

Correlational analysis of Internet Effect on Anxiety and Depression

Shailja Bisen¹, Dr. Yogesh A. Jogsan²

¹Research Scholar, Department of Psychology, Saurashtra University

²Professor & Head of Department, Department of Psychology, Saurashtra University

Abstract:

The growing ubiquity of internet usage has prompted increasing concern regarding its psychological impacts, particularly its relationship with anxiety and depression. This study aims to explore the correlation between internet use patterns and levels of anxiety and depression among individuals across various age groups. Utilizing a cross-sectional survey design, data were collected from a sample population through validated instruments, including the Internet Addiction Test (IAT), Beck Depression Inventory (BDI) and A measure of State, Trait, and Free-floating Anxiety. Correlational analyses were performed to assess the strength and direction of associations between internet usage intensity, type of online activity, and reported mental health outcomes. The findings indicate significant positive correlations between excessive internet use—particularly social media and late-night usage—and higher levels of anxiety and depression. These results underscore the need for more nuanced research into digital habits and support the development of interventions to promote healthier internet engagement. Implications for mental health professionals and digital literacy educators are discussed.

Keyword: Internet addiction, Depression, anxiety, correlational study, youth, digital addiction

Introduction:

INTERNET ADDICTION

The Internet is a new too; that is evolving into an essential part of everyday life all over the world and its use increases especially among young people. Despite the widely perceived merits of the tool, psychologists and educators have been aware of the negative impacts of its use, especially the over or misuse and the related physical and psychological problems (Greenfield, 2000). One of the most common of these problems is Internet addiction (Murali & George, 2007; Shapira, Lessig, Goldsmith et al., 2003; Young, 1998).

Internet addiction is typically characterized by psychomotor agitation, anxiety, withdrawal, impairment of function, reduced decision-making ability, craving, depression, hostility, substance experience, loss of control, withdrawal, and constant online surfing despite negative effects on social psychological welfare (Shaw & Black, 2008; Tao et al, 2010).

Internet addiction disorder (IAD), now more commonly called **problematic Internet use (PIU)**, **compulsive Internet use (CIU)**, **Internet overuse**, **problematic computer use**, **pathological computer use**, or **I Disorder**, refers to excessive computer use which interferes with daily life.

IAD was originally proposed as a disorder in a satirical hoax by Ivan Goldberg, M.D., in 1995, although some later researchers have taken his essay seriously. He took pathological gambling, as diagnosed by the

Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), as his model for the description of IAD. IAD receives coverage in the press, and the possible future classification of it as a psychological disorder continues to be debated and researched in the psychiatric community. A systematic review of PIU literature identified the lack of standardization in the concept as a major impediment to advancing this area of study.

Other habits such as reading, playing computer games, or watching very large numbers of Internet videos, such as those on YouTube, are troubling only to the extent that these activities interfere with normal life. IAD is often divided into subtypes by activity, such as gaming; online social networking; blogging; email; excessive, overwhelming, or inappropriate Internet pornography use; or Internet shopping (shopping addiction). Opponents note that compulsive behaviors may not necessarily be addictive.

Internet addiction is a subset of a broader "technology addiction." Widespread obsession with technology goes back at least to radio in the 1930s and television in the 1960s, but it has exploded in importance during the digital age. A study published in the journal *Cyber psychology, Behavior, and Social Networking* (2014) suggests that prevalence of Internet addiction varies considerably among countries and is inversely related to quality of life.

Classification

Internet addiction disorder is not listed in the latest DSM manual (DSM-5, 2013), which is commonly used by psychiatrists. Gambling disorder is the only behavioral (non-substance related) addiction included in DSM-5. However, Internet gaming disorder is listed in Section III, Conditions for Further Study, as a disorder requiring further study.

Jerald J. Block, M.D. has argued that Internet addiction should be included as a disorder in the DSM-5. However, Block observed that diagnosis was complicated because 86% of study subjects showing symptoms also exhibited other diagnosable mental health disorders.

Issues with identifying diagnostic criteria

The addiction to 'cyber-sex', 'cyber relationships', 'net compulsions', 'information and research' and 'computer gaming' are categories explained by Young 1999, that relate to the 'broad' term Internet Addiction. The addictive stimulus associated with an 'Internet addiction' is technically a rewarding and reinforcing stimulus which is transmitted via the internet, as opposed to exposure or access to the Internet itself; hence, "Internet addiction" is a misnomer.

A study carried out by Young discovered that over half of people considered 'Internet-dependent' were new users of the Internet, and are therefore more 'inclined' to use the Internet regularly. She also discusses the fact that 'Non-dependent' users had been using the Internet for more than a year, suggesting that over use of the Internet could 'wear off over time'.

It is difficult to detect and diagnose someone with 'Internet Addiction' as it is a 'highly promoted tool'.

Net compulsions

Compulsive online gaming, online gambling, and use of online auction sites are all classed as categories of Internet Addiction that are said to often result in financial and job-related problems. Internet users can become easily addicted to these types of online activity, rather than the Internet itself.

The ACE model helps to explain compulsive online use.

Accessibility. Because of the convenience of the Internet, users now have easy and immediate access to gambling, shopping, and gaming at any time of day, without the hassles of everyday life (e.g. travelling

or queues).

Control. Users are in control of their own online activity. With the use of newer technology such as tablet computers, users can engage with the Internet without others knowing about it.

Excitement. Internet users often get an excited feeling of a 'rush' or a buzz that they get when winning. Gambling, gaming, and online bidding all potentially result in a win. Users will use the net as a way of gaining this emotion.

Internet users can become addicted to playing online games, gambling, and shopping through the feeling it gives them. These online activities can create the feeling of convenience, independence, and excitement, which makes the user want to do it again.

Internet addiction and pornography

Young (1999), a founding member of The Centre for On-Line Addiction claims Internet addiction is a broad term that covers a wide variety of behaviors and impulse control problems. She claims this is categorized by five specific subtypes including:

1. Cyber sexual addiction: compulsive use of adult websites for cybersex and cyber porn.
2. Cyber-relationship addiction: Over-involvement in online relationships.
3. Net compulsions: Obsessive online gambling, shopping, or day-trading.
4. Information overload: Compulsive web surfing or database searches.
5. Computer addiction: Obsessive computer game playing.

Hyper sexuality has become an enduring focus of empirical consideration in recent years (Kafka, 2010). The study of compulsive Internet pornography use as a sub domain of hyper sexuality has also become a prevalent empirical focus in recent years. Internet pornography use is increasingly common in Western cultures (Carroll et al. 2008). In tandem with this increase, the mental health community has witnessed a dramatic rise in problematic Internet pornography use (Manning, 2006; Warden et al. 2004; Owens, Behun, Manning, & Reid, 2012).

Joshua B. Grubbs, a specialist in Addictive Behavior Patterns, outlines in the journal: Internet Pornography Use: Perceived Addiction, that at present there is no widely accepted means of defining or assessing problematic Internet pornography use and the notion of Internet pornography addiction is still highly controversial.

Cyber-relationship addiction

Cyber-relationship addiction is one impulse-control problem that is covered within the Internet addiction disorder. It has been supported by different articles over the years, including Ramdhonee's *"Psychological impact of internet usage on children and adolescents"* and Young's *Internet addiction: Symptoms, evaluation, and treatment*.

A cyber-relationship addiction has been described as the addiction to social networking in all forms. Social networking such as Facebook and online dating services such as UniformDating.com along with many other communication platforms, creating a place to communicate with new people. Virtual online friends start to gain more communication and importance over time to the person becoming more important than real-life family and friends.

Cyber-relationships are in essence a virtual relationship or form of communication between two people. Visuals are removed as it is communication through text; all you know of a person is what they are communicating to you and what is displayed on their profile. Some people "will be attracted to the silent,

less visually stimulating, non-tactile quality of text relationships - which may be true for some people struggling to contain the over-stimulation of past trauma. A person's ambivalence about intimacy may be expressed in text communication because it is a paradoxical blend of allowing people to be honest and feel close while maintaining their distance. People suffering with social anxiety or issues regarding shame and guilt may be drawn to text relationships because they cannot be seen. Some people even prefer text because it enables them to avoid the issue of physical appearance which they find distracting or irrelevant to the relationship. Without the distraction of in-person cues, they feel they can connect more directly to the mind and soul of the other person. Text becomes a transitional space, an extension of their mind that blends with the extension of the other person's mind".

Issues within cyber-relationship addiction

Cyber-relationships can often be more intense than real-life relationships, causing addiction to the relationship. With the ability to create whole new personas, people can often deceive the person they are communicating with. Everyone is looking for the perfect companion but the perfect companion online is not always the perfect companion in real life. Although two people can commit to a cyber-relationship, while offline, one of them could possibly not be the person they are claiming to be online.

Catfish"

There are people who deliberately create fake personal profiles online with the intention of tricking an unsuspecting person into falling in love with them. These people are known as "catfish". The term "catfish" is derived from the title of a documentary film released in 2010; in which New York photographer Nev Schulman discovers the woman he had been continuing a cyber-relationship with had not been honest whilst describing herself. Following the film, Schulman developed the MTV series *Catfish: The TV Show*, which premiered in 2012. Executive producer Tom Forman described the series as follows: "Whether or not two people are totally lying to each other and it turns out to be a huge disaster, that's only the first part of the story. We then want to know why they are doing it, who they are, what they are feeling, what led them to this place, and why that resonates with thousands of other young people who have the same feelings, who do not have someone to talk to or do not know how to express themselves".

Criteria

Griffiths criteria

Mark D. Griffiths' six criteria of Internet addiction are:

1. **Salience:** When the use of the Internet becomes the more important activity in an individual's life and dominates their thinking (pre-occupations and cognitive distortions), feelings (cravings), and behaviour (deterioration of socialized behaviour). For example, even when the person is "off line," they are thinking about the next time they will be on line.
2. **Mood modification:** The positive subjective experiences which people report because of engaging in Internet use and which can be seen as a coping strategy for them (i.e. they experience an arousing "buzz" or a "high," or they experience a tranquilizing feeling of "escape" or "numbing").
3. **Tolerance:** The process by which users increase the level of Internet use they partake in, to achieve its mood-modification effects. There is a tendency to gradually increase the amount of time spent on line, to expand or extend those effects.
4. **Withdrawal symptoms:** The unpleasant feeling-states and/or physical effects which occur when Internet use is discontinued or suddenly reduced. Withdrawal symptoms might include shakiness, mo-

odiness, or irritability.

5. **Conflict:** The various conflicts emerging because of the person's excessive Internet use: interpersonal conflict; conflicts with other activities (e.g., job, social life, other interests); or conflicts within the individual (intrapsychic conflict and/or feelings of loss of control).
6. **Relapse:** The tendency for repeated reversals to, or recurrence of, prior behavioural patterns. Even the most extreme patterns of excessive Internet use or addiction can be rapidly restored by the user – even after periods of abstinence or controls.

Related disorders

Online gambling addiction

According to David Hodgins, a professor of psychology at the University of Calgary, online gambling is as serious as pathological gambling. It is known as an "isolated disorder" which means that those who have a gambling problem prefer to separate themselves from interruptions and distractions. Because gambling is available online, it increases the opportunity for problem gamblers to indulge in gambling without social influences swaying their decisions. This is why this disorder has become more a problem at this date in time and is why it is so difficult to overcome. The opportunity to gamble online is almost always available in this century opposed to only having the opportunity in a public forum at casinos for example. Online gambling has become quite popular especially with today's adolescents. Today's youth have a greater knowledge of modern software and search engines along with a greater need for extra money. So not only is it easier for them to find opportunities to gamble over any subject, but the incentive to be granted this money is desperately desired.

Online gaming addiction (Internet gaming disorder)

Video game addiction is a known issue around the world. Incidence and severity grew in the 2000s, with the advent of broadband technology, games allowing for the creation of avatars, 'second life' games, and MMORPGs (massive multiplayer online role-playing games). World of War craft has the largest MMORPG community on-line and there have been several studies about the addictive qualities of the game. Addicts of the game range from children to mature adults. A well-known example is Ryan van Cleave, a university professor whose life declined as he became involved in online gaming. Andrew Doan, MD, PhD, a physician with a research background in neuroscience, battled his own addictions with video games, investing over 20,000 hours of playing games over a period of nine years.

Online gaming addiction may be considered in terms of B.F. Skinner's theory of operant conditioning, which claims that the frequency of a given behavior is directly linked to rewarding and punishment of that behavior. If a behavior is rewarded, it is more likely to be repeated. If it is punished, it becomes suppressed.

Communication addiction disorder (compulsive talking)

Communication addiction disorder (CAD) is a supposed behavioral disorder related to the necessity of being in constant communication with other people, even when there is no practical necessity for such communication. CAD had been linked to Internet addiction. Users become addicted to the social elements of the Internet, such as Facebook and YouTube. Users become addicted to one-on-one or group communication in the form of social support, relationships, and entertainment. However, interference with these activities can result in conflict and guilt. This kind of addiction is called social network addiction.

Virtual reality addiction

Virtual reality addiction is an addiction to the use of virtual reality or virtual, immersive environments. Currently, interactive virtual media (such as social networks) are referred to as virtual reality, whereas

future virtual reality refers to computer-simulated, immersive environments or worlds. Experts are comparing the use of virtual reality (both in its current and future form) to the use of drugs, bringing with these comparisons the concern that, like drugs, users could possibly get addicted to virtual reality.

Treatments

Since Internet addiction disorder is a relatively new phenomenon, there is little research on the effectiveness of treatment procedures. Some professionals advocate abstinence from the Internet. Others argue that it may be unrealistic to have a person completely end all Internet use. Learning how to use the Internet in moderation is often the main objective in therapy, in a way analogous to the way that people with eating disorders need to come to terms with food. Many of the procedures that have been used to treat Internet addiction have been modeled after other addiction treatment programs and support groups. If a person's Internet addiction disorder has a biological dimension, then such medication as an antidepressant or anti-anxiety drug may help them with these aspects of the addiction. Psychological interventions may include such approaches as changing the environment to alter associations that have been made with Internet use, or decrease the reinforcement received from excessive Internet use. Psychological interventions may also help the person identify thoughts and feelings that trigger their use of the Internet. Interpersonal interventions may include such approaches as social skills training or coaching in communication skills. Family and couple therapy may be indicated if the user is turning to the Internet to escape from problems in these areas of life.

Relapsing into an addictive behavior is common for anyone dealing with addiction disorders. Recognizing and preparing for relapse is often a part of the treatment process. Identifying situations that would trigger excessive Internet use and generating ways to deal with these situations can greatly reduce the possibility of total relapse.

Prognosis

Although extensive studies have not yet been done, treatment appears to be effective in maintaining and changing the behavior of people drawn to excessive use of the Internet. If the disorder is left untreated, the person may experience an increased amount of conflict in his or her relationships. Excessive Internet use may jeopardize a person's employment or academic standing. In addition, such physical problems may develop as fatigue, carpal tunnel syndrome, back pain, and eyestrain.

Prevention

If a person knows that he or she has difficulty with other forms of addictive behavior, they should be cautious in exploring the types of application that are used on the Internet. In addition, it is important for people to engage in social activities outside the Internet. Finally, mental health workers should investigate ways in which to participate in the implementation of new technology rather than waiting for its aftereffects.

Objective

The main objective of the present study is to identify the relationship between psychological distress (anxiety and depression) and internet addiction. The other relevant objectives of proposed study related to main objective of the study are following:

1. To assess the relationship between Internet Addiction and state anxiety.
2. To assess the relationship between Internet addiction and trait anxiety.
3. To assess the relationship between Internet addiction and free-floating anxiety.

4. To assess the relationship between Internet addiction and depression.
5. To assess the relationship between state anxiety and depression.
6. To assess the relationship between trait anxiety and depression.
7. To assess the relationship between free-floating anxiety and depression.

Hypothesis

There would be correlation between Internet addiction and state anxiety.

There would be correlation between Internet addiction and trait anxiety.

There would be correlation between Internet addiction and free floating anxiety.

There would be correlation between Internet addiction and depression.

There would be correlation between state anxiety and depression.

There would be correlation between trait anxiety and depression.

There would be correlation between free floating anxiety and depression.

SAMPLE

This study was carried out on 40 University students enrolled in various undergraduate and postgraduate programs, both male and female of an age group 19-25 years from Banaras Hindu University, Varanasi by using purposive and convenience sampling. All the participants were taken based on general probability criteria of using internet.

TOOLS

1. Internet Addiction Scale

Kimberly Young

The scale is devised to identify the addiction of internet. The first validated measure of internet addiction to measure internet use in terms of mild, moderate, and to several levels of addiction.

A total of 20 item questionnaire based upon the five-point scale in “Not applicable”, “Rarely”, “Occasionally”, “Frequently”, “Often”, “Always”.

2. Beck Depression Inventory

Aaron T. Beck

The BDI is a 21 item, self-report rating inventory that measures characteristics attitudes and symptoms of depression. It composed of items relating to symptoms of depression such as hopelessness and irritability, cognitions such as guilt or feelings of being punished, weight loss, and lack of interest in sex.

The inventory consist 21 items based on four-point scale 0-3, ranging in intensity. Higher total scores indicate more severe depressive symptoms.

3. A measure of state, trait, and free-floating anxieties

Dr. R.R. Tripathi and Dr. A. Rastogi

This scale measure three forms of anxiety, i.e., state, trait, and free-floating. Each form contains 20, 28, and 24 items respectively in response alternatives in which A-state subscale are as “Not at all”, “somewhat”, “moderately so”, “very much so”, A-trait subscale consist response alternatives are, “Almost never”, “sometimes”, “often”, “almost always”, and A-free floating consist “seldom”, “sometimes”, “often”, “most of the time”, “always”.

The validity of scale for A-state scale is .92, .85 for the A-trait scale, and .84 for A-free floating scale.

RESULTS

RESULT TABLE 1.

Result Table 1. Shows the Mean and standard deviation on 3 forms of Anxiety, Depression, and Internet addiction.

Descriptive Statistics			
	Mean	Std. Deviation	N
State anxiety	52.0250	11.62775	40
Trait anxiety	84.9250	12.96818	40
Free-floating anxiety	62.3000	16.14549	40
BDI	14.3750	10.31724	40
Internet	29.3750	15.77191	40

Table shows that on the sample 40, the mean of State, Trait, Free-floating anxiety, Depression, and Internet are 52.02, 84.92, 62.30, 14.37, and 29.37 respectively. Standard deviation of State, Trait, Free-floating anxiety, Depression, and Internet are 11.62, 12.96, 16.14, 10.31, and 15.77 respectively.

RESULT TABLE 2.

Table 2. Shows the correlation between all the forms of Anxiety, Depression, and Internet Addiction.

Correlations						
		state anxiety	trait anxiety	Free-floating anxiety	BDI	internet
State anxiety	Pearson Correlation		.682**	.624**	.144	-.024
	Sig. (2-tailed)				.376	.885
	N	40	40	40	40	40
Trait anxiety	Pearson Correlation	.682**		.717**	.278	.099
	Sig. (2-tailed)				.083	.543
	N	40	40		40	40
Free-floating anxiety	Pearson Correlation	.624**	.717**		.220	-.048
	Sig. (2-tailed)				.173	.767
	N	40		40	40	40
BDI	Pearson Correlation	.144	.278	.220		.308
	Sig. (2-tailed)	.376	.083	.173		.053
	N	40	40	40	40	40
internet	Pearson Correlation	-.024	.099	-.048	.308	
	Sig. (2-tailed)	.885	.543	.767	.053	
	N	40	40	40	40	40

Correlation is significant at the 0.01 level (2-tailed). Result shows that the Pearson coefficient of correlation between State, Trait, and Free-floating anxiety are correlated with each other at 0.01 levels, whereas depression is partial correlated, and internet addiction is weakly correlated.

DISCUSSION

The aim of the present study was to assess the relationship between anxiety, depression, and internet addiction. In which, the mean of state, trait, and free-floating anxiety were high, among them the mean of trait anxiety were highest it shows that subjects respond on trait anxiety were high, after that the score of free-floating anxiety were high and the state anxiety has normal mean. In which, depression scale has the lowest mean, which shows participants who took participate in this study were slight bit depressed only some of the participants were score highest on depression scale. At last, the mean of internet addiction scale is more than depression but less than anxiety, but their scores generally fallen in the moderate range, which means they use internet but not misuse it instead spend their general time on internet in doing purposeful work.

Now, here the correlation between state, trait, and free-floating anxiety is highly correlated with each other but with depression the correlation is weak, on the other hand the correlation between internet addiction and state, trait, and free-floating anxiety is weakly correlated, and the correlation between internet addiction and depression is weak correlation.

Thus, the hypotheses that there would be correlation between internet addiction and state anxiety are not accepted because the result is partial correlation.

The second hypothesis that there would be correlation between internet addiction and trait anxiety is not accepted because they were not correlated at a point.

The hypothesis there would be correlation between internet addiction and free-floating anxiety is not accepted due to weak correlation between them.

So, the result shows that the participants who used internet not shows the symptoms of anxiety, basically it means they used internet for their work purpose or study purpose.

Now, the hypothesis there would be significant difference between internet addiction and depression is not accepted but there is partial correlation between them. It shoes that subjects who scored on internet dddiction does not mean they are depressed instead there were lots of other things which preoccupied them which not led towards depression.

CONCLUSION

Thus, concluded that the from above study is that internet addiction is not related to anxiety and depression but there were also several factors which are important.

Time is not the only role factor, although it is the important factor, several aspects were also related to internet addiction and in this study, it is found that internet addiction is not significant with depression and anxiety.

Limitations

- The Indian adaptation of Young's Internet addiction scale is not available.
- Sample size is small and scattered.

Implications

- It can be used in the counselling and guidance to diagnose the internet addicted people.
- It can be used to create awareness against internet addiction.

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