Comparative Study

Comparative Analysis of Internet Addiction, Loneliness, and Depression between Indian and Indian-International Students

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ABSTRACT

Many changes have paved the way in our lives with the advancement of technology and changes in our lifestyles. The present century has witnessed substantial changes in the lives of modern man and the biggest changes in the lifestyle of humans have occurred due to the advancement of technology, especially with the accessibility of the Internet. Factors such as technology and moving to another country for higher education have bought gigantic changes in the lives of international students. Internet addiction refers to the inability to control the preoccupation with using the internet. Loneliness is described as an unpleasant emotion associated with the notion that one's social interactions, particularly their quality, are insufficient to meet one's social needs. Previous literature suggests that international students score higher on internet addiction and loneliness but no such study has been done on the students of Indian origin. The present study aims to understand the difference between scores of internet addiction, loneliness, and depression between Indian and Indian-international students. The research design used was between group design. t-test was computed to study the differences in Internet Addiction, loneliness and depression between both the groups of students. A significant difference was seen in the internet addiction and loneliness levels of Indian and Indian-international students whereas no such difference was seen in the scores on Beck's depression inventory.

Keywords: Indian students, Indian-international students, internet addiction, loneliness, correlation.

Internet Addiction

The Internet was started in the 1960s as a way for government users to send and receive information but was made accessible for public use by 1993. The number of users has increased by many folds since its public beginning in 1193. The Internet has made our lives easier and has turned the world into a global village. No information or knowledge is far from us because of one click of the internet but on the other hand, it has posed a very serious problem of its own addiction, referred to as Internet Addiction.

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The term Internet addiction is formed by the combination of two words internet and addiction. Addiction is a complex problem that makes someone unable to stop using something despite its harmful consequences and can cause mental or physical harm to themselves or to the people around them. Shaw & Black (2008), "Internet addiction is characterized by excessive or poorly controlled preoccupations, urges or behaviors regarding computer use and internet access that leads to impairment or distress." Internet addiction can lead to poor sleep or poor nutrition etc. People spend long hours of their day on the internet on activities such as online gambling, social media, streaming video apps like Netflix, YouTube; adult or pornography sites, online auctions or share markets, video gaming, online dating etc. People become so preoccupied with these activities that they forget their daily basic activities and even neglect their routine or office work leading to low productivity at work. They lose interest in other activities just to be online.

Due to the Covid-19 pandemic outbreak in 2020, people got locked inside their homes. They got cut from the outside world, one-to-one interaction got replaced with zoom calls or video conferencing, and whole office work just turned online as a result of which internet dependency increased. Offices and schools got completely shifted to work from home. This ultimately leads to an increase in internet addiction levels. Even the schoolwork of children got completely online because of restrictions. Increased internet usage during lockdown has posed serious problems for the citizens because of their dependency on these services. Since personal human interactions decreased because of the pandemic, eventually people found solace to their loneliness in the online world. When compared to pre-lockdown levels, utilization of Internet services has increased from 40% to 100%. Zoom, a video conferencing service, has seen a tenfold rise in usage, while Akamai, a content delivery provider, has seen a 30% increase in content utilization (Branscombe, 2020).

Compulsive computer use, pathological internet use, problematic internet use, online reliance, and even internetomania are some of the terms used to describe this phenomenon's many manifestations. The titles reflect a dispute between those who view the disease as involving any deviant or pathological computer use and those who only consider Internet use (Weinstein & Lejoyeux, 2010). Internet Addiction has been identified as a new clinical disorder because it causes work-related, relational, and other social problems. CBT has been proposed as the treatment of choice for Internet addiction, and CBT has been utilized as a part of treatment planning for addiction recovery in general (Young, 2011).

Loneliness
Loneliness has been defined as a "distressing feeling that accompanies the perception that one's social needs are not being met by the quantity or especially the quality of one's social relationships," (Hawkley and Cacioppo 2010).

Loneliness is a cognitive realization of insufficiency in the association of connection with others and experiencing emotions of prolonged hollowness (Ageing, 2014; Ascher & Paquetteue, 2003).

The need to belong refers to the belief that humans have a basic need to be welcomed into interpersonal relationships and to be a part of social groups. Because belonging is a must, humans must create and sustain a minimum number of long-term relationships. The need to belong or belongingness refers to the psychological need to affiliate with and be accepted by members of a group. One of the most powerful, ubiquitous, and important human

motivations is the need to develop and maintain a minimum number of social ties. Emotion, cognition, and behavior are all influenced by it. It defines self-esteem as an internal indicator of one's likelihood of having positive interactions (Baumeister, 2011).

Depression

Depression is a common and serious mood disorder. It is also known as major depressive disorder or clinical depression. Those suffering from depression experience persistent feelings of sadness, and hopelessness and lose interest in activities that were once enjoyable. Depression also leads to physical symptoms such as chronic pain or digestive issues. To be diagnosed with depression, symptoms must be present for at least two weeks. In layman's language, depression is often confused with sadness which is a normal human emotion that everyone experiences at some point in his or her life which can be experienced during different points like the death of a loved one, divorce, or any such event. A person suffering from depression feels sad or hopeless about everything and the ability to experience joy or pleasure is lost. It's important to note that stress is not a mental health issue. It usually has a clear catalyst, such as a move, divorce, or illness. As life events alter, stress usually dissipates. However, if stress is not relieved over an extended length of time, it can develop mental health issues such as anxiety and depression. Depression is a medically recognized mental health problem that requires treatment. While stress is often linked to life events, depression can strike even when things appear to be going well — and it can continue for years. The earliest age at which symptoms of early-onset childhood depression seem to appear is three. Anhedonia is defined as a decline in play enjoyment in young children. Pre-pubescent children, rather than the conventional symptoms of depression, were thought to have hidden symptoms such as stomach problems or acting out. Studies that validated depression in pre- pubescent children disputed this assumption, revealing that young children experience more of the fundamental signs of depression that adolescents and adults have, such as sad or irritable mood, sleep, and food disorders. (Brain & Behavior research foundation, 2007). According to the American psychiatric association, several factors can play a role in depression such as biochemistry which means certain chemicals in the brain may contribute to depression; genetics which means depression can run in families; personality which means that people with low self- esteem, who are easily stressed, or who are gloomy in general appear to be more likely to suffer from depression and environmental factors which means some people may be more susceptible to depression if they are constantly exposed to violence, neglect, abuse, or poverty. According to Smith & Blackwood (2018) Affective illnesses can strike at any age, but it's becoming obvious that people with recurrent and severe mood disorders generally have their first episode of sickness when they're very young. At this age, the clinical presentation of depression might be atypical, and it's typically worsened by personality issues and substance abuse. A large number of young persons with recurrent depression will develop bipolar disorder, which has serious implications for future pharmacological therapy options. According to Gandhi & Kishore (2020) in India, an estimated 57 million people (18% of the global estimate) suffer from depression.

International students

International students are those who study in foreign countries for higher education. Students across the globe go to countries like Germany, the United States, Canada, the United Kingdom, Australia, etc., for better education. Undoubtedly, students move to another country for better education and better employment opportunities but this experience can be really exhausting and challenging for them. Many changes take place in their lives

when they move from one nation to another for the purpose of education. Academic expectations in another country can be different and it might be challenging for students to adjust to the new academic system. When moving to another country, they find many cultural changes which further poses a challenge in front of students once again. They have to adjust to a completely different culture that has new expectations for them. Students across the globe go to countries like Germany, the United States, Canada, the United Kingdom, Australia, etc., for better education. This kind of investment yields them more benefits in the following decades. Depressive symptoms were found to be present in 47.7% of overseas students. Age, marital status, satisfaction with living conditions, problems with studies, food, homesickness, finances, housing, and health were all found to be significant predictors of depression (Jamilah, et al. 2021). International students have to deal with challenges like social isolation, social isolation, and cultural adjustment. Communication problems caused by professors, classmates, or staff members can also lead to academic challenges. When they participate in various group activities, they must deal with social isolation. They must tackle the various ways of thinking and acting in the new country from a cultural standpoint. To overcome these obstacles, students have relied on resources primarily supplied by the university. The universities must be prepared to better adjust these students and their needs (Neumann, 2015).

As per the report in the Times of India, 71k students went abroad in 2021 by April, after a drop of 55% in 2020. According to the Bureau of Immigration's data, Andhra Pradesh sends the highest number of students abroad for higher education. Canada, Germany, Australia, the United States, and Italy are the top five countries where Indian students choose to go abroad according to data collected by study portals.

In the present study we aim to understand the difference in internet addiction, loneliness and depression scores between Indian and Indian-international students.

Research Gap
Although, a lot of research has been done on internet addiction, loneliness, and depression but very less studies have examined internet addiction specifically in international students. In the Indian context, there is no such study available that tries to examine and compare the internet addiction, loneliness and depression levels of Indian International students (Indian students overseas) to the Indian students studying in their own country: India.

Motivation for the Study:
Every year thousands of Indian students move overseas to avail better educational and employment opportunities which places them into a completely new educational system and culture. India has a collectivistic culture as compared to the individualistic culture prevalent in most countries like Australia, The United States, Canada, New Zealand, Germany, etc. These sudden and big changes in the lives of students can have a huge impact on them and their behavior. Hence, stemmed the motivation for this study to see if these changes play any role in making the students addicted internet or make them feel lonelier in comparison to those students studying in their native country: India. While moving to another country students have to face a number of challenges. This study examines if those challenges are big even to create high depression levels among Indian- international students in comparison to Indian students studying in India.

Objectives of the study:

1. To study differences in internet addiction levels of Indian students overseas in comparison to Indian students studying in India.
2. To study differences in loneliness levels of Indian students overseas in comparison to Indian students studying in India.
3. To study the correlation between Internet addiction and loneliness.

Rationale and Hypotheses

Technology has caused drastic changes in the lives of people, especially students. The trend of moving abroad to pursue higher education has impacted many aspects of the lives of international students. Hence, it is necessary to understand if they are more depressed or lonelier in comparison to Indian students studying in India. These psychological changes are huge enough to impact other areas of life. Therefore, it is important to study if there are any differences in internet addiction levels of both groups of students.

- **H1:** Indian-international students will score higher on internet addiction test in comparison to Indian students studying in India.
- **H2:** Indian-international students will score higher on loneliness in comparison to Indian students studying in India.
- **H3:** Indian-international students will score higher on depression in comparison to Indian students.

METHODOLOGY

Sample

A total of 100 students comprising 50 Indian students overseas and 50 Indian students studying in India participated in the study. All the participants were in the age group of 18-25 years old. Participants were either students or working students. Those who weren't studying during the time of the survey were excluded from the study as the current study focuses on students. Also, those who weren't in the age group of 18-25 were also excluded so that uniformity could be ensured.

Sampling Technique

Convenient sampling and snowball sampling techniques were employed.

Design:

The design of the research was correlational and comparative. Comparative analysis was done to compare the internet addiction and loneliness levels of two groups of Indian students: Indian students studying in India and Indian students studying abroad (Indian International students).

Correlational analysis was done to understand the correlation between levels of internet addiction and loneliness; loneliness.

Tools Used:

Internet Addiction Test by Young: The Internet addiction test by Young was used to test the internet addiction levels of students. The test was developed by Kimberley Young in 1996. The test contains 20 statements that are related to assess the internet addiction levels. It is a self-report-type test. The responses are on the 5-point Likert scale from 0 to 5 with responses like not applicable, rarely, occasionally, frequently, often, and always. The participants are required to choose the option that best describes them. The choices are given

as 0, 1, 2, 3, 4, and 5 in the same order. The responses are based on how the participant felt most of the time during the one month. The statements were referred to offline situations unless specified otherwise. Subjects who earn a score of 80 or more are classified as "internet-addicted," while those who receive scores of 50 to 79 are classified as "having partial symptoms," and those who receive fewer than 50 points are classified as "not showing symptoms." IAT by Young has high face reliability. The first factor had a Cronbach internal reliability coefficient of.91, the second factor of.87, the third factor of.89, the fourth factor of.905, and the test as a whole had a Cronbach internal reliability coefficient of .90. The test had a Spearman- Brown value of .86 and a Guttmann Split-Half value of.85. All of these coefficients were acceptable for each element and the test as a whole, indicating that the test exhibited internal reliability (Keser, et al., 2013).

UCLA Loneliness Scale: The UCLA Loneliness scale was developed by a psychologist named Daniel Russell in 1996. The test contains 20items and is used to determine how often a person feels cut off from others. The test contains 4-point rating scale where 1= never; 2= rarely; 3= sometimes; and 4 = always. The participants are required to choose the option that best describes them. The test contains questions such as "How often do you feel alone?" and "How often do you feel close to others?" Item numbers 1, 5, 6, 9, 10, 15, 16, 19, and 20 are positively worded items and are reverse scored. Scores for each item are summed together and higher scores determine higher levels of loneliness. UCLA Loneliness Scale is a highly reliable test of loneliness, n terms of both test-retest reliability where r = .7,3 and internal consistency where coefficient alpha ranges from .89 to .94 (Russell, 1996).

Beck's Depression Inventory: The Beck Depression Inventory was developed by Aaron T. Beck in 1996. It is a 21-question multiple-choice self-report inventory that is one of the most extensively used psychometric tests for assessing depression severity. The BDI test involves a 21-item self-report utilizing a four-point scale ranging from 0 (no symptom) to 3 (extremely strong symptom). It takes about 5 to 10 minutes to finish the test. Each question contains four statements out of which the scorer has to select the one that best describes him. It contains statements such as "I do not feel sad"; "I feel sad the time and I can't snap out of it" etc. There is no time limit for the test. Scores for each item are summed together and higher scores determine higher levels of depression. The highest possible total for the whole test would be sixty-three. This would mean the subject circled number three on all twenty-one questions. Scores between 1-10 show normal ups and downs whereas scores above 40 mean extreme depression. It has a high week test-retest reliability of r = 0.93 (suggesting robustness against daily variations in the mood) and an internal consistency of α = 91. (Jackson Koku, 2016).

Technology
Due to the inability to travel abroad to collect the sample of international students, the samples were collected online via google forms. SPSS was used for statistical analysis.

Procedure
The participants were sent the questionnaire through e-mail and other social networking sites. Some participants who could be reached personally filled out the questionnaire in the presence of the administrator. Informed consent was taken from the participants, upon agreeing to which they participated in the study. They were informed that their data will be used only for research purposes and will be kept completely confidential. Participants were asked to provide their demographic information, followed by questions such as how much

time was being spent online, and activities they were mostly indulged in while being online. Followed by these subjective questions, the participants responded to questions on the Internet Addiction scale and Loneliness scale. The subjects were asked to select the option that most applies to them. The participants were instructed in the beginning that there are no right and wrong answers. No time limit was set for responding to the scales.

Analysis
The data analysis was done using Statistical Package for Social Science (SPSS-21.0) where descriptive statistics (mean and standard deviation), and t-test were computed.

RESULTS

A comparative analysis was done to compare levels of internet addiction and loneliness levels between Indian and Indian-international students. Pearson correlation analysis was computed to find out the correlation between internet addiction and loneliness. Descriptive statistics, correlation and t-test were computed using SPSS 21.0.

Internet addiction and loneliness in Indian and Indian-international students
Table 1.1 Descriptive statistics

Variable		N	M	SD
Loneliness	Indian Students	50	42.87	12.064
	Indian-international students	50	44.05	11.818
Internet Addiction	Indian students	50	43.17	17.230
	Indian-international Students	50	54.19	17.357

Table 1 shows the descriptive statistics for loneliness and Internet addiction in Indian students and Indian International students. The mean and standard deviation for the loneliness of Indian students was found to be 42.87 and 12.064 respectively. The mean and standard deviation for the loneliness of international students was found to be 44.05 and 11.818 respectively. The mean and standard deviation for internet addiction of Indian students was found to be 43.17 and 17.230 respectively. The mean and standard deviation for internet addiction of Indian international students was found to be 54.19 and 17.357 respectively. The standard deviation of loneliness of Indian students was found to be 12.064 which was a little higher than the standard deviation for Indian-international students. The mean value of both internet addiction and loneliness of Indian-international students was higher than Indian students.

t-test
Table 1.2 Difference in levels of internet addiction in Indian students and Indian International Students

	N	df	t	Sig.
Internet Addiction	100	98	3.790	.00

Table… shows (t = 3.790, p<.05) which is significant. Hence, a significant difference was seen in internet addiction levels of Indian and Indian-international students.

This indicates the two groups of students that Indian students and Indian-international students have differences in their internet addiction levels. Indian-international students scored higher on internet addiction in comparison to Indian students.

Table 1.3 Difference in loneliness levels in Indian students and international students (Indian International students)

	N	df	t	Sig.
Loneliness	100	98	.848	.234

Table 1.3 shows (t = .848, p>0.05) which is not significant. Hence, no significant difference was seen in loneliness levels of Indian students and Indian-international students.

Table1.4 shows the t-test computed to find out differences in depression levels of Indian and Indian-international students.

	N	df	t	Sig.
Depression	100	98	3.117	.002

Table 1.4 shows (t=3.117, p<.05) which is significant. Hence, a significant difference was seen in the depression levels of Indian and Indian-international students.

DISCUSSION

This study was undertaken with the aim to study the differences in internet addiction scores, loneliness scores and depression scores between two groups of students of Indian origin: Indian students and Indian-international students.

Indian-international students will score higher on internet addiction in comparison to Indian students studying in India.

The first hypothesis stated that Indian International students will be more addicted to the internet as compared to those studying in their native country India. A t-test was computed to study the difference in the levels of internet addiction in both the groups of Indian students. The t-test computed was found to be significant that is significant difference was found in the internet addiction levels of Indian students and Indian international students. Hence, our first hypothesis was accepted. This might be because, when students move away from their home country, they have to face many challenges such as cultural adaptation. The result is in coherence with some similar studies. A study was conducted by Li & Liu (2021) among international college students in the United States. They reported international students were more addicted to internet because of the potential influence of acculturative stress.

Indian-international students will score higher on loneliness in comparison to Indian students.

The second hypothesis stated that Indian international students will score higher on loneliness in comparison to Indian students studying in India. A t-test was computed to study the difference in the levels of loneliness in both the groups of Indian students. The t-test computed was found to be insignificant that is no significant difference was found in the loneliness levels of Indian students and Indian international students. Hence, our second hypothesis was rejected. In the present century the Indian society is also becoming more individualistic in comparison to earlier. The students moving to western countries are also entering individualistic culture. Moreover, the internet has turned the world into a global

village which has reduced the differences among different nations. Therefore, no significant difference was seen in the loneliness scores of Indian and Indian-international students.

Indian-international students will score higher on depression in comparison to Indian students.

The third hypothesis stated that Indian-international students will score higher on depression in comparison to Indian students studying in India. A t-test was computed to study the differences in scores on Beck's depression inventory of both the groups of Indian students. The t-test computed was found to be significant that is significant difference was found in the depression levels of Indian students and Indian international students. Indian-international students scored higher on Beck's depression inventory in comparison to Indian students studying in India. Hence, our third hypothesis has been accepted. International students have to face many challenges while adjusting in different social situations of the other countries. A study was conducted by Jamilah et al. (2020) in Bangladesh to study depression and associated factors among international students. The depressive symptoms were prevalent among 47.7% of international students. Age, marital status, happiness with living conditions, and problems with schoolwork, food, homesickness, finances, housing, and health were all linked to depression in students.

CONCLUSION

The present study examined the differences in internet addiction, loneliness, and depression scores of Indian and Indian-international students. A significant difference was seen in the internet addiction and depression scores of both students, whereas no such difference was seen in the scores on the loneliness scale. Hence, Indian-international students scored higher than Indian students on the internet addiction scale and Beck's depression inventory indicating that changes that occur in the lifestyle of students while moving to other countries contribute to such changes.

Implications

The present study highlights internet addiction and depression scores are higher in Indian-international students than in those studying in India, which is a matter of concern. Support groups of international students have to be more active and forthcoming for the welfare of international students. The university counseling cells must pay more attention to the mental health of international students. Universities must pay more attention to student engagement so that international students do not feel excluded and feel themselves to be the part of the community. Stronger enculturation efforts must be made for international students.

Limitations

Many lifestyle differences prevalent in both groups of students could not be taken into consideration. Half of the data was collected offline, whereas some data was collected online as Indian-international students could not be reached in person. Convenient and snowball sampling techniques had to be employed, which are non-probability sampling techniques.

Scope for future research

Further exploration can be done on loneliness levels between Indian and Indian-international students. Since no such difference was found in the present study. This study has significant scope for future research as it has not been studied extensively in the Indian context. This topic of research can be further studied by keeping in mind some other variables also.

Changes in lifestyle or adjustment can also be taken into consideration to understand Internet addiction and loneliness. Further, Internet addiction and loneliness can also be studied in relation to other variables such as parental controls, academic achievement, etc.

REFERENCES

Asher, S. R., & Paquette, J. A. (2003). Loneliness and peer relations in childhood. *Current di* Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of behavioral medicine*, *40*(2), 218-227.*rections in psychological science*, *12*(3), 75-78.

Baumeister, R. F. (2011). Need-to-belong theory. *Handbook of theories of social psychology*, *2*, 121-140.

Branscombe, M. (2020). The network impact of the global COVID-19 pandemic. *New Stack*.

Jackson-Koku, G. (2016). Beck depression inventory. *Occupational Medicine*, *66*(2), 174-175.

Jamilah, A., Haque, M. I., Muhammad, F., Harun, M. G. D., Chowdhury, A. A., Akramuzzaman, M., ... & Kabir, R. (2020). Depression and associated factors among international students in a private university of Bangladesh. *Global Psychiatry*.

Jamilah, A., Haque, M. I., Muhammad, F., Harun, M. G. D., Chowdhury, A. A., Akramuzzaman, M., ... & Kabir, R. (2020). Depression and associated factors among international students in a private university of Bangladesh. *Global Psychiatry*.

Jamilah, A., Haque, M. I., Muhammad, F., Harun, M. G. D., Chowdhury, A. A., Akramuzzaman, M., ... & Kabir, R. (2020). Depression and associated factors among international students in a private university of Bangladesh. *Global Psychiatry*.

Keser, H., Eşgi, N., Kocadağ, T., & Bulu, Ş. (2013). Validity and Reliability Study of the Internet Addiction Test. *Mevlana International Journal of Education*, *3*(4).

Keser, H., Eşgi, N., Kocadağ, T., & Bulu, Ş. (2013). Validity and Reliability Study of the Internet Addiction Test. *Mevlana International Journal of Education*, *3*(4).

Li, J., & Liu, X. (2021). Internet addiction and acculturative stress among international college students in the United States. *Journal of International Students*, *11*(2), 361-376.

Neto, F. (2014). Psychometric analysis of the short-form UCLA Loneliness Scale (ULS-6) in older adults. *European Journal of Ageing*, *11*(4), 313-319.

Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of personality assessment*, *66*(1), 20-40.

Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of personality assessment*, *66*(1), 20-40.

Shaw, M., & Black, D. W. (2008). Internet addiction. *CNS drugs*, *22*(5), 353-365.

Weinstein, A., & Lejoyeux, M. (2010). Internet addiction or excessive internet use. *The American journal of drug and alcohol abuse*, *36*(5), 277-283.

Wu, H. P., Garza, E., & Guzman, N. (2015). International student's challenge and adjustment to college. *Education Research International*, *2015*.

Young, K. S. (2011). CBT-IA: The first treatment model for internet addiction. *Journal of Cognitive Psychotherapy*, *25*(4), 304-312.

Young, K.S.: Internet addiction: the emergence of a new clinical disorder. Cyber Psychology & Behavior 1, 237–244 (1998).