitiousness in achieving goals, lack of social skills, obesity and lack of sleep . They become addicted to video games which results in emotional, social, relational, educational and career problems . Most people who are addicted don't understand the harmful effects excessive gaming can have on them and others. Gaming addiction has been officially announced as a disorder in the current fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) which describes Internet Gaming Disorder as a " persistent and recurrent use of the internet to engage in games, often with other players, leading to clinically significant impairment and distress". The World Health Organization has also recognised Internet gaming as a diagnosable addiction. Gaming disorder includes:

- A pattern of behaviour for at least 12 months in which gaming is out of control.
- The pattern of behaviour must show an increased priority given to gaming.
- The gaming takes priority over other interests and daily activities.
- A continuation of gaming despite the occurrence of negative consequences or behaviour that affects one's relationship, education or occupation.

### **The relationship between video games and depression, anxiety and stress**

Researchers and mental health professionals have often pondered about the nature of the relationship between video games and depression, anxiety and stress. They have often wondered if video games cause depression, anxiety and stress in heavy gamers or are people with depression, anxiety and stress using video games as a method of coping or escape from negative emotions, thoughts and moods. The answer to this question is still not known for now. However, many research studies have established that depression, anxiety, stress and excessive gaming are correlated, implying that they are related and influence each other, when gaming intensifies depression, anxiety and stress also intensify. Liu et. al., (2018) have found that people with depression and gamers both show abnormal functioning in the same areas of the brain. Some speculate that it is the gaming lifestyle involving long hours spent without physical activity, proper nutritious food, hydration, minimal interaction with real-world people and exclusively focusing on the game which can lead to the development of the symptoms of depression, anxiety and stress such as low mood, lack of energy, sleep problems and irritability. Ryu et al., (2018) examined the relationship between impulsivity, interpersonal relationships, depression and Internet Gaming Disorder (IGD) symptoms in young adults who were assessed on Internet Gaming Disorder symptoms (Young's Internet Addiction Test; Y-IAT), Impulsivity (Barratt Impulsiveness Scale; BIS-11), Interpersonal relationship (Relationship Change Scale; RCS) and depression (Beck Depression Inventory; BDI). Results indicated that Internet Gaming Disorder (IGD) was significantly, positively related to depression and impulsivity and significantly negatively related to quality of interpersonal relationships. Chen et al., (2012) conducted a study of 722 Online gamers (601 males 121 females) to investigate the association between online gaming hours, social phobia and depression using an internet survey. They were assessed using self-rating scales of Depression and Somatic Symptoms Scale (DSSS), Social Phobia Inventory (SPIN) and Chen Internet Addiction Scale (CIAS). Linear regression analyses revealed that online gamers who spent long hours playing online games every week tend to report more severe symptoms of depression, social phobia and internet addiction. Carbonell et al., (2018) conducted a study using 31 clinical interviews of male adolescents with Internet Gaming Disorder (IGD) to investigate the psychological characteristics associated with Internet Gaming Disorder in adolescents. They were administered Internet Gaming Disorder test, personality tests, comorbid symptomatology scales, emotional intelligence scales and their family environment characteristics were also assessed. It was found that the adolescents with Internet Gaming Disorder had a higher risk of depression, anxiety, somatic disorders, social problems and dysfunctional family relationships. Cho et al., (2016) examined the prevalence rate of Internet Gaming Disorder and relationship between Internet Gaming Disorder and psychological symptoms such as anxiety, depression and impulsiveness in South Korean middle school students. Data was collected from a 2024 students. Gaming disorder symptoms were assessed by the diagnostic criteria in Diagnostic and Statistical Manual (DSM-5). 5.9% of the sample (boys 10.4%, girls 1.2%) were diagnosed with gaming disorder. 8% (boys 14.2%, girls 5.9%) of the sample were at high risk of developing gaming disorder. They showed symptoms of mood modification, behavioral salience, conflict, withdrawal, and relapse. The adolescents with gaming disorder had anxiety (9.2%), depression (15.1%), and impulsivity (10.9%) respectively.

### **Objectives of the study:**

The objectives of the study were as follows:

1. To investigate how internet gaming disorder is related to depression, anxiety and stress in male students.
2. To examine the differences in internet gaming disorder, depression, anxiety and stress among male school students and male college students.

### **Hypotheses:**

In order to investigate the objectives of the study and after examining the review of literature, the following hypotheses were formulated.

1. There will be no significant relationship between internet gaming disorder and depression among male students.

2. There will be no significant relationship between internet gaming disorder and anxiety among male students.
3. There will be no significant relationship between internet gaming disorder and stress among male students.
4. There will be no significant differences in internet gaming disorder among male, school students and male, college students.
5. There will be no significant differences in depression among male, school students and male, college students.
6. There will be no significant differences in anxiety among male, school students and male, college students.
7. There will be no significant differences in stress among male, school students and male, college students.

## Method

### *Participants and procedure:*

The sample comprised of 200 male students, out of which 100 were male, school students and 100 were male, college students from Chennai city in the age range of 13-25 years who play games either online or offline or both on their phones, or tablets, or computers/laptops or gaming consoles. To collect data the researcher approached two schools and two colleges in Chennai city. Permission was obtained from principals and teachers of the schools and colleges to conduct the study. The researchers then enquired if there were students who played games online or offline or both on their phones or computers or any gaming device. The students who said that they play video games, were then asked if they were willing to be a part of a study on gamers. The purpose of the study was explained to the students who verbally consented to be a part of the study and they were administered the Internet Gaming Disorder Scale (IGD) and Depression Anxiety Stress Scale (DASS). Confidentiality of responses was assured to the participants.

### *Research design:*

Ex Post facto research design was chosen.

### *Instruments:*

#### **1. Internet Gaming Disorder Scale (IGD).**

Internet Gaming Disorder Scale short form IGDS9-SF (Pontes & Griffiths, 2015) is a measure of gaming disorder. It consists of 9-items selected from the original scale which has 27-items. It assesses the severity of Internet Gaming Disorder and its detrimental effects by examining both online and or offline gaming activities occurring over a 12-month period. Internet Gaming Disorder IGDS9-SF has a good internal consistency (Cronbach's alphas = .96). This IGDS9-SF had its psychometric properties extensively investigated and several studies have provided satisfactory results at several levels, such as construct validity (i.e., factorial convergent) criterion- related validity, concurrent validity and cross – cultural validity. The respondents have to answer each item on a 5-point Likert Scale ranging from 1("Never"), 2("Rarely"), 3("Sometimes"), 4("Often") and 5("Very often"). Responses to the all nine items of the IGDS9-SF are summed to create a composite score which ranges from a minimum of 9 to a maximum of 45 points, with higher scores being indicative of a higher degree of Internet Gaming Disorder.

#### **2. Depression Anxiety Stress Scale (DASS).**

The Depression Anxiety Stress Scale short form DASS-21 (Lovibond, S.H & Lovibond, P.F., 1995) is a set of three subscales. The DASS-21 consists of 21 items modified from the original 42-items. It consists of three sub scales that measure depression, anxiety and stress. Each scale consists of 7 items. The Depression scale (DASS21-D) assesses dysphoria, hopelessness, devaluation of life, self- deprecation, lack of interest/ involvement, anhedonia and inertia. The Anxiety scale (DASS21-A) assesses automatic arousal, skeletal muscle effects, situational anxiety and subjective experience of anxious affect. The Stress scale (DASS21-S) is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/ over-reactive and impatient. Previous studies indicate that the DASS-21 possesses good psychometric properties. When compared to Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI), the DASS was shown to possess satisfactory psychometric properties, the DASS Anxiety scale correlated .081 with the BAI and DASS Depression scale correlated 0.74 with the BDI (Lovibond, S.H & Lovibond, P.F., 1995). Respondents answer each item on 4 point Likert type scale or 0-3 where 0 = did not apply to me at all and 3 = applied to me very much or most of the time. Responses to the items are summed to calculate an overall score and multiplied by two to calculate the final score. Higher scores for each range from 0-42, with higher scores being indicative of higher depression, anxiety and stress.

**Personal data sheet:**

A personal data sheet was used to collect demographic information such as age, gender and educational qualification.

**Statistical analyses:**

- Pearson Correlational co-efficient was used to investigate the relationship between internet gaming, depression, anxiety and stress.
- Independent samples t-test was used to investigate differences in internet gaming, depression, anxiety and stress among male school students and male college students.

**RESULTS AND DISCUSSION**

Table I : *Pearson's Product Moment correlation between internet gaming disorder and depression.*

Variables	N	Correlation Coefficient
Internet gaming disorder	200	0.370**
Depression		

**\*\*p < 0.01**

The correlation coefficient between internet gaming disorder and depression is significant,  $r(198) = 0.370$ ,  $p < 0.01$ . This indicates that there is a significant positive relationship between internet gaming disorder and depression. Thus it can be inferred that as internet gaming disorder increases depression also increases. Students who have high internet gaming disorder tend to be depressed. Similar findings were reported by Ryu , et al. (2018) who found that internet gaming disorder was significantly, positively related to depression. Therefore, the null hypothesis which states that “there will be no significant relationship between internet gaming disorder and depression among male students” is not accepted.

Table II : *Pearson's Product Moment correlation between internet gaming disorder and anxiety.*

Variables	N	Correlation Coefficient
Internet gaming disorder	200	0.378**
Anxiety	200	

**\*\*p < 0.01**

The correlation coefficient between internet gaming disorder and anxiety is significant,  $r(198) = 0.378$ ,  $p < 0.01$ . This indicates that there is a significant positive relationship between internet gaming disorder and anxiety. Thus, it can be inferred that as internet gaming disorder increases anxiety also increases. Students who are high in internet gaming disorder experience more anxiety. Similar findings were reported by Mehroof , et al. (2010) who found that state anxiety and trait anxiety were significantly related with online gaming addiction. Wang , et al. (2005) investigated interpersonal relationships and social anxiety among online game players and reported that as time spent on online games increased, social anxiety increased and the quality of interpersonal relationships decreased. Therefore, the null hypothesis which states that “there will be no significant relationship between internet gaming disorder and anxiety among male students” is not accepted.

Table III : *Pearson's Product Moment correlation between internet gaming disorder and Stress.*

Variables	N	Correlation Coefficient
Internet gaming disorder	200	0.521**
Stress	200	

**\*\*p < 0.01**

The correlation coefficient between internet gaming disorder and stress is significant,  $r(198) = 0.521$ ,  $p < 0.01$ . This indicates that there is a significant positive relationship between internet gaming disorder and stress. Thus, it can be inferred that as internet gaming disorder increases stress also increases. Students who have high internet gaming disorder tend to be stressed. Similar findings were reported by Kaess , et al. (2017) who reported that stress reactivity was correlated with severe symptoms of internet gaming disorder. Therefore, the null hypothesis which states that “there will be no significant relationship between internet gaming disorder and stress among male students” is not accepted.

Table IV: Mean, Standard Deviation, 't' value for internet gaming disorder between male school students and male college students.

Variable	Educational status	N	Mean	Standard Deviation	't' value
Internet Gaming Disorder	school students	100	20.80	5.46	1.943 NS
	College students	100	19.06	7.09	

**NS Not Significant**

Results indicate that there are no significant differences in internet gaming disorder among male school students and male college students,  $t(198) = 1.943$ , which indicates that male school students ( $M = 20.80$ ,  $SD = 5.46$ ) and male college students ( $M = 19.06$ ,  $SD = 7.09$ ) do not differ significantly on their internet gaming scores. Therefore, the null hypothesis which states that "there will be no significant difference in internet gaming disorder among male school students and male college students" is accepted.

Table V: Mean, Standard Deviation, 't' value for depression between male school students and male college students.

Variable	Educational status	N	Mean	Standard Deviation	't' value
Depression	school students	100	6.04	6.31	5.216 **
	college students.	100	12.42	10.47	

**\*\*p < 0.01**

Results indicate that there is a significant difference in depression among male school students and male college students,  $t(198) = 5.216$ ,  $p < 0.01$ . This indicates that male college students had higher depression scores ( $M = 12.42$ ,  $SD = 10.47$ ) than male school students ( $M = 6.04$ ,  $SD = 6.31$ ). Thus it can be inferred that the male college students tend to experience more depressive symptoms such as feelings of worthlessness, low energy or fatigue, feelings of hopelessness, diminished interest in all activities than male school students. Therefore, the null hypothesis which states that "there will be no significant difference in depression among male school students and male college students" is not accepted.

Table VI: Mean, Standard Deviation, 't' value for anxiety between male school students and male college students.

Variable	Educational status	N	Mean	Standard Deviation	't' value
Anxiety	school students	100	8.66	7.53	2.376 **
	college students.	100	11.42	8.84	

**\*\*p < 0.01**

Results indicate that there is a significant differences in anxiety among male school students and male college students,  $t(198) = 2.376$ ,  $p < 0.01$ . This indicates that male college students had higher anxiety scores ( $M = 11.42$ ,  $SD = 8.84$ ) than male school students ( $M = 8.66$ ,  $SD = 7.53$ ). Thus it can be inferred that the male college students tend to experience more anxiety symptoms such as excessive worry, shortness of breath, trembling, palpitations than male school students. Therefore, the null hypothesis which states that "there will be no significant difference in anxiety among male school students and male college students" is not accepted.

Table VII: Mean, Standard Deviation, 't' value for stress between male school students and male college students.

Variable	Educational status	N	Mean	Standard Deviation	't' value
Stress	school students	100	12.16	8.18	0.197 NS
	college students	100	11.92	9.04	

**NS Not Significant**

Results indicate that there are no significant differences in stress among male school students and male college students,  $t(198) = 0.197$ , which indicates that male school students ( $M = 12.16, SD = 8.18$ ) and male college students ( $M = 11.92, SD = 9.04$ ) do not differ significantly in their levels of stress. Therefore, the null hypothesis which states that “there will be no significant difference in stress among male school students and male college students” is accepted.

### Conclusions

The study compared internet gaming disorder, depression, anxiety and stress among male school students and male college students. The study also examined the relationship between internet gaming disorder, depression, anxiety and stress among male students. The following were the conclusions of the study.

1. There was a significant positive relationship between internet gaming disorder and depression among male students.
2. There was a significant positive relationship between internet gaming disorder and anxiety among male students.
3. There was a significant positive relationship between internet gaming disorder and stress among male students.
4. No significant difference was found in internet gaming disorder among male school students and male college students.
5. There was significant difference in depression among male school students and male college students.
6. There was significant difference in anxiety among male school students and male college students.
7. No significant difference was found in stress among male school students and male college students.

### Limitations

1. The study was conducted with a sample size of only 200.
2. The study was limited to the geographic location of Chennai city.
3. Female students were not included in the study.

### Suggestion for further research

1. Large sample can be used.
2. The study could have expanded to a larger age range.
3. The study could have also included female participants .

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