



International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206

Volume 8, Issue 12, December 2025



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Mediating Role of Stress and Anxiety in the Relationship between Internet Addiction and Depression among Young Adults in Kerala

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ABSTRACT: The purpose of this study is to investigate the relationship between internet addiction and depression among young people in Kerala, as well as the moderating effect that stress and anxiety have in the connection between the two outcomes. The fact that an increasing number of studies have shown a connection between addiction to the internet and mental health problems, such as depression, has caused some people to raise concern. Within the scope of this investigation, the basic concept is that anxious sensations serve as a mediator between the association between internet addiction and depressive symptoms. A cross-sectional study will be conducted in order to determine the extent to which young people in Kerala are affected by addiction to the internet, stress, anxiety, and depression. This structural equation modelling data analysis is being conducted with the intention of determining the possible mediating roles that stress and anxiety play in the connection between internet addiction and depression. The preliminary findings suggest that there is a connection between addiction to the internet and depression, with stress and anxiety playing a moderating role in this connection. By calling attention to these mediating features, this study will contribute to the development of targeted mental health therapies that confront the complex dynamics of internet addiction and its psychological repercussions. These treatments will be able to help address the complex dynamics of internet addiction. Because they will pave the way for intervention programs that target anxiety and stress reduction in order to minimise the effect of depression, the results will be valuable for mental health practitioners who are treating young people.

KEYWORDS: Internet addiction, Depression, Anxiety, Stress, Young adults, Kerala, Mediation.

I. INTRODUCTION

The internet has grown so pervasive in today's world that it acts as a conduit for a broad variety of activities and makes available a platform for social interaction, entertainment, and the spread of information. On the other hand, internet addiction, which may be described as excessive use of the internet, is becoming an increasingly severe issue, particularly among young people. Those who belong to this demographic are more likely to have a variety of mental health issues as a result of their extensive use of the internet for activities such as schooling, socialising, and leisure. Young people in Kerala, a state with a high incidence of internet penetration, are more prone to exhibit symptoms of anxiety, sadness, tension, and stress. These symptoms may be made worse by spending an excessive amount of time online. Due to the complex nature of the relationship between internet addiction and mental health, there is a pressing need for further research to be conducted on the ways in which internet addiction exacerbates psychological suffering, particularly among young people.

There is a common misconception that internet addiction is characterised by an individual's inability to control or limit their usage of the internet, even when doing so would have negative consequences. A person who suffers from this condition spends an excessive amount of time on the internet, which has a severe influence on their health, relationships, and academic achievement. Even though obsessive gaming, excessive use of social media, and online browsing are the most prominent symptoms of internet addiction, it is important not to neglect the psychological connections that link these activities to mental health disorders such as stress, worry, and depression.



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Concerns about mental health among young people is depression

One of the most significant concerns about mental health among young people is depression. Those who are afflicted with depression often report experiencing feelings of moodiness, hopelessness, and a lack of enthusiasm in life. People who suffer from anxiety, on the other hand, often feel physical symptoms such as a racing heart and agitation in addition to the emotional sensations of dread, fear, and discomfort that they experience inside themselves. Another significant issue that affects young people is stress, which may be described as mental or emotional pressure brought on by sources that are external to the individual. In particular, this is true when considering the expectations that society and schools have of students. There is still a lack of clarity on the specific mechanisms that relate addiction to the internet to an increase in these mental health symptoms; nevertheless, research has shown a correlation between the two.

There seems to be a connection between compulsive internet use and feelings of depression; however, recent studies have shown that anxiety and stress may act as mediators of this correlation. It is possible that academic and social expectations might be difficult, and being addicted to the internet can make things even more unpleasant by enabling you to escape or distract yourself from the issues that you actually need to handle. The symptoms of depression may be exacerbated by worry in relation to social media, such as fear of missing out (FOMO) or comparison anxiety. Understanding the complicated connection between stress and anxiety and depression is essential for the development of effective treatments. Stress and anxiety are factors that impact the repercussions of internet addiction on depression.

Through the examination of the relationship between internet addiction and depression among young people in Kerala, the purpose of this research is to get an understanding of the influence that stress and anxiety have on the mediation process. The cross-sectional research approach will be used in this study to investigate a group of young individuals for the presence of symptoms associated with internet addiction, anxiety, stress, and depression. In order to investigate the relationship between internet addiction and depression, this study will use structural equation modelling. More specifically, the researchers will focus on the role that stress and anxiety play as mediators in this relationship. It has been hypothesised that excessive internet usage is linked to increased levels of stress and anxiety, which may exacerbate the effects of depression.

In order to shed light on the mental health issues that are related with internet addiction, the findings of this study will highlight the psychological processes that are the foundation of this connection. It is essential to have a solid understanding of the role that stress and anxiety play in order to effectively address the underlying psychological factors that contribute to internet addiction and the negative impacts it has. The use of this information might eventually lead to the development of individualised treatments for young people in Kerala. Because of this research, we will have a greater understanding of the challenges that young people in this current digital era face with regard to their mental health.

OBJECTIVE

1. To examine the mediating function of stress and anxiety in the association between depression and internet addiction in young adults in Kerala
2. To Internet dependence and stress, anxiety, and sadness

Research Questions:

1. Does internet addiction lead to increased levels of stress and anxiety in young adults?
2. To what extent do stress and anxiety mediate the relationship between internet addiction and depression?
3. What are the potential interventions to address the mediating role of stress and anxiety in internet addiction?

II. MATERIALS AND METHODS

A cross-sectional approach was used by researchers in the Kollam district of Kerala to conduct a survey of high school students who were residing in the metropolitan regions of the region from July to October of 2017. The Institutional Ethics Committee approved the experiment and encouraged its continuation. In order to be considered for participation in the study, participants were required to have made use of the Internet during the last half year. Both the students and the administration provided their respective written permissions after being fully briefed.



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As a result of the absence of reliable data and the wide variety of instances of Internet addiction that were reported, the value of P was determined to be 0.5. In order to get the total number of samples, we divided $4pq$ by l , where l was equal to 10% of the total amount of P. The total number of people in the sample was 440, and an oversampling of 10% was used in order to compensate for the inadequate response.

There were 103 colleges, and ten of them, which is ten percent of the total, were selected at random. We selected a class chosen at random from each of the educational establishments. If there were more than one stream at the institution, then one of them was selected at random, and if there were more than one section, then one of the sections was also selected and selected at random. In order to choose 22 students at random from the attendance records of each class, we used a lottery approach [Figure 1]. In the event that the selected student did not meet the prerequisites, the next number on the roster was considered for selection. The permission in question has already been granted by the principal of the institution.

Sample size=400, oversampling = 10 %, Total sample= 440

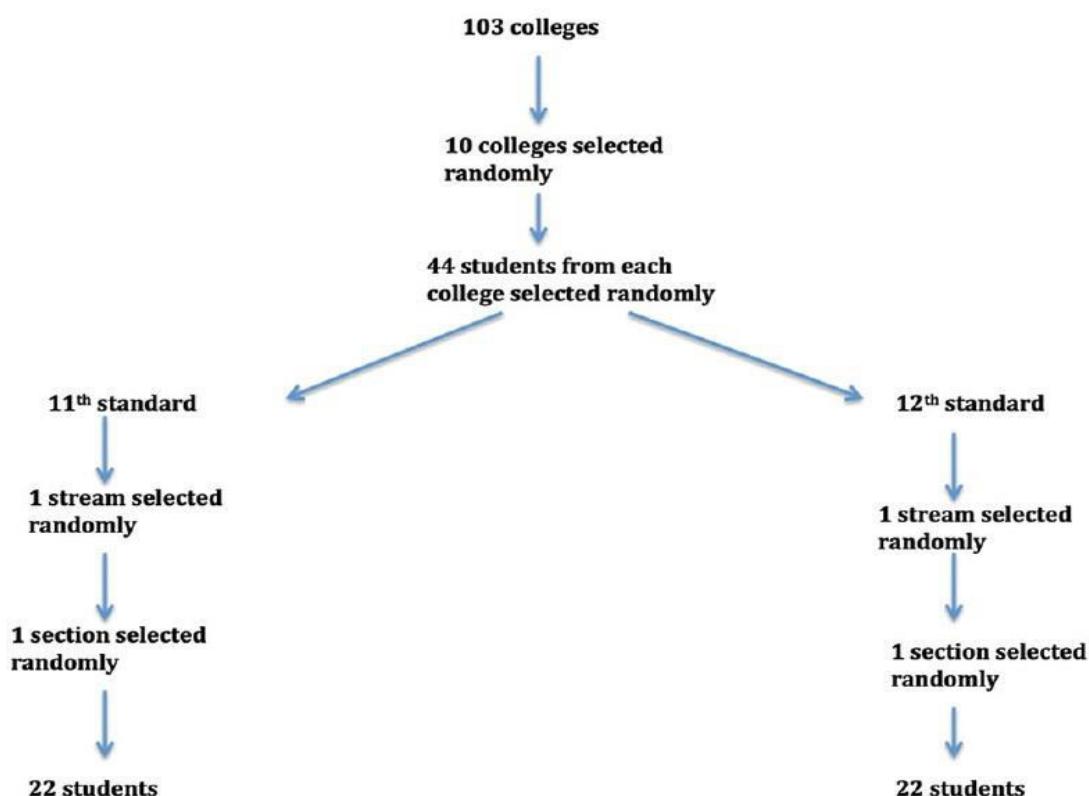


Figure 1

The sampling procedure used in the research

For the purpose of data collection, a questionnaire that was self-administered and had been verified and prepared in advance was used. Young's Internet Addiction Scale, which has been demonstrated to be more reliable for college students and likely for Asia, was the instrument that we used in order to assess how addicted people are to the Internet. In addition, we relied on the Depression Anxiety Stress Scales 21, which has been shown to be a trustworthy instrument in evaluating Internet addiction across a wide range of circumstances and demographics. A briefing was provided to the students before the implementation of the questionnaire. In accordance with the attendance record, questionnaires were distributed to students in a random fashion via the use of the lottery method. The data that was entered into an MS Excel sheet was analysed with the use of Statistical Package for the Social Sciences (SPSS) 22, which was developed by IBM in Chicago, Illinois, from the United States of America. Both Fisher's exact test and a chi-square test were used in order to answer the question of whether or not a difference was statistically significant.



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III. RESULTS

According to the data shown in Table 1, women constituted the significant majority of the respondents (73.1%). It was found that 17.2 years was the average age of people who reported having an addiction to the Internet. Individuals who were hooked to the Internet made up 80.7% of the total population, with 84.2% of those individuals being female and 71.4% being male. Upon doing an analysis of the various degrees of addiction, it was shown that 65.4% of the individuals displayed mild addiction, 13.46% exhibited moderate addiction, and 1.9% exhibited severe addiction. If we look at Table 1, we can see that 54 percent of the people who participated in the study either resided in a hostel or were paying guests at the residence of another individual.

Table 1 Characteristics of the study participants, and prevalence of Internet addiction by these characteristics (n=416)

Characteristic	Level of Internet addiction			
	No addiction	Mild addiction	Moderate addiction	Severe addiction
	N (%)	N (%)	N (%)	N (%)
Gender				
Female	32 (40.0)	74 (27.2)	2 (3.57)	4 (50.0)
Male	48 (60.0)	198 (72.8)	54 (96.4)	4 (50.0)
Living status				
Hostel/PG	40 (50.0)	113 (41.5)	33 (58.9)	6 (75.0)
Hostel/PG	40 (50.0)	159 (58.5)	23 (41.1)	2 (25.0)
Age (Years)				
16	10 (12.5)	80 (29.4)	6 (10.7)	3 (37.5)
17	30 (37.5)	95 (34.9)	35 (62.5)	2 (25.0)
18	31 (38.8)	58 (21.4)	8 (14.3)	1 (12.5)
19	9 (11.3)	39 (14.3)	7 (12.5)	2 (25.0)

Seventy-four percent of Internet use was attributed to social networking, with study coming in second at forty-two percent. This information is shown in Table 2, which reveals that 42.1% of the participants use the Internet for three to six hours each day.

Table 2 Internet use goals and usage duration by gender

	Males (n=112) (%)	Females (n=304) (%)
The reason for using the internet		
Study	39 (22.3)	136 (77.7)
Social media	57 (19.2)	240 (80.8)
Playing games and gambling online	33 (29.2)	80 (70.8)
Chatting	41 (31.8)	88 (68.2)
Others	56 (35.0)	104 (65.0)
Hours spent on internet		
<3	39 (34.8)	136 (44.7)
3-6	57 (50.9)	80 (26.1)
7-9	7 (6.3)	40 (13.2)
>9	9 (8.0)	48 (15.8)

persons who are addicted to the internet are more likely to suffer from major depressive disorder (odds ratio = 14, 95% confidence interval = 7.9-24.6), stress (odds ratio = 12, 95% confidence interval = 5.5-25.7), and anxiety (odds ratio = 3.3, 95% confidence interval = 1.9-5.6) than persons who are not addicted to the internet. The use of the internet to an excessive degree was shown to have a significant link ($P < 0.0001$) with mental health concerns such as depression,



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anxiety, and stress-related conditions. In accordance with the data shown in Table 3, a significant proportion of individuals who were addicted to the Internet also suffered from anxiety disorders (83.3% of them) and depression (85.7% of them).

Table 3 Internet addiction's correlation with anxiety, stress, and sadness (n=416)

Inter net addicti on	Depression				Anxiety				Stress			
	Presen t n	Absent n	Od ds rati o	95 % CI OR	Presen t n	Absent n	Od ds rati o	95 % CI OR	Presen t n	Absent n	Od ds rati o	95 % CI OR
Present	288	48	14	7.9- 24. 6	280	56	3.33	1.9- 5.6	192	144	12	5.5- 25. 7
Absent	24	56			48	32			8	72		

IV. DISCUSSION

The purpose of this study was to accomplish two things: (1) to ascertain the degree to which adolescents who are enrolled in urban higher education institutions in the Kollam district of Kerala are addicted to the Internet, and (2) to determine whether or not there is a connection between this addiction and mental health problems such as anxiety, stress, and depression. More qualitative research is required because of the high prevalence of Internet addiction, which was found to be 80.7% in this study by the researchers. Addiction to the internet, on the other hand, escapes simple classification. A study conducted in Lucknow revealed that seventy-four and a half percent had the potential to be addicted. A discovery that is in agreement with the findings that we discovered throughout our inquiry. According to the findings of another study conducted in North India, where 24 percent of participants reported a moderate degree of Internet addiction and 6 percent reported a severe level of addiction, our findings are lower than those of the other study. The fact that the research was carried out in a reputable research institution is one possible reason for the low rate of Internet addiction that was seen in the study.

According to the findings of our study, the average age of Internet addicts was 17.21 years. This finding is consistent with the findings of Bernardi and Pallanti's research, which discovered that the average age of addiction was 16.67 1.85 years.

On average, 84% of adolescent females were hooked to the Internet, but just 71.4% of boys were addicted to the internet. Previous studies on the subject of gender and Internet addiction among adolescents have shown that boys are far more likely to be addicted to the internet than females. However, the findings of the present study showed that the reverse is true. Given that our study was conducted at the time when classes were in session, it is possible that this may be explained by the higher percentage of female responders as well as the higher number of female students who were present in the classroom.

42.1% of the students who participated in our poll reported spending between three and six hours online on a daily basis. The percentage of students who reported accessing the Internet for more than nine hours per day was just 11.5%. A study, on the other hand, found that the average amount of time spent online by individuals is less than three hours per day by individuals. The research that was stated before featured students who were enrolled in professional courses that had substantial course syllabi, which left them with limited free time for Internet usage. On the other hand, our study involved students who were enrolled in basic college courses that included subjects such as arts, commerce, and sciences. Possibly, this is the reason for the disparity.

In terms of Internet use, the majority of people of both sexes utilised it for social networking (71.4%), followed by research (42.1%). An extensive body of research has shown a connection between excessive use of the Internet and a variety of mental health problems. These problems include, but are not limited to, concerns such as depression, stress,



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suicide thoughts, violent conduct, and antisocial behaviour. The findings of these studies provide evidence that supports our hypothesis that there exists a significant correlation between addiction to the Internet and mental health problems such as anxiety, stress, and depression ($P < 0.0001$). Because the research was conducted using a cross-sectional technique, it was not able to establish a causal relationship between addiction to the Internet and mental health conditions such as anxiety, stress, and depression.

Those who are addicted to the Internet use it as a means of coping with or ignoring their actual mental health problems. Even after doing extensive study, we were unable to establish whether or not this addiction was the primary cause of a number of mental health problems or only a symptom of those problems. Because of limitations in the research, the study did not make use of a qualitative research technique and had a smaller sample size than it would have otherwise.

V. CONCLUSION

Through an investigation of the role that stress and anxiety play as mediators, this study provides insight on the relationship between internet addiction and depression among young people in Kerala. This research adds support to the hypothesis that obsessive online browsing may be a contributing factor in the development of depression by elevating levels of stress and anxiety. Anxiety and stress are major mental health variables that contribute to the negative impacts of excessive internet use and the development of depressive symptoms, as these results give more evidence that these factors are involved. This study underlines the crucial need for mental health clinicians and politicians to grasp the linked nature of internet addiction, anxiety, stress, and depression. Specifically, this research focusses on the aforementioned. At the same time as reducing internet addiction is vital, it is also necessary to address the underlying psychological issues, such as anxiety and stress, that mitigate the influence that online addiction has on depression. Utilising stress-reduction strategies such as mindfulness practices, counselling, and time management strategies may be an effective way to assist young people in coping with the tensions that can lead to internet addiction and the mental health risks that are associated with it. The findings of this study provide a good foundation for future research that will investigate the factors that lead to addiction to the internet and the impact that it has on mental health. Furthermore, it underlines how destructive internet addiction is to the mental health of young people in Kerala and how urgent the need is for holistic approaches to mental health treatment. Moreover, it emphasises the need of addressing such issues.

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