

# Internet Addiction in relation to Depression, Anxiety and Stress among Adolescents

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## **Abstract**

*The present study focuses on examining Internet addiction (IA) and its relation with depression, anxiety and stress among the adolescents of secondary school of Punjab. Adolescents are highly susceptible to developing internet addiction due to their developmental vulnerabilities and inclination towards exploring internet usage. Data were collected from 100 students (n=100) of class 11<sup>th</sup> and 12<sup>th</sup> from different streams by purposive sampling technique. Internet Addiction was measured by Young's Internet Addiction Test (1998). Depression, anxiety, and stress were measured by using DASS (Lovibond & Lovibond, 1995) scale. The DASS is a 42 item self-report inventory that provides scores on three subscales: Depression (14-items), anxiety (14-items), and stress (14-items). **Findings:** There is a significant positive correlation between internet addiction and psychological factors such as depression, stress and anxiety among high secondary school students. Both male and female students were not differed on internet addiction, depression, anxiety and stress.*

**Implications:** Findings revealed that Internet use has negative consequences and are very alarming for the upcoming generation. However, Internet Addiction symptoms are yet not explained as disorder by DSM or ICD. Further research will help to find for sustainable solutions to control Internet Addiction.

**Keywords:** Internet addiction, Depression, Anxiety, Stress, Adolescents.

## Introduction

In recent years, the internet has become the most important recreational and academic tool for adolescents and adults, particularly in the times covid-19 when social distancing measures are being advocated and publicized to protect one from contracting the infection. The internet has developed dependency in our life from searching information sources from around the world to carry various types of other activities like online buying, chatting trade etc. Although use of internet has provided better opportunities for communication, information, and social interaction but excessive undisciplined use by some individuals has led to the emergence of the concept of internet addiction. In fact, younger internet users, particular those who are adolescents are more at risk of becoming internet addicts than older users. The reasons can be multi folds like using internet for the academic purposes particularly in present times when lots of online educational platforms are available.

Teachers also promote the use of searching recent information available with regards to the topic of discussion. Students try to escape the stresses resulting from their obligations to pass examinations and doing assignments using internet platforms. Various types of communication applications make online chatting seem to be better option for students than personal meeting. Last but not the least covid-19 has restricted the personal meetings and made online platform better available option. Literature reviews suggests that excessive and problematic internet use is associated with decline in the size of social circle, depression, loneliness, lower self-esteem and life satisfaction, sensation seeking, poor mental health, and low family function. While the internet brings countless benefits, it also presents a potential downside - the risk of internet addiction.

Internet addiction, also known as problematic internet use or compulsive internet use, refers to an excessive and uncontrollable dependence on the internet, resulting in negative consequences in various aspects of an individual's life (Young,1996; Griffiths, 1990).She claimed that some users become addicted to the Internet in the same way as other. Addictive to alcohol or drugs, and cause them to experience these situation problems in your life.

There is another popular term "Problematic use of the Internet". It is concerned about the excessive concern about the use of the Internet that results in psychosocial irregularities, academic difficulties and physical health problems for included individuals. Young (1998) was first to describe excessive and problematic internet use as an addictive disorder (with features such as tolerance, preoccupation and inability to cut back) and she is credited with coining the term 'internet addiction disorder.' Internet Addiction symptoms are yet not explained as disorder by DSM or ICD. However, symptoms of excessive Internet use have been compared to the criteria used to diagnose Internet Gambling Disorder (DSM-5).

Particularly, among senior secondary school students, the internet plays an integral role in their academic pursuits, social connections, and personal development. Internet addiction, characterized by excessive and compulsive internet use leading to negative consequences, has gained attention as a significant psychological issue affecting senior secondary school students on their overall well-being and academic performance. By examining the psychological determinants, both researcher and practitioners seek to gain insights into the reasons why some students develop addictive patterns of internet

use while others do not. Additionally, this research will contribute to developing targeted interventions to promote healthy internet use habits and mitigate the risks associated with excessive internet consumption.

The purpose of this study will not only contribute to the growing body of knowledge on internet addiction among senior secondary school students but also provide valuable insights for educators, parents, and mental health professionals. By addressing the psychological factors associated with internet addiction, we can work towards implementing evidence-based strategies to promote healthy internet use habits, foster academic success, and support the overall well-being of senior secondary school students in the digital era. We have a reasonable understanding of the etiology of internet addiction, stress and anxiety, but little is known about the Psychological Correlates of Internet addiction in Senior Secondary School Students. Thus, the aim of the present study is to investigate the *Psychological Correlates of Internet addiction in Senior Secondary School Students*.

### **Physical effects of internet addiction**

Adolescents with Internet dependence have irregular eating habits, sedentary behavior, and lack of physical activity, self-evaluation and interpersonal communication disorder. All of this can lead to obesity. Obesity also brings secondary risks such as Hyperinsulinemia, Hyperlipidemia, and Hypertension. There are very few studies available on the relationship between internet addiction and obesity in adolescents.

### **Psychosocial Effects of Internet Addiction**

There is a linear relationship between problematic internet use and social isolation, loneliness and reduced home-school-work performance. Similar to depression, it can be considered that the individual can use the internet excessively because of being alone in the society and that he may stay away from the society due to excessive internet usage. As a result, it is thought that the level of internet dependency of the people is increased, and the loneliness is also increased.

### **Cognitive Effects of Internet Addiction**

Computer games, virtual conversation, and internet addiction can cause academic success to fall as an obstacle to studying. In a study conducted with university students, it was found that internet use was twice as high in the students with low academic success. Another cognitive problem caused by long-term computer use is attention deficit hyperactivity disorder symptom.

### **Social Media and Internet Addiction**

Social Network Sites (SNS) is a virtual community where users create individual public profiles, interact with friends in real life, and meet other people based on common interests. Over the last few years, they have become a "global consumer phenomenon" with an exponential increase. However, contemporary scientific literature dealing with the addictive qualities of social networks on the Internet is scarce.

## REVIEW OF LITERATURE

**Deb and Roy (2022)** conducted a cross sectional study on the impact of internet addiction, depression, anxiety and stress among first year medical students after COVID-19 lockdown in India. The finding of the study reveals that 80.23% of the participants showed moderate levels of internet addiction. Strong positive correlation was found between anxiety and stress ( $r = 0.83, P < 0.05$ ), depression and anxiety ( $r = 0.92, P < 0.05$ ) and between depression and stress ( $r = 0.86, P < 0.05$ ).

Kumar, Kumar, Badiyani, Singh, Gupta, and Ismail (2018) in their study evidenced the prevalence of Internet addiction (6%) and depression (21.5%) respectively in first year dental students. Logistic regression analysis showed that individuals who were depressed (Odds Ratio=6.00,  $p$  value<0.0001\*) and scored less than 60% marks (Odds Ratio=6.71,  $p$  value<0.0001\*) were more likely to be addicted to Internet. study was to determine the prevalence of Internet addiction in adolescents of the urban areas of Kamrup district and assess its association with depression, anxiety, and stress.

In a study by Saikia, Das, Barman, and Bharali (2019) Majority (73.1%) of the respondents were females, and mean age was 17.21 years. The prevalence of Internet addiction was 80.7%. The main purpose of using Internet was social networking (71.4%) followed by study (42.1%), and majority (42.1%) reported spending 3-6 hours a day on internet. There was a significant association between Internet addiction and stress (odds ratio=12), depression (odds ratio=14), and anxiety (odds ratio=3.3).

Internet addiction is a behavioral addiction and not a substance addiction Jorgenson, Hsiao and Yen, (2016) and is not necessarily regarded with the same amount of seriousness. Because of the previously held belief that only a foreign substance could create chemical changes and dependencies in the brain, substance addiction has been considered far more harmful than behavioral addiction. However, both substance and behavioral addictions have the power to create behavioral, neurobiological and psychological changes in the individual, making all types of addictions detrimental.

Üneri, and Tanıdır (2011) in their study found depression scores positively correlated with IA (Internet Addiction) scores and IA scores of males which was significantly higher than IA scores of females.

## OBJECTIVES OF THE PRESENT STUDY

1. To examine prevalence of internet addiction among high secondary school students.
2. To study depression, anxiety and stress among high secondary school students.
3. To study the relationship between internet addiction and depression among high secondary school students.
4. To study the relationship between internet addiction and anxiety among high secondary school students.
5. To study the relationship between internet addiction and stress among high secondary school students.
6. To examine gender differences in internet addiction, depression, anxiety and stress among high secondary school students.

## **HYPOTHESES**

*H1:* Internet addiction will be prevalent among high secondary school students.

*H2:* There exist a significant positive relationship of internet addiction with depression, anxiety and stress among high secondary school students.

*H3:* Male and female students will not differ on internet addiction, anxiety, depression and stress.

## **METHOD**

In the present research, investigator had applied the analysis of Pearson's Correlation coefficient to answer the research hypotheses. Hence, the present study is of correlational in nature.

## **SAMPLE**

The total 100 students studying in class 11<sup>th</sup> and 12<sup>th</sup> and aged more than 16 years from different streams were included in the study and students suffering from psychological disorder and taking treatment were excluded from the study. The data were collected from the government and private schools of Panjab.

## **TOOLS USED**

### **Young's Internet Addiction Test (1998)**

It is a 20 item, 5-point likert scale which is used to measure the severity of internet addiction. It encompasses the extent to which internet use affects a subject's thoughts, feelings, behaviors, sleep patterns and functioning. Scores vary from 20 to 100 with 20–49 depicting an average online user who has complete control over his/her usage, 50–79 connoting a user having frequent problems due to internet usage and 80–100 signifying a user having a serious impact of internet on his life. The threshold used for defining internet addiction in this study was a score of 50 and above. In a recent study on internet addiction in Greek high school students, a score of 51 on IAT was proposed as the optimal cut-off point combining high sensitivity and specificity.

### **Depression Anxiety Stress Scale (DASS- 1995)**

The depression anxiety stress scale (DASS). Depression, anxiety, and stress were measured by using a Turkish version of the DASS (Lovibond & Lovibond, 1995). Turkish adaptation of the DASS had been done by Akın and Çetin (2007). The DASS is a 42 item self-report inventory that provides scores on three subscales: Depression (14-items), anxiety (14-items), and stress (14-items).

## **PROCEDURE**

Permission for participation of students was obtained from related chief departments and students voluntarily participated in the research. Completion of the questionnaires was anonymous and there was a guarantee of confidentiality. Measurement items were administered to the students in groups in the classrooms. Prior to administration of measures, all participants were told about purpose of the study. In this research, Pearson correlation coefficient was utilized to determine the relationships between internet addiction and depression, anxiety, and stress.

### **Data Analysis**

The data were analyzed by means of mean, standard deviations and Pearson's Correlation coefficient.

## RESULTS

Descriptive statistics were used to describe the data, mean values with standard deviations. Pearson's Correlation coefficient was used to assess the correlation between internet addiction, depression, anxiety and stress scores. The analyses of data are presented below:

*Under hypothesis H1:* Internet addiction will be prevalent among high secondary school students.

Table 1: Addiction, Depression, Anxiety and Stress among high secondary school students (N = 100)

Sl. No.	Variables	N	Mean	Std. Deviation
1	Internet Addiction	100	33.97	14.77
2	Depressions	100	5.46	4.57
3	Anxiety	100	5.42	3.82
4	Stress	100	6.17	3.91

Table 1 values are showing the mean and SD of the measured variables. The mean and SD value of the internet addiction comes out to be  $33.97 \pm 14.77$ , for the depression values are  $5.46 \pm 4.57$ , for the anxiety mean and SD values are  $5.42 \pm 3.82$  and for the stress the mean and SD are  $6.17 \pm 3.91$ . Given below is the graphical representation of the same.

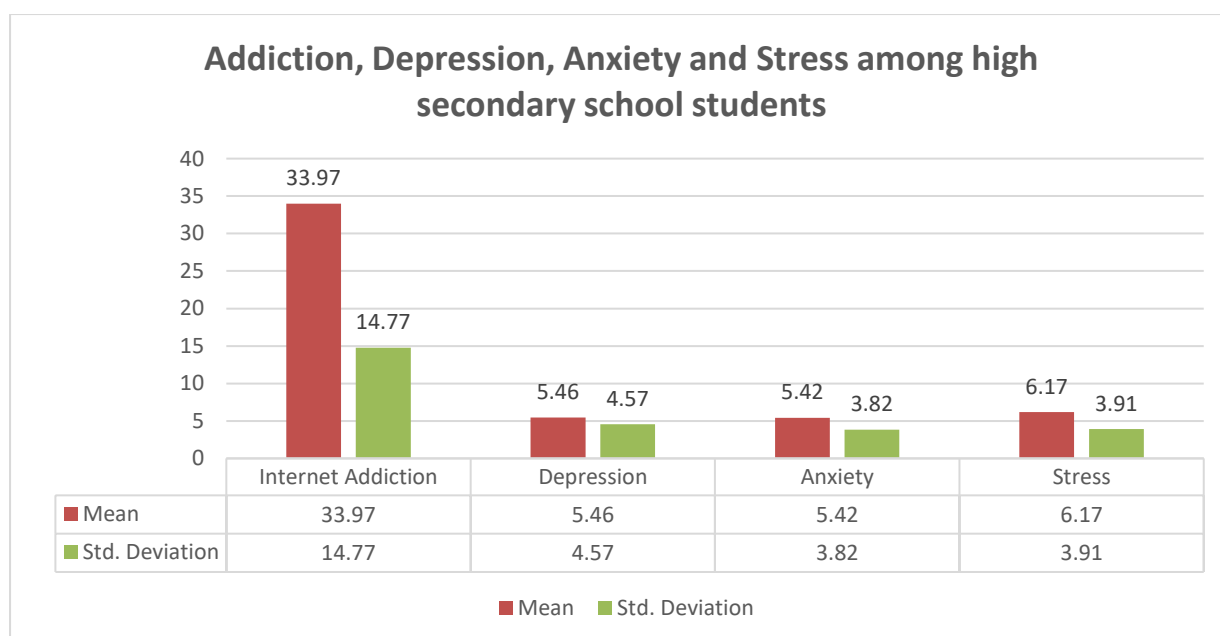


Fig 1: Addiction, Depression, Anxiety and Stress among high secondary school students

*Under Hypothesis (H2):* There exist a significant positive relationship of internet addiction with depression, anxiety and stress among high secondary school students.

Table 2: Correlation between Internet Addiction, Depression, Anxiety and Stress among high secondary school students

Variables		Internet Addiction	Depression	Anxiety	Stress
Internet Addiction	Pearson Correlation	1	.237**	.100	.202*
	Sig. (2-tailed)		.003	.212	.011
	N	100	100	100	100
Depression	Pearson Correlation	.237**	1	.361**	.468**
	Sig. (2-tailed)	.003		.000	.000
	N	100	100	100	100
Anxiety	Pearson Correlation	.100	.361**	1	.684**
	Sig. (2-tailed)	.212	.000		.000
	N	100	100	100	100
Stress	Pearson Correlation	.202*	.468**	.684**	1
	Sig. (2-tailed)	.011	.000	.000	
	N	100	100	100	100
** Correlation is significant at the 0.01 level (2-tailed).					
*Correlation is significant at the 0.05 level (2-tailed).					

Table 2 depicts the correlation between internet addiction, depression, anxiety and stress. Values depict significant positive correlation between internet addiction and depression ( $r = .237$ ,  $p < 0.01$ ). It means as the uses of internet increases the person will more depressed. It was also shows that there is significant positive correlation between internet addiction and stress ( $r = .202$ ,  $p < 0.01$ ). It revealed that when person spend more time with internet he/she detached from significant others, when one has no sound relationships with significant others, therefore he/she will more prone to become stressed.

Whereas the result of table 2 also revealed that there is no significant correlation between internet addiction and anxiety ( $r = .100$ ,  $p > 0.05$ ). Therefore H2 i.e. *There will be a significant positive relationship of internet addiction with depression, anxiety and stress among high secondary school students* is partially supported.

***Under Hypothesis (H3): Male and female students will not differ on internet addiction, anxiety, depression and stress.***

Table 3: Gender wise descriptive statistics among high secondary school students

Group Statistics					
variables	Gender	N	Mean	Std. Deviation	Std. Error Mean
Internet Addiction	Male	50	34.77	15.270	1.825
	Female	50	33.32	14.420	1.546
Depression	Male	50	5.37	4.489	.537
	Female	50	5.54	4.673	.501

Anxiety	Male	50	5.17	3.901	.466
	Female	50	5.62	3.770	.404
Stress	Male	50	5.79	4.064	.486
	Female	50	6.48	3.775	.405

In the above Table 3 the mean value of the male in internet addiction was 34.77 and for the females it was 33.32 and the SD value was 15.27 for the males and for the females it was 14.42. For the depression the mean and SD values found to be  $5.37 \pm 4.48$  for the males and for females it was  $5.54 \pm 4.67$ . For the anxiety among males the mean and SD value was  $5.17 \pm 3.90$  and for the females it was  $5.62 \pm 3.77$ . In the last dimension of the DASS that is stress the mean and SD for males was  $5.79 \pm 4.06$  and for the females the values were  $6.48 \pm 3.77$ . Given below is the graphical representation of the same.

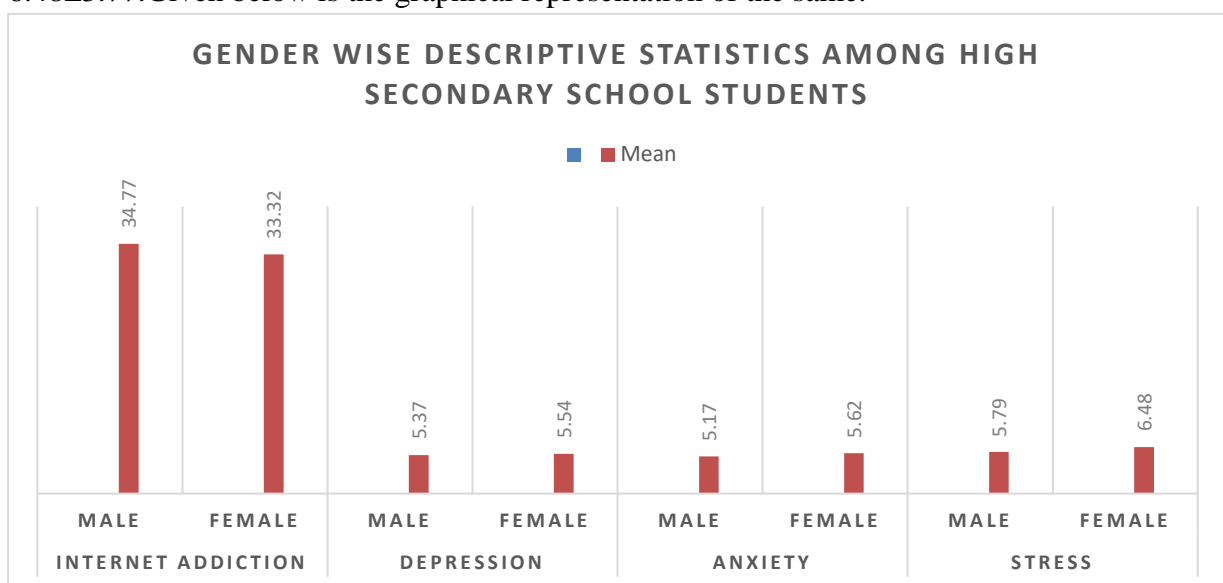


Fig 2: Graphical representation of Gender wise descriptive statistics of internet addiction, depression, anxiety and stress among high secondary school students.

Table 4: Gender Differences in terms of t value in internet addiction, depression, anxiety and stress among high secondary school students.

Variables	T	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Internet Addiction	1.280	.204	3.814	2.98	-2.100	9.729
Depression	.248	.805	.224	.905	-1.571	2.019
Anxiety	.519	.605	-.404	.778	-1.948	1.140
Stress	1.023	.309	-.798	.780	-2.347	.751



The above table showed the gender differences in all the measured variables viz. Internet addiction, depression, anxiety and stress. The value of  $t$  in the internet addiction comes out to be ( $t=1.28$ ,  $p>0.05$ ) and it is not significant. For the variable depression the ( $t=.248$ ,  $p>0.05$ ), for the variable anxiety( $t=.519$ ,  $p>0.05$ ) and for stress ( $t=1.023$ ,  $p>0.05$ ). The above result revealed that male and female students were not differed on measured variables viz. Internet addiction, depression, anxiety and stress. Therefore *H3* i.e., *Male and female students will not differ on internet addiction, anxiety and stress among high secondary school students* is supported.

## FINDINGS

1. There is significant positive correlation between internet addiction and depression among high secondary school students.
2. There is significant positive correlation between internet addiction and stress among high secondary school students.
3. There is significant positive correlation between internet addiction and anxiety among high secondary school students.
4. Male and female students (gender difference) were not differed on internet addiction, depression, anxiety and stress among high secondary school students.

## DISCUSSION

In this study, we tried to find the prevalence of Internet addiction and its various correlates in adolescents in higher secondary schools of Punjab and to find the association between this addiction to the Internet and depression, anxiety, and stress. The Mean value of prevalence of internet addiction is 33.97 among students. In a study conducted in Kamrup Assam (Saikia, Das, Barman Bharali (2019) the prevalence of internet addiction was 80.7%. In a study conducted in Assam (Saikia & et al., 2019), 80% were found addicts which accord with the findings of study from Lucknow (Piyush Upadhyay *et al.*, 2017) with 74.5% were potential addicts.

Present study finds no significant gender difference in the level of potential addicts among boys and girls which was in contrast with the studies by Hasanzadeh *et al.*, 2012 on adolescents on association between gender and Internet addiction, where male Internet addiction was found to be significantly higher. Findings was also in contrast with the study conducted by Saikia & et al., 2019 on secondary school students with higher level of Internet Addiction (84%) among female adolescents. Üneri and Tanıdır (2011) in their study found depression scores positively correlated with IAI scores and IAI scores of males which was significantly higher than IAI scores of females.

Previous Studies have found that there is a significant association between Internet addiction and psychological modalities such as depression, anxiety and stress ( $P < 0.0001$ ). (Seifi, Ayati, Fadaei, 2014; Akin, Iskender, 2011). This is similar to the findings from the present study.

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**Acknowledgement:** We would like to express our gratitude towards all who have participated in this research work, particularly the participants under study.

**Source of Support:** None

**Conflict of Interest:** None declared