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Review of internet addiction and its relation with depression and anxiety

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Abstract--This research investigates the relationship between Internet addiction and depression and anxiety. The method falls under review-descriptive categories, as it reviews the literature on Internet addiction over the last 15 years (from 2007 to July 2021). A review of the relationship between Internet addiction and depression is a subject of interest for many researchers who have conducted large number of studies on it. Interestingly, most studies done in this area correspond to each other and note a positive and significant relationship between Internet addiction and depressions, between online gambling and depression, between intense tendency to shop online and depression, and addiction to online games and depression. Other research has also considered depression to be predictor of Internet addiction, suggesting a positive two-way relationship between these two variables. However, out of these 7 scenarios, there was just one study that observed a negative and significant relationship between problematic use of the Internet and depression. Its population under study was composed of the elderly. In respect of the relationship between Internet addiction and anxiety, there are many studies, also. A review of 4 studies reveals that none of the cases ever noted a lack of significant relationship between the two variables, or anxiety not being affected by Internet addiction. Also, the cases reviewed indicated a positive and significant relationship between anxiety and Internet addiction, anxiety and online gambling addiction, anxiety and online shopping addiction, anxiety and smart phone addiction and anxiety and Internet game addiction.

Keywords--internet addiction, depression, anxiety, review literature.

Introduction

With the increasing public access to the Internet, we are witnessing a new type of Internet addiction that is a growing crisis of the age of information. Like other kinds of addiction, Internet addiction is associated with such symptoms as depression, irritability, anxiety, restlessness, social relation dysfunction and academic failure (*Raeisi, M., et. al., 2020; Abdullah, I., et. al., 2019*). From 2010 to 2015, Internet users across the world rose by 44.5% (Banyard, Nimes, Kate and Griffith, 2015). Data from our country suggests that Iran with a population of 76.962.300 people in 2020 accounted for the highest use of the Internet (52.5%) in the Mideast, with 432% of the Internet penetration.

King (2011) demonstrated in his study that Internet addicted people were shy, alone and isolated people that could suffer from depression. Fayyaz (2017) noted a two-way relationship between the two variables and concluded that depression predicted Internet addiction which could also aggravated depression. On the other hand, Cobral (2016) determined that by reducing the negative impacts of Internet addiction, depression among people could be reduced. There were also researchers who specifically concentrated on the relationship between online gambling, compulsory shopping and Internet games with depression. Davodi (2021) also noted a positive and significant relationship between online gambling and Internet depression with depression. Muller (2015) found that patients with CB (excessive tendency to online shopping) suffer from considerable psychiatric disorders (e.g., depression). Rodriguez (2018) concluded a positive and significant relationship between Internet game addiction and depression. The literature is full of studies that address the Internet addiction and its negative consequences.

On the other hand, Gatej (2019) concluded that anxiety served to predict online gambling addiction, stating the more anxiety, the more the chance of success in online gambling. Lin (2013) and Weinstein (2010) also introduced anxiety as a predictor of Internet addiction. In 2015, Muller investigated the intense tendency to online shopping and evaluated its relation with anxious disorder to be positively significant. As stated, the present study deals with the relationship between Internet addiction and depression and anxiety.

Theoretical Foundations of the Research

Depression

Various research reports a continuous relationship between depression and Internet addiction in adolescents. A large number of studies have also indicated the relationship between high Internet addiction and psychiatric symptoms and dysfunctions among the adolescents and adults. The study by Bernardi and Pallanti (2009) showed that out of 50 adult patients with Internet addiction, 15% suffered from depression. On the other hand, the study by Ko et al. (2009) revealed that depression and social fear could predict Internet addiction among a group of Taiwanese youths. Kim et al. (2006) found that 78% of the students suffering from Internet addiction were having depression and high rates of impulsivity. Meanwhile, the study on South Korea adolescents revealed a positive relationship between symptoms of Internet addiction and depression; this

relationship, it was quoted, would lead to high rates of suicides (Te Wildt, et al. 2007).

Anxiety

Cross-sectional studies on sample patients indicated comorbidity between Internet addiction and psychiatric disorders, especially anxious disorders, including generalized anxiety disorder (GAD) and social anxiety disorders. The meta-analysis by Strittmatter et al. (2016) found that the pathologic use of the Internet, together with emotional and anxious problems, could lead to a vicious cycle that culminates in the morbid use of the Internet. Moreover, the study by McNicol et al. (2017) noted the relationship between Internet addiction and negative coping styles. Researchers have found that avoidant coping styles are positively correlated with Internet addiction. The findings suggested that those who use fewer effective coping strategies to deal with anxiety may turn to the Internet more in order to get away with it. The Kaplan's study (2007) determined that the relationship between loneliness and tendency to social interaction was fake, concluding that social anxiety was involved with it.

Methods

This research is a descriptive study which involves a review of studies. It is regarded as an independent study that analyzes and investigates the literature based on empirical researches and uses methodologies to answer explorative, descriptive, hybrid and explanatory questions. These questions include observable patterns and models that cannot be explained in non-review studies. However, review studies comfortably answer general questions related to the subject under study, because it concerns the context and views it from a new angle. Considering the type of the present article (a review study), all studies on psychological symptom variables and their relationship with Internet addiction have been released in the form of books, articles, theses and research projects over the last 15 years (from 2007 to July 2021). They also determined the inclusion and exclusion criteria to derive the final sample.

Inclusion criteria

1. Literature which concerns Internet addiction and psychological symptoms of depression and anxiety
2. The studies conducted from 2007 to July 2021
3. Contents released in the form of journals, book chapters and credible theses

Exclusion criteria

1. Repeated literature was excluded from the research
2. Articles and books as well as theses, which were not related to the subject, or did not contain relevant keywords, were excluded
3. Studies conducted abroad and out of the time interval set were removed.

To determine validity and reliability, this research refers to experts to elicit their views on the subject matter, then classifies and produces outcomes.

Findings

In this section, the name of the first author of the research, number of statistical samples, year of publication of the article, and a summary of the findings are given in relevant tables; it is noteworthy that some of the articles have distinguished the number of man and woman samples due to the researchers' overemphasis on gender.

Research on Internet addiction and depression

In a study, entitled "Findings about Relationship between Internet Addiction and Psychological Symptoms in Brazilian Adults", Andrade A. (2020) found that the risk of developing severe depression symptoms in the users with high addiction risks were ten times, and seven times more than those without such risks; in the meantime, the time of using smart phones in high-risk groups was substantially higher. This study showed that main factors related with IA were depression, gender and anxiety.

In a study entitled "Online Gambling in Iranian Social Media Users: Prevalence, Related Variables and Psychiatric Correlates", Davoudi (2021) found a positive and significant relationship between gambling and severity of Internet addiction, severity of depression, severity of anxiety and severity of obsession among online gamblers. However, no positive relationship was noted with paranoid ideation.

In a study entitled "Relationship between Severity of Internet Addiction and Psychological Pathology, Serious Mental Illness: Representative Cross sectional Study" Guo (2020) found that the prevalence of severity of high somatic symptoms, considerable clinical depression, psychosis, paranoid thoughts and serious mental illness, as well as prevalence of suicidal ideation, suicidal plans and suicidal attempt in the course of life were similar or slightly higher than the mean rates in the mild Internet addiction group. These rates sharply increased in the moderate to severe Internet addicted group. Screening of serious mental illnesses and suicidal people in the non- Internet addiction group was much lower than the moderate level of the population. Out of the four mental pathologies, depression was highly related with Internet addiction from a clinical point of view.

In a study entitled "Review of Internet Addiction and Its Impacts on Mental Health: A study on Iranian University Students", Lebni (2020) found that Internet addiction was positively correlated with depression, and negatively correlated with mental health. Multivariate regression analysis revealed five major predictors of students' vulnerability to Internet addiction, such as vital reason to use the Internet, professors, depression, central, place for the use of the internet, and somatic symptoms.

In a study entitled "Internet Addiction and Depression in Iran: A Mediating Role of Loneliness and Disturbed Sleep and the Moderating Role of Gender", Masaeli (2021) found that initial results suggested that Internet addiction predicted depression, loneliness as well as disturbed sleep. The mediating role was confirmed in all models, while the role of gender moderator was not significant in any of the models.

In a study entitled “Internet Game Disruption in Adolescence: Psychological Characteristics of A clinical Sample”, Torres- Rodríguez (2018) found that addiction to Internet games were significantly and positively related with depression, anxiety, somatic disorders and several personality traits such as introversion, inhibition, giving up, self-worthlessness, interpersonal sensitivity, obsessive-compulsive tendencies, phobia anxiety and hostility, as well as personality paranoid and borderline traits such as social problems, low emotional intelligence and familial relations.

In a study entitled "Does Internet use improve the Mental Health of Chinese elderly?", Xie (2021) determined that using the Internet was negatively and significantly related with the mental health of the elderly that could increase the prevalence of depressive symptoms.

Research on Internet addiction and anxiety

In a study entitled “Impacts of Anxiety, Aggression and Risk of Managing Decision-Making Behaviors on Online Gambling”, Gatej (2019) found a positively significant correlation between aggression, anxiety and number of gaming periods as predictors of online gambling addiction. Meanwhile, a negatively significant correlation was noted between aggression, anxiety and success against failure on online gaming.

In a study entitled “Internet Addiction and Family Stress: Symptoms, Causes and Complications”, Mustafa (2020) determined that Internet addiction was negatively related with emotional and mental health of each family member. Other impacts on the communication level of family members included social problems and child’s growth stages. Also, a positive relationship was noted between Internet addiction and domestic stress. In a study entitled “Nomophobia: Increasing Fear of Being Without Smart Phone”, Rodríguez-García (2020) conducted a systematic review and suggested that nomophobia had a negative effect on personality, self-confidence, anxiety, stress, academic achievement and other somatic problems.

In a study entitled “Relationship between Internet Addiction and Gender, Coping Styles and Acceptance of First year Students in the south of China”, Shan (2021) found that people addicted with the Internet had significantly higher state anxiety and trait anxiety and experienced lower self and other acceptance; thus, preferring fewer positive and negative coping styles compared to the non-addicted people. Logistic regression analysis suggested that three factors of negative coping styles, self and other acceptance and state anxiety levels were significantly related with more severe IA.

Conclusion

Most research has found a positively significant relationship between Internet addiction and depression which had also significant comorbidity. To explain this, one would say that people with Internet addiction expose behavioral and emotional characteristics that foster the incidence of depression symptoms in them and make them keep away from protective personality traits. For example, Babaei et al. (2020) determined that people with Internet addiction did not have a

proper functioning in terms of non-acceptance of emotional responses, had difficulty initiating purposeful affairs, difficulty controlling impulses, loss of emotional awareness, defective emotional regulation strategies, emotional transparency and emotional regulation.

As stated, people addicted with Internet turn away from useful and happy activities, thus gradually losing their own activities that would bolster their self-efficacies and self-confidence. This will, in turn, lead to more immersion in the world of Internet, where control is up to users themselves. Internet users see things that they have selected and have no need to achieve communications deemed to be useful. These online space traits absorb people and show them needless of actual communication. In the meantime, people are led to anxiety and depression, lose their social status and are more predisposed to suicidal ideation and suicide attempt, as they turn away from collective happy activities.

Results of eleven research under study suggest the effects of anxiety on Internet addiction. For example, De Veries (2018) found that problematic users of the Internet were suffering from anxiety more significantly than normal users. Huang (2014) and Koc (2011) demonstrated that the people who gain higher scores in Internet addiction are more anxious than normal people. Kumar (2018) reported that there was a positive and significant relation between anxiety and Internet addiction. This study also found that self-confidence was also a component related with Internet addiction and anxiety; this finding can also explain higher anxiety among users addicted with Internet and their higher depression scores. To explain these findings, one would suggest that people with Internet addiction also suffer from emotional dysfunction. As previously stated, people with Internet addiction face problems with regulating their emotion, and emotional transparency. Emotional defects can always cause such disorders as anxiety and depression; in this situation, the addicted people may make it up for the problems by taking refuge in cyberspace. This is because they do not have enough emotional regulation tools. This cycle can lead to a critical level of anxiety with which the person seeks relief in social withdrawal.

As known, social withdrawal and disengagement in conventional relationships to escape anxiety and take refuge in the Internet space make it more difficult for a person to become empowered and follow goals deemed to be anxious for him. Put it simply, the incidence of a problem and failure to solve it can engender in bigger and more difficult problems. Although, the knowledge of source of anxiety and stress in the life of an anxious person plays a key role in the success of treatment, failure to attend to it can also be harmful. People with Internet addiction forget about their anxiety with Internet anxiety and seek to avoid it. It is thus suggested that studies of this kind be repeated with wider scopes to get to a more conclusive conclusion. Other variables should also be considered in order to gain a general understanding of the causes of Internet addiction to find a solution to the problems.

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