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Internet Addiction: The Role of Self-esteem and Impulsivity among undergraduate students in Ogun state, Nigeria

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Abstract. Internet addiction in Nigeria is still emerging as a novel phenomenon that is still evolving in terms of symptomology and predictive features. Gender, self-esteem, and impulsivity have been linked to Internet addiction in studies, and based on the features of Internet addiction, its classification as an impulse control disorder, as well as its relationship with certain personality traits like self-esteem and impulsivity, is not far-fetched. This study is designed to look at the influence of gender, self-esteem, and impulsivity on Internet addiction. Two hundred and fifty (250) undergraduate students were chosen through convenient sampling. The study used a descriptive survey design. The Rosenberg Self-Esteem Scale (RSES), the Barratt Impulsivity Scale (BIS-11), and the Internet Addiction Test (IAT) were used to measure self-esteem, impulsivity, and internet addiction, respectively. The t-test and multiple regression results revealed were used in the analysis. There was no significant difference in gender for internet addiction among undergraduate students [t (248) = 0.596; p >.05]. In addition, self-esteem had a significant influence on Internet addiction among undergraduate students (t = 3.912, =0.241, p <0.05). In undergraduate students, impulsivity had a significantly greater influence on internet addiction (t = 2.602; = 0.163, p <0.05). Lastly, there was an independent and significant prediction of self-esteem and impulsivity on internet addiction among undergraduate students (t=4.248, β=.259, p< 0.05). It can be concluded that gender, self-esteem, and impulsivity are essential factors to consider when studying Internet addiction. Some recommendations are included in the conclusion.

Keywords: Self Esteem, Impulsivity, Internet Addiction, Undergraduate students

1. Introduction

The Internet is without a doubt the greatest and most useful invention of all time. The Internet's technology evolved continuously from the 1970s to the present, when it has become a superhighway for information and communication that serves a wide range of purposes. It is now an important tool for establishing and maintaining relationships; gaming; gambling; shopping; conducting business; accessing educational resources; keeping up with current events; and so on among most young adults.

According to Internet World Stats (June 2019), Africa accounted for 11.9 percent of all Internet users globally, trailing only Asia (49.8 percent) and Europe (11.9 percent) (16.3%). Nigeria has the most Internet users in Africa and ranks seventh in the world, with an increasing growth rate. As with anything that can be used, it can often be misused. This has resulted in the distinction between healthy and unhealthy Internet use (Suhail & Bargees, 2006**).** According to Christakis in 2010, Internet addiction is an epidemic of the twenty-first century, with incidence rates ranging from 0.3% in the USA to 18.3% in Great Britain. It has been estimated that there are 2–5 million Internet addicts worldwide for every 50 million regular users.

Many researchers have suggested different definitions for internet addiction, which is often described as "problematic internet use," "computer

addiction," ‘‘excessive internet use," "compulsive internet use," and "pathological internet use" (Shapira, Lessig, Goldsmith, Szabo, Lazoritz, Gold & Stein, 2003; Tikhonov & Bogoslovskii, 2015). Ivan Goldberg, in 1995, defined internet addiction as a disorder and misuse of technology that includes a wide range of behaviors and impulse control disorders. Young (2004) defined it as an irrepressible need to use the Internet that is marked by the devaluation of time spent offline, severe anxiety, annoyance, and aggression when deprived, and the increasing decline of social and family life. Eksi (2012) stated that Internet addiction is a disorder that poses the same risks as other types of addiction, and it has been associated with psychopathology such as gambling disorders, depression, anxiety, obsessive-compulsive disorders, bipolar disorder, substance abuse, and compulsive sexual behavior.

Internet addiction is a form of technological addiction that can be classified as "an impulse control disorder that involves no intoxicant" and which is similar to pathological gambling. Internet addiction is quickly turning into a psychological issues and potential public health problems as it becomes more widely available, including in Nigeria. Various psychological disorders have been linked to Internet addiction, both as a causal factor and a consequence. The majority of Internet addicts often have a history of experiencing depression and anxiety (Young, 1998). Also, the link between Internet addiction and depression is especially alarming considering the strong association between depression and suicide and the skyrocketing rates of suicide in Nigeria.

Certain societal groups have been identified as being more vulnerable to Internet addiction; some of these groups include people who are single, young males, university students, middle-aged women, and those with lower education levels (Soule, Shell & Kleen, 2003). This is largely due to the fact that they often use the Internet as a means of coping with their daily troubles; communicating with friends; expressing themselves in unique and creative ways; creating a self-identity; accessing information about their interests; and also finding people with similar ideologies. According to a study conducted by Li, O’Brien, Snyder, & Howard (2015) on university students, the first perception of the problem of excessive internet use occurs at the age of 16. Furthermore, problematic internet use in this population group has been linked to a wide range of other aspects of students' lives, including lower learning satisfaction and academic performance; depression; loneliness; and reduced motivation to study; as well as poor physical health (Chen & Peng, 2008).

Some personality factors that may be related to Internet addiction and its sub-types have been identified as essential. Among these factors are self-esteem and impulsivity. Low self-esteem has been frequently linked to Internet addiction by various scholars. People with low self-esteem have reduced levels of resilience and perseverance when faced with challenges and are more likely to seek validation online. They may use the Internet as a maladaptive coping mechanism instead of dealing with their problems and are more likely to fall prey to cyberbullies and sexual predators on the Internet. Research has shown that Internet addicts often display altered or distorted moods, attitudes, and perceptions of the world around them. This may manifest as feelings of insecurity, inadequacy, low self-esteem, poor self-confidence and may be evident in interpersonal relationships (Davis, 2001).

Impulsivity has also been closely linked to Internet addiction as one of its predictive factors. This is a relationship that must be examined because suicidal and self-harming behaviors have also been linked to high levels of impulsivity. In addition to this, highly impulsive people fail to take the consequences of their actions into account before carrying them out and are often unable to persevere in the face of difficulties. This may have a negative impact on their physical, psychological, and social well-being as well as their interpersonal relationships.

Studying the influence of personality factors on Internet addiction is essential for understanding human behavior as well as personality traits that can potentially serve as determinants or indicators of excessive Internet use. This study examines both impulsivity and self-esteem in relation to Internet addiction among undergraduate students in Ogun State, Nigeria. An extensive literature search revealed no studies on local content in Nigeria. This study will help to determine which of these two concepts exerts a stronger influence.

1.1 Research Questions

Based on the problem presented above, this study aims to address the following pertinent questions:

- Can gender significantly influence Internet addiction?
- To what extent will self-esteem have a significant influence on Internet addiction?

- Can impulsivity significantly influence Internet addiction?
- To what extent will self-esteem and impulsivity have a joint influence on Internet addiction?

1.2 Objectives of the Study

The main aim of this study is to examine the influence of self-esteem, impulsivity, and gender on Internet addiction among undergraduate students in Abeokuta, Ogun State, Nigeria. The specific objectives are to:

- Know gender difference in Internet addiction among undergraduate students.
- Examine the influence of self-esteem on Internet addiction among undergraduate students.
- Investigate the influence of impulsivity on Internet addiction among undergraduate students.
- Determine the joint influence of self-esteem and impulsivity on Internet addiction among undergraduate students.

1.3 Hypothesis

- There will be a significant difference between male and female undergraduate students in terms of Internet addiction.
- Self-esteem will have a significant influence on Internet addiction among undergraduate students.
- Impulsivity will have a significant influence on Internet addiction among undergraduate students.
- Self-esteem and impulsivity will jointly predict Internet addiction among undergraduate students.

2. Literature Review

2.1 Self-esteem and Internet Addiction

Self-esteem is an "individual's perception or subjective appraisal of one's own self-worth, one's feelings of self-respect and self-confidence and the extent to which the individual holds positive or negative views about self" (Sedikides & Gress ,2003). Murphy, Stosny & Morrel ,2005 also defined it as "a global barometer of self-evaluation which involves cognitive appraisals about general self-worth and affective experiences of the self that are linked to these global appraisals". Self-esteem has emerged as a component related to Internet use, inherently problematic Internet use. This is because the Internet provides an enabling environment for individuals with low self-esteem, fear of rejection, poor motivation and a high need for approval (Kim & Davis, 2009**).** Meerkerk, Van den Eijnden, Franken, & Garretsen, 2010 revealed that individuals who used the Internet compulsively were lonelier, more dissatisfied with life, were plagued by depressive moods and had lower self-esteem than the average Internet user.

The link between self-esteem and addiction is not uncommon. Several studies have been conducted on this area of study, and it has been concluded that there is a strong link between these two variables (Greenberg, Lewis & Dodd, 1999). In a study carried out on overlapping addictions and self-esteem by Greenberg et.al, 1999, it was suggested that individuals with low self-esteem might be tempted to seek temporary relief from the daily problems of living through activities that provided an escape from reality, and in reverse, addiction could lead to feelings of failure, a loss of control, and lowered self-esteem. Schwartz (2010) linked self-esteem to social networking, a sub-type of Internet addiction; this research revealed that people who spent more time on social media sites, had a high number of friends, and had frequent status updates were more vulnerable to developing low self-esteem.

Bahrainian et al. (2014) investigated the association between self-esteem, depression, and Internet addiction among 408 undergraduate students. Findings revealed that self-esteem had a significant, negative correlation with Internet addiction and served as a significant predictor of Internet addiction. Ofole & Babatunde, 2015, in a study on Internet addiction among undergraduates in Ibadan, found that self-concept, of which self-esteem is an essential component, was a significant predictor of Internet addiction.

High self-esteem has been identified as a protective factor against Internet addiction. This has been linked to the idea that people with high self-esteem have a higher tendency to view themselves as being self-competent and having positive self-esteem. Examining self-esteem as a protective factor, Zhang, Mei, Li, Chai, & Du (2015) suggested that self-esteem in conjunction with meaning in life might provide adequate protection from Internet addiction. They stated that individuals with high self-esteem partake in "meaningful pursuits" that allow them to merge their real and ideal selves together. Zhang et al. (2015) further suggested that people with high self-esteem had greater chances of resisting addictive behaviors because of certain innate characteristics.

2.2 Impulsivity and Internet Addiction

Simply put, impulsivity is the inability to delay gratification, or the inverse of self-control (Monterosso & Ainslie, 1999**).** In actuality, it refers to a broad array of actions and behaviors that are perceived as poorly conceived, unnecessarily risky, prematurely expressed, or inappropriate for the situation and which may result in negative and unpleasant consequences. The American Psychiatric Association, 2000, defines impulsivity as "the failure to resist an impulse, drive, or temptation to perform an act that is harmful to the individual or others."

Impulsivity has been implicated as a significant predictive factor in a number of behavioral disorders, such as gaming addiction (Ko, Yen, & Chen**,** 2015), and also Internet addiction (Şimşek, Zincir, Özen, & Ceyhan, 2019). A study carried out by Walther, Morgenstern & Hanewinkel (2012) revealed that higher levels of impulsivity were the only component of problematic gaming that could serve as a predictor of other addictions, such as gambling, substance and alcohol use. Meerkerk et al. (2010) suggested that impulsivity may be a risk factor or determinant of Internet addiction because impulsive people exhibit more difficulties when attempting to control their Internet use.

Dalbudak, Evren, Topcu, Aldemir, Coskun, Bozkurt, Evren, & Canbal (2013) established a strong positive correlation between Internet addiction and high levels of impulsivity, while Yucens & Uzer (2018), in a study assessing the relationship between Internet addiction and psychosocial variables such as impulsivity, self-esteem, and social anxiety among undergraduate medical students, found no significant link between the concepts. Kawa & Sharfi, 2015, evaluated Internet addiction, psychological distress, and impulsivity in 150 Indian undergraduates. Their study discovered a significant positive relationship between Internet addiction and impulsivity among Indian undergraduates. Also, Mottram & Fleming, 2009, in a study concerned with determining the relationships existing between frequency of Internet use, extraversion, online group membership, impulsivity, gender, and problematic Internet use, found that high levels of impulsivity were a good predictor of problematic Internet use.

2.3 Self-Esteem, Impulsivity and Internet addiction

Koo & Kwon (2014), who in a meta-analytic study titled "Risk and Protective Factors of Internet Addiction" established certain personality factors that had a significant correlation with symptoms of Internet addiction. Some of these factors were low self-esteem and high levels of impulsivity, as well as shyness, neuroticism, low conscientiousness, a tendency to procrastinate, and low self-directedness. Brand, Young, Laier, Wölfling, & Potenza (2016) stated that the different sub-types of Internet addiction may share some distinct characteristics in relation to personality and psychopathology. Significant among these characteristics are impulsivity, low self-esteem, depressive symptoms, loneliness, anxiety, and vulnerability to stress. Impulsivity serves as a good predictor for compulsive buying habits (Davenport., Barth., & Bean. 2012), but had no significant relationship with cybersex addiction (Varfi, Rothen, Jasiowka, Lepers, Bianchi-Demicheli & Khazaal (2019).

2.4 Gender and Internet Addiction

Bahrainian, Alizadeh, Raeisoon, Hashemi, & Khazaee (2014) showed that there was a relationship between Internet addiction and gender. In their study, males had significantly higher Internet addiction scores than females. Okwaraji, Aguwa, Onyebueke, & Shiweobi-Eze, 2015, also found out that a higher percentage of males than females were addicted to the Internet among undergraduates at the University of Nigeria, Nsukka. A study on the influence of gender and time spent online on internet addiction among 1878 participants (comprising 1450 adolescents and 428 youths) in Southwest, Nigeria, by Babalola, Ekundayo, Agiobu-Kemmer, & Ayenibiowo (2017) showed that there was a significant influence of gender on internet addiction, with male respondents being more addicted to the Internet than females. The disparities in gender differences and internet addiction can be attributed to a variety of factors, including psychosocial factors such as coping styles, acceptance of self, cultural values, internet access, institutional policies, and personal habits, among others.

Ogbomo & Ivwighreghweta (2016), in a study on Internet addiction carried out in Delta State, Nigeria, found that there was no significant difference between male and female undergraduates in relation to the prevalence of Internet addiction**.** Lyvers, Karantonis, Edwards & Thorberg, (2016) also found no differences in Internet addiction rates based on gender. Both males and females exhibited similar rates of severity as well as similarities in their primary motives for using the Internet.

3. Methods

3.1 Research Design and Setting

A cross-sectional research design was adopted for the study. Also, a survey method was employed in

collecting data from a diverse group of undergraduate university students in Ogun State, Nigeria. The study was conducted in Abeokuta, the capital of Ogun State.

3.2 Sample Size

A total of 250 undergraduate students were selected; males (145) made up 58 percent of respondents, while females (105) made up 42 percent.

3.3 Sampling techniques

This study employed a combination of random techniques and convenient sampling techniques. Two universities were randomly selected from the four universities situated in Abeokuta, Ogun State, Nigeria. Also, convenient sampling techniques were used to select participants from all levels of the university classes.

3.4 Research instruments

The Rosenberg Self-Esteem Scale (RSS), Barratt Impulsivity Scale (BIS-11), and the Internet Addiction Test (IAT) were used to elicit information from respondents. The Rosenberg Self-Esteem Scale (RSES), developed by Morris Rosenberg in 1965, was used to measure self-esteem. It is a 10-item inventory. In scoring RSES, items 1, 3, 4, 7, and 10 are scored directly, while items 2, 5, 6, 8, and 9 are reverse scored. Its Cronbach alpha ranges from.82 to.85, and its internal consistency ranges from.77 to.88.

Barratt Impulsivity Scale (BIS-11), developed by Barratt in 1959, was used to measure impulsivity. BIS-11 was revised by Patton, Stanford & Barratt in 1995. It is a 30-item self-reported inventory, Items 1, 7, 8, 9, 10, 12, 13, 15, 20, 29, and 30 are reverse scored. BIS-11 scores greater than 70 indicate pathological impulsivity. In terms of reliability**,** Agbeniga, Oyerinde, Adeoye, Raheem, Nana, & Olaoye (2017) reported a Cronbach's alpha value of.81 for the scale, a test-retest coefficient of.47, and a Guttman split-half coefficient of.45 in their study.

The Internet Addiction Test (IAT) developed by Young (1998) measures internet addiction. The maximum score to be obtained on the IAT is 100, and the minimum score is 20. Scores in the range of 0 to 30 are regarded as normal levels of Internet addiction, while scores between 31 and 49 reflect mild Internet addiction. A score in the range of 50 to 79 indicates a moderate level of Internet addiction, and scores ranging from 80 to 100 indicate severe dependence on the Internet. Alavi, Maracy, Jannatifard, Eslami, & Haghighi, 2010; as well as Lee Choi, Shin, Lee, Jung, & Kwon, 2012, reported test-retest reliability values ranging from 0.73 to 0.88, as well as very satisfactory internal consistency values ranging from 0.88 to 0.93. Ofole and Babatunde (2015) obtained a test-retest reliability coefficient of 0.89 during their pilot study with students from the University of Ibadan.

3.5 Data Analysis

Statistical Package for Social Sciences Software 22 (SPSS 22) was used to analyze the data. At $p > 0.05$ levels of significance, respectively, an independent t-test and multiple regression were used to analyze the data.

4. Results

Table 1: Descriptive statistics of the respondent's socio-demographic characteristics

Variable	Level	Frequency	Percentage(%)
Sex	Male	145	58.0%
	Female	105	42.0%
	Total	250	100%
Age	16-19 years	128	51.2%
	20-23 years	78	31.2%
	24-28 years	44	17.6%
	Total	250	100%
Religion	Christianity	140	56%
	Islam	94	37.6%
	None	16	6.4%
	Total	250	100%
Ethnicity	Yoruba	125	50%
	Hausa	36	14.4%
	Igbo	89	35.6%
	Total	250	100%

The results of the data analysis in table 1: showed that 145(58%) of the respondents were males while 105(42.0%) of the respondents were females. 128 (51.2%) of the sample were in the 16–19 age range, 78 (31.2%) of the sample were in the 20–23 age range, and 44 (17.6%) of the sample were in the 24-28 age range. Also, 140 (56%) were Christians while 94 (37.6%) were Muslims. 16 (6.4%) respondents identified with neither religion. Finally, the majority of the respondents were Yoruba (125), making up 50% of the total sample. 89 (35.6%) of the respondents were Igbo while 36 (14.4%) were Hausa.

Hypothesis One: There is a significant difference between male and female undergraduate students in terms of Internet addiction.

Table 2: Test comparison of male and female undergraduate students on Internet addiction.

DV	Gender	N	Mean	SD	t	df	Sig.	Pv.
Internet Addiction	Male	145	41.61	20.75	.596	248	.84	<0.05
	Female	105	40.03	20.46				

Table 2: The result revealed that there is no significant difference in gender for internet addiction. There is no significant gender difference in internet addiction [t (248) =.596; >.05]. That is, both males and females are equally vulnerable to Internet addiction.

Hypothesis Two: Self-esteem will have a significant influence on Internet addiction among undergraduate students.

Table 3: Summary of regression analysis of Self-esteem on Internet Addiction.

Variable	B	Beta	T	Sig.	R	R^2	F-ratio	Pv
Self-esteem	.718	.241	3.912	.000	.241	.058	15.304	P<0.05

Table 3: The result of the data analysis revealed that there was a significant prediction of self-esteem on Internet addiction (Beta = 0.241; t = 3.912, at $p < 0.05$). Independently, the variable yielded a significant coefficient of regression, $R^2 = 0.58$ ($p < 0.05$). This shows that self-esteem accounted for about 5.8% of the observed variance in Internet addiction.

Hypothesis Three: Impulsivity will have a significant influence on Internet addiction among undergraduate students.

Table 4: Summary of regression analysis of Impulsivity on Internet Addiction.

Variable	B	Beta	T	Sig.	R	R^2	F-ratio	Pv
Self-esteem	218	.163	2.602	.000	.163	.027	6.780	P<0.05

Table 4 shows that there was a significant prediction of impulsivity on the Internet among undergraduate students (Beta =.163; t = 2.602; $p < 0.05$) based on data analysis. Independently, the variables yielded a significant coefficient of regression, $R^2 = 0.27$ ($p< 0.05$). This shows that impulsivity accounted for about 2.7% of the observed variance in Internet addiction.

Hypothesis Four: Self-esteem and impulsivity jointly predict internet addiction among undergraduate students.

Table 5: Joint contribution of self-esteem and impulsivity to internet addiction

Predictors	B	Beta	t-value	Sig	R	R^2	F-ratio	Pv
Self-esteem	.770	.259	4.248	.01	.305	.093	12.646	<0.05
Impulsivity	.250	.187	3.077					

Table 5: Data analysis revealed an independent and significant relationship between self-esteem, impulsivity and internet addiction among undergraduate students (t = 4.248, =.259, P 0.05). The result showed a positive relationship (β = 0.259) between the variables, suggesting that the variables have a direct connection. Therefore, as the self-esteem of undergraduates increases, the level of Internet addiction increases. The results also revealed a significant and independent predictor of impulsivity for internet addiction among undergraduate students (t = 3.077, β = 0.187, P 0.05). It discovered a weakly positive (β = 0.187) relationship between impulsivity and internet addiction among undergraduate students. Thus, the higher the level of impulsivity, the higher the level of Internet addiction among undergraduate students. Thus, self-esteem and impulsivity jointly accounted for 9.3% of the observed variance on Internet addiction.

4. Discussion

The study's goal is to look into the effects of self-esteem and impulsivity on internet addiction among undergraduate students. Based on the objectives of the study, four hypotheses were formulated, and the findings of the analyses revealed some facts about the variables examined in this study.

Findings from the first hypothesis indicated no significant statistical relationship between gender and internet addiction among undergraduate students in Ogun State. This finding is similar and consistent with the studies by Khan, Shabbir, & Rajput, (2017); Simsek et al. (2019); and Sultana (2018), who discovered no gender difference in Internet addiction rates in their study. This is contrary to other large-scale studies, such as the study carried out by the Pew Research Center (2013, 2015) that revealed that males use the Internet more, especially for accessing pornography and playing games, while females use the social networking features of the Internet. Also, this finding negated the studies of Omoyemiju & Popoola (2020), and Sayyah & Khanafereh (2019), who reported that males were more likely to report higher rates of Internet addiction.

The second hypothesis indicated a significant prediction of self-esteem on internet addiction among undergraduate students in Ogun state. This finding is in tune with the work of Silva, Fortes & Fernandes (2016), who established a weak but positive correlation between Internet addiction and self-esteem using 216 adolescents. Kim and Davis (2009) also discovered that people with low self-esteem were more likely to become addicted to the Internet. This was negated by the findings of Greenberg et al. (1999). In this study, no relationship was found between the two variables. He proposed that a conspicuous relationship between self-esteem and Internet addiction may be present only among seriously addicted individuals or among those disturbed by their dependence on the Internet.

The third hypothesis revealed a significant prediction of impulsivity on internet addiction among undergraduate students in Ogun State. This finding is similar and consistent with Kawa & Sharfi (2015), who uncovered a significant positive relationship between Internet addiction and impulsivity among undergraduates in India. Zhang et al. (2015) and Burnay et al. (2015) also established similar results. Therefore, impulsivity may be a risk factor for Internet addiction because impulsive people exhibit more difficulties when attempting to control their Internet use (Meerkerk et al., 2010). It is worth noting that a study by Yucens & Uzer (2018) found no significant relationship between the severity of Internet addiction and impulsivity.

Lastly, findings from the fourth hypothesis indicated that self-esteem and impulsivity significantly and jointly predict Internet addiction among undergraduate students in Ogun State. This finding is similar with the studies by Zhang et al. (2015) reported that individuals who have high self-esteem have internal characteristics to an extent that helps them resist addiction more than people who are high on impulsivity. Zhang et al. (2015) suggest that impulsivity alone may not predict Internet addiction; other factors such as meaning of life and boredom may serve as mediating factors. In a study titled "Potential determinants of Heavier Internet Usage," Armstrong, Phillips & Saling (2000) in a study titled "Potential determinants of Heavier Internet Usage. The study found that among the predictors of internet-related dysfunctions were self-esteem and the number of hours spent online each week. In this study, impulsivity, however, was not linked to Internet addiction and could not be used as a predictor. The scientists reasoned that Internet addiction was not characterized by impulsivity, making it dissimilar to other addictions.

5. Conclusion and Recommendations

The world is presently hurtling towards an era when most of our activities can be performed on the Internet with ease and comfort. This increased dependency on the Internet has led some individuals to use the Internet excessively, resulting in negative consequences in various aspects of their lives. This

study is an effort to investigate the roles of self-esteem and impulsivity as predictors of internet addiction among undergraduate students in Ogun State. From the results of this study, it may be concluded that there is no significant difference between gender and internet addiction. Nonetheless, self-esteem and impulsivity both contributed significantly to internet addiction. In this study, it is concluded that both males and females are susceptible to internet addiction. Self-esteem and impulsivity have been identified as personality correlates of Internet addiction. Self-esteem impacts the way we assess ourselves, our skills and abilities, deal with life situations as well as the kind of coping mechanisms we employ. It has been proposed that a high level of impulsivity affects a person's ability to moderate their level of Internet use.

On the basis of the present study, the following recommendations were made:

- School administrators and policymakers should develop awareness programs (such as seminars, workshops, and webinars) to educate students about the symptoms and various consequences of internet addiction in affected individuals. Also, "Safe Trips" should be communicated to students, adolescents, and youths on the proper use of the internet in a healthy manner.
- School counselors should organize workshops on how to improve one's self-esteem and develop a strong self-concept as high self-esteem has been identified as a protective factor against Internet addiction.

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