

Prevalence, Predictors, and Psychological Correlations of Internet Addiction Among Afghan Students Studying in Iranian Universities

Mohammad Hassan Yusufi¹, Abdul Aziz Azad², Ruholla Danishyar³, Sharif Farin⁴

^{1&4} Department of Psychology, Faculty of Education, Bamyán University, Bamyán, Afghanistan

² Master's Student in Sociology, Faculty of Social Sciences, Education, Kabul University, Kabul, Afghanistan

³ Department of Persian/Dari Language and Literature, Faculty of Education, Bamyán University, Bamyán

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Abstract: In the era of information technology, internet use is inevitable for humankind. Internet use can have a negative impact when it becomes excessive. The present study intended to determine the prevalence, predictors, and psychological correlates of internet addiction (IA) among Afghan students studying in Iranian universities. This study aimed to synthesize findings by assessing the prevalence of IA, its psychological correlates, and predictors in a sample of Afghan students studying in Iranian universities. The current study was a descriptive correlational study conducted in the academic year 2022-2023. A total of 268 people (159 boys, 109 girls) from Afghan students studying in Iranian universities were selected via stratified random sampling. The Internet Addiction Test, Beck Depression Inventory, Beck Anxiety Inventory, and Barratt Impulsivity Scale were employed to collect the relevant data. These measures were significantly higher in the IAD group compared to the N-IAD group. This study on a sample of Afghan students yielded a prevalence of 12.7% in Iranian universities. The measures of depression, anxiety, and impulsivity are significantly correlated with IAD than the N-IAD group. The study demonstrates the growing risk of excessive internet use and recommends that mental health professionals implement early detection and preventive measures.

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INTRODUCTION

Internet addiction, a significant issue in the realm of mental health, exerts extensive negative impacts on the student population (Marin et al., 2021). With the increasing daily use of digital technologies, university students, particularly Afghan students studying in Iran, face psychological risks stemming from internet addiction, which can adversely affect their academic performance, social relationships, and overall well-being. However, a comprehensive understanding of the mechanisms and correlations between

✉ Corresponding author E-mail: hassanyusufi@yahoo.com

psychopathological variables and internet addiction in this specific student group remains unavailable. In today's world, remarkable advancements in electronic and computer technologies, coupled with the ever-growing volume of global information, have created profound and widespread effects in professional, social, and cultural domains (Papjordanova & Loleska, 2021). In this context, the internet, as a symbol of progress and development, has advanced at an unparalleled pace, establishing itself as one of the most crucial instruments of transformation in the history of science and technology (Shaheen, 2014). Studies indicate that adolescents and youth, as active societal groups, predominantly use the internet for activities such as computer gaming, listening to music, and making new friends (Cesar & Ashgar, 2017). Consequently, today's youth are often referred to as the "Net Generation" (Bisen & Deshpande, 2020; Kass & Griffiths, 2012). Despite the innumerable benefits the internet provides, human interaction and collaboration with cyber entities equipped with artificial intelligence and speech capabilities have also led to new challenges, giving rise to the phenomenon known as "Internet Addiction." Internet addiction is recognized as a modern addiction and has become predominant among behavioral addictions. It typically focuses on models based on psychological vulnerabilities, and research has thus far examined these models and their relationship with internet addiction (Cardfelt & Vinter, 2014). Nevertheless, recent studies have begun to examine the etiological factors and mechanisms underlying this disorder, aiming to enhance our understanding of its development (Montag & Reuter, 2017).

Internet addiction exhibits behavioral patterns similar to substance abuse (Kim et al, 2009), with the key distinction that it lacks the physical health complications associated with chemical addictions, while sharing comparable social consequences. Consequently, internet addiction is often classified as a behavioral addiction, akin to gambling disorder, sexual impulsivity, binge eating, compulsive buying, and similar conditions. It is characterized by escalating time and resources devoted to internet use, and by denial of problematic behaviors.

A shared characteristic with substance addiction is the emergence of withdrawal effects, unpleasant emotional states such as depression or anxiety, when the individual lacks internet access. Furthermore, internet addiction involves the development of tolerance, signifying the need for increased internet exposure to achieve the same level of excitement, alongside repeated unsuccessful attempts to reduce or control use, and impairment in daily life functioning, mirroring the pattern seen in substance use disorders (Robbins & Clark, 2015). According to this perspective, this disorder is considered an impulse-control disorder, similar to pathological gambling. Individuals developing these characteristics often experience psychological, social, and occupational difficulties. Multiple emotional factors have been identified as playing a role in internet addiction among university students (Berte et al., 2021; Kraut et al., 2003).

Oztrk et al. (2015) investigated the relationship between personality traits and internet addiction. For this purpose, 328 Turkish adolescents who were university students were assessed using the Internet Addiction Scale and personality traits inventories. Data analysis

from this study revealed a significant positive relationship between introverted personality and internet addiction. Lin et al. (2020), in a study, examined 3,616 first-year students from across Taiwan to identify any psychological risk factors and compared the mental health components of youth with internet addiction to those of non-addicted peers. Their findings indicated that internet addiction had a significant negative correlation with a secure attachment style and a significant positive correlation with an insecure attachment style.

Furthermore, individuals with internet addiction reported higher levels of anxiety, depression, impulsivity, and aggression. (Sharifi et al., 2020). As a primary force in society, youth play a significant role not only in economics and technology but also in social and cultural transformations. Hence, research dedicated to a better understanding of the psychological and social impacts of the internet on young people has gained increased importance (Blachnio et al., 2019). One of the most important and challenging areas in this field is the issue of internet addiction. This phenomenon has been widely reported among youth and adolescents, and its effects on the behaviors and daily lives of young individuals require more meticulous examination (Balham et al., 2019). On the other hand, psychological dimensions associated with internet addiction, including depression, anxiety, and impulsivity, play a significant role in the formation of this phenomenon.

The proliferation of technology and the concomitant rise in internet usage have necessitated expanded research into internet addiction and its associated psychological factors. While numerous studies on internet addiction have been conducted, several critical aspects still require more meticulous examination (Angan et al., 2020). A key focus of this research is the intricate relationships between depression, anxiety, impulsivity, and internet addiction among Afghan students studying at Iranian universities. An in-depth investigation of these relationships can enhance preventive and therapeutic interventions in this domain, positively impacting the quality of life and academic performance of Afghan students in Iran. The present study, utilizing a combination of statistical methods and psychological analysis, aims to elucidate the connections between various dimensions of internet addiction and different psychological variables. This research can not only be considered a contribution to the body of knowledge in behavioral sciences in Iran and Afghanistan. However, it may also serve as a guide for future interventions aimed at controlling and preventing internet addiction among the population of Afghan students. The current study seeks to answer this fundamental question.

The present study was conducted to investigate the complex relationships between depression, anxiety, impulsivity, and Internet Addiction among Afghan students pursuing their education at universities in Iran. This research not only seeks to yield quantitative and qualitative findings in this domain but also aims to foster a deeper understanding of the role of the internet in the lives of Afghan students, thereby contributing to the refinement of educational policies, therapeutic approaches, and intervention strategies. This research can be considered not only a contribution to the body of knowledge in the behavioral sciences in Iran and Afghanistan but also a guideline for future interventions aimed at controlling and

preventing Internet Addiction among Afghan students. The present study seeks to answer the following fundamental question: Is there a significant correlation between the psychopathological factors implicated in the antecedents of Internet Addiction Disorder?

RESEARCH METHOD

The present study employed a descriptive correlational research design. This descriptive correlational study engaged 268 participants (159 males, 109 females) selected through stratified random sampling from the pool of Afghan students studying in Iranian universities. The study's population comprises all Afghan male and female students pursuing higher education in Iran, totaling 5851 individuals, according to statistics from the Student Affairs Portal for Non-Iranian Students of the Ministry of Science, Research, and Technology for the academic year 2023-2024. Using a stratified random sampling method, the study sample size was determined, with 280 participants selected from the top 10 universities in the Islamic Republic of Iran. The proportional allocation method was applied to ensure representation of each university, and gender balance was maintained through relative allocation.

Following data collection, 12 participants were excluded due to concerns about questionnaire validity, resulting in a final sample of 268 participants. Participant eligibility was contingent on two primary inclusion criteria: enrollment in one of Tehran's universities and providing informed consent. The principal exclusion criterion was the submission of incomplete responses.

The collected data were analyzed at two levels: descriptive and inferential. At the descriptive level, statistical methods, such as the mean and standard deviation, were used to calculate the variables under investigation. At the inferential level, Pearson's correlation coefficient was used to examine the relationships between variables. Data analysis was performed using SPSS software, version 24.

Measures

Internet Addiction Test (IAT): Developed by Young in 1988, it is a 20-item questionnaire based on a 5-point Likert scale. The psychometric properties of the IAT showed that it is a reliable and valid measure (Cronbach's $\alpha = 0.76$) that has been used in various research on IA (Widyanto & McMurrin, 2004).

Beck Anxiety Inventory (BAI): Developed by Aaron Beck and colleagues in 1988, the BAI is a widely used 21-item self-report questionnaire designed to measure the severity of anxiety symptoms in adolescents and adults. It assesses both physiological and cognitive symptoms of anxiety (e.g., nervousness, inability to relax, heart palpitations) on a 4-point scale. Total scores range from 0 to 63, categorizing anxiety into minimal, mild, moderate, and severe levels. Known for its high reliability (Cronbach's $\alpha = 0.92$) and validity, the BAI is widely used in clinical and research settings to screen, diagnose, and monitor anxiety disorders. Its brevity and clarity make it a practical tool for rapid assessment. (Beck et al., 1988).

Beck Depression Inventory (BDI): BDI was developed by Aaron Beck in 1961 and is a widely used 21-item self-report assessment that measures the severity of depression in adolescents and adults. Each item corresponds to a specific symptom of depression (e.g., mood, pessimism, sense of failure) and is rated on a scale from 0 to 3. Total scores range from 0 to 63, with higher scores indicating more severe depressive symptoms, categorized as minimal, mild, moderate, or severe. Renowned for its high reliability and validity, the BI is a cornerstone tool in both clinical practice and research for screening, diagnosing, and tracking depression over time. (Beck, 1961).

Barratt Impulsiveness Scale (BIS-11): Developed by Ernest Barratt in 1985, the BIS-11 is a widely used 30-item self-report questionnaire designed to assess personality and behavioral impulsivity. Respondents rate statements on a 4-point frequency scale. The scale measures three secondary factors: Attentional Impulsiveness (inability to focus attention), Motor Impulsiveness (acting without thinking), and Non-Planning Impulsiveness (lack of future orientation). It provides a total score and subscale scores, with higher scores indicating greater impulsivity. Renowned for its strong psychometric properties, the BIS-11 is a standard tool in clinical, forensic, and research settings for evaluating impulse control disorders, ADHD, substance abuse, and related behaviors (Barratt, 1985).

FINDINGS

The collected data were analyzed using SPSS 24 and statistical tests, including Pearson's correlation and regression analyses.

Table 1. Sociodemographic characteristics of the respondents

Sociodemographic variables		n	%
Gender	Male	159	59.328
	Female	109	40.671
	20 -23-year	30	11.194
Age	23-25Year	71	26.492
	25-27Year	57	21.268
	27-29Year	42	15.671
	29-31Year	43	16.044
	31-33Year	16	5.970
	33-35Year	9	3.358
	Agronomy	32	11.940
Education	Engineering	28	10.447
	Management &Economy	64	23.880
	Arts & humanities	91	33.955
	Science	53	19.776

Table 1 summarizes the respondents' sociodemographic characteristics. The majority were male (59.3%), and the most common age group was 23-25 years (26.5%). In terms of educational background, the most significant proportion of participants studied Arts & Humanities (34.0%), followed by Management & Economics (23.9%) and Science (19.8%).

Table 2 shows the analysis of internet addiction ($M=59.70\pm8.68$), demonstrating significantly higher levels of psychopathology compared to non-addicts ($M=31.60\pm9.16$), $t=27.59$, $p<0.001$. Strong, significant correlations (ranging from $r=0.46$ to $r=0.82$) exist between internet addiction, depression, anxiety, and all facets of impulsivity, indicating a tightly interrelated psychological profile.

Table 2. Clinical characteristics of study variables

Variables	Internet addicts Mean $\pm$ SD	Non-internet addicts Mean $\pm$ SD	α	1	2	3	4	5	t	P
1 Internet addiction	59.70 $\pm$ 8.68	31.60 $\pm$ 9.16	0.79	1					27.59	<0.001
2 Depression	28.31 $\pm$ 7.34	14.21 $\pm$ 9.72	0.92	0.69**	1				14.45	<0.001
3 Anxiety	32.69 $\pm$ 5.64	17.18 $\pm$ 13.16	0.94	0.69**	0.66**	1			17.55	<0.001
4 Planning impulse	30.25 $\pm$ 6.10	21.59 $\pm$ 7.48	0.91	0.69**	0.66**	0.79**	1		13.23	<0.001
5 Motor impulse	26.13 $\pm$ 5.79	14.37 $\pm$ 9.19	0.87	0.63**	0.55**	0.82**	0.75**	1	15.18	<0.001
6 Attention impulse	21.49 $\pm$ 3.19	8.26 $\pm$ 9.43	0.90	0.46**	0.56**	0.34**	0.42**	0.11*	22.53	<0.001

*: $p<0.05$; **: $p<0.001$

The most robust associations were observed with motor impulsivity ($r=0.82$ with anxiety) and planning impulsivity ($r=0.79$ with anxiety). All mean differences between groups were statistically significant ($p<0.001$) and had large effect sizes (t-values ranging from 13.23 to 22.53).

Table 3. Gender-wise and Discipline-wise Distribution of Internet Addiction Test (IAT) Scores

IAT Score	Prevalence Criteria	M	F	Agr	Eng	Man	Art	Sci	Total	Percent
80–100 points	Severe internet user	4	2	1	1	2	1	1	5	0.31
50–79 points	Frequent internet user	33	29	3	3	10	14	8	38	2.37
<49 points	Average internet user	231	237	28	24	52	76	44	224	97.32

IAT-Internet Addiction Test; M: Male; F: Female; Agr: Agreement; Eng: Engineering; Man: Management & Economy; Art: Humanities & Social Science; Sci: Science

Table 3 shows the result of IAT scores, and the vast majority (97.32%) of participants are average internet users, scoring below 49 points. A small minority (2.37%) are frequent users (scoring 50–79 points), and only 0.31% qualify as serious users (scoring 80–100 points).

Table 4. Pattern and risk factor of IA among participants

Gender wise comparison		Category-wise comparison		
Risk factors	χ^2	p	χ^2	p
Time spent per day	15.05	0.005	39.03	0.001
Amount spent per month	15.76	0.003	28.24	0.001
Sources of the Internet	5.68	0.225	13.63	0.092
Appliance for the internet	5.97	0.201	19.28	0.013
App download mostly	8.63	0.071	30.73	0.001
Online chatting	14.10	0.007	21.56	0.006
Online shopping	5.58	0.233	27.22	0.001

Watching YouTube videos	8.04	0.090	14.53	0.069
Decline in Academic grades	6.17	0.188	20.27	0.009
Neglect others	9.53	0.049	29.22	0.001
IMA checking often	2.29	0.683	43.72	0.001
Emails checking often	8.64	0.071	23.39	0.003
Checking SNS	2.46	0.651	24.21	0.002
Physical health issue	4.61	0.330	30.01	0.001
Psychological health issue	14.95	0.005	47.85	0.001
Aggressive behavior	3.77	0.437	47.80	0.001

IMA: Instant Messaging App; SNS: Social Networking Sites

Table 4 shows that category-based differences (e.g., user profiles) are a more significant determinant of internet-related risk factors than gender. Category differences were statistically significant ($p < 0.05$) for 13 of 16 variables, including time spent ($\chi^2 = 39.03$, $p = 0.001$) and psychological health ($\chi^2 = 47.85$, $p = 0.001$). In contrast, gender differences were significant for only five variables, such as time spent ($\chi^2 = 15.05$, $p = 0.005$) and online chatting ($\chi^2 = 14.10$, $p = 0.007$).

Table 5. Predictors of IA among participants

Variables	B	Se	Sig. (2-tailed)	Lower	Upper
Depression	-0.011	0.064	0.856	-0.146	0.101
Anxiety	-0.045	0.034	0.141	-0.116	0.019
Planning impulse	-0.252	0.090	0.002	-0.446	-0.101
Motor impulse	0.439	0.098	<0.001	0.296	0.694
Attention impulse	-0.713	0.166	<0.001	0.090	-0.462
Gender	0.47	0.240	0.050	-1.110	
Age	0.46	0.172	0.007		
Education	0.22	0.095	0.019		
Year of study	-0.62	0.201	0.002		

Table 5 shows that the regression analysis identifies specific impulsivity facets as significant predictors of psychological outcomes, surpassing the effects of demographics. Motor impulsivity ($\beta = 0.439$, $p < 0.001$) was a strong positive predictor, while attention ($\beta = -0.713$, $p < 0.001$) and planning impulsivity ($\beta = -0.252$, $p = 0.002$) were significant negative predictors. Neither depression nor anxiety was significant in the model. Among covariates, age ($\beta = 0.46$, $p = 0.007$) and education ($\beta = 0.22$, $p = 0.019$) were positive predictors, while year of study ($\beta = -0.62$, $p = 0.002$) was a negative predictor.

DISCUSSION

This research aimed to investigate the prevalence and risk factors of Internet Addiction (IA), and to examine and compare pertinent psychopathological variables. The findings indicate that a significant minority of the student population met the criteria for IA, a prevalence rate that is consistent with previous studies (Sharma et al., 2015). An analysis across fields of study revealed that engineering students demonstrated a markedly higher susceptibility to IA

compared to their peers, with students in science disciplines also showing a notable propensity. This pattern suggests that students in technical and scientific fields may rely more heavily on the internet, likely due to the demands of accessing electronic scientific resources (Jones, 2008). However, Agronomy students are also reaching the threshold of severity, even though they are in a nontechnical discipline (Ghamari et al., 2011; Salehi et al., 2014). A higher proportion of male students fall into the severe internet use category than females, indicating that males are more prone to IA than females (Bisen & Deshpande, 2016; Durkee et al., 2012). However, contrary to this, females are more frequent internet users than males, suggesting they are also on the verge of becoming addicted to the internet, as shown in the results of this study. It is noted that males differ significantly from females in their preferred online activities. Males are indulging in intimacy over the internet, forming new relationships frequently, and getting into violent behavior if someone disturbs them while online. In contrast, females neglect household activities, conceal online sessions, and decline study routines.

The pattern of internet use varied across risk factors. Results found that the IAD group spent 5–6 hours a day on the internet, 4–6\$. Monthly expenditure on an internet connection, indulging in social networking sites, spending >3 hrs. In checking instant messaging apps for every notification, and checking e-mails every hour. In contrast, the N-IAD group uses the internet for <1 hour and spends <\$1. Monthly expenses for <30 minutes checking Instant messaging apps once a day. The difference between the two groups is significant at $p > 0.01$. In these results, it has been shown that IA is not justified as a separate entity but undoubtedly bundled with psychiatric comorbidity (Bisen & Deshpande, 2018). Compared to non-addicted individuals (N-IAD), those with Internet Addiction Disorder (IAD) demonstrate a significantly stronger association between IA and symptoms of depression (Kim et al., 2006), anxiety (Ismail et al., 2021), and impulsivity (Wang et al., 2017; Lee et al., 2012).

The findings of this study generally indicate that excessive internet use can disrupt the social and psychological well-being of adolescents and youth. As previously suggested, internet addiction essentially functions as a coping mechanism for individuals who feel rejected in the real world and are experiencing loneliness, depression, and anxiety. The internet's considerable capacity for virtual companionship and for mitigating negative affective states such as frustration, depression, and social anxiety constitutes its primary appeal for filling these psychological voids.

However, this study has several limitations. The study was restricted to the 20–35-year age group. Future studies are suggested to conduct a robust comparison across age groups to investigate the prevalence and determinants of IA. We have only included self-report measures in this study. Hence, there is the possibility of differences between the prevalence found in this study and the actual prevalence. Therefore, future studies can extend the work by using different methods of data collection, such as structured interviews, observation, and case reports. The study is limited to Afghan students studying at Iranian universities.

Therefore, other parts of Afghan students should also be covered to have a broad generalization.

CONCLUSION

IA has been thought to be a public health issue, but few studies have been done to establish its prevalence and treatment options. The current study, conducted among Afghan students studying at an Iranian University, aimed to reveal the propensity for IA. The results showed that 12.7% of Afghan students studying in Iranian universities are facing serious physical and mental health issues due to internet overuse, which is quite high. It concluded that there is a significant correlation between anxiety, depression, and impulsivity in the IAD group compared to the n-IAD group. In order to fight such a behavioral addiction, psychological interventions like cognitive behavioral therapy, family therapy, and pharmacological approaches are potentially effective treatments. Spreading awareness via psycho-education to the public, policymakers, teachers, parents, and students concerning IA and its health hazards, as well as planning and execution of precautionary actions, is needed urgently in Afghanistan. Despite its limitations, this study provides valuable insights into internet addiction among Afghan students in Iranian universities. The findings highlight a significant association between IA and mental health issues, particularly depression, anxiety, and impulsivity. The identified risk factors—such as male gender, a technical field of study, and excessive time/money spent online — can inform targeted interventions.

However, further research is needed to examine causal relationships, incorporate objective measures, and expand the sample to include a broader range of demographics. Policymakers and educators should consider these findings when designing digital wellness programs, promoting balanced internet use, and addressing underlying mental health concerns among students. In conclusion, while the study contributes to the growing body of research on IA, its findings should be interpreted with consideration of methodological constraints and cultural context. Future studies should adopt a more diverse set of methodologies to validate and expand upon these results.

AUTHORS CONTRIBUTIONS

In this study, the first author contributed to data collection, test administration, and analysis and interpretation of the results. In contrast, the second, third, and fourth authors participated in gathering resources, writing the introduction and literature review sections related to internet addiction, and finalizing the manuscript.

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DATA AVAILABILITY STATEMENT

Data supporting the findings of this study are available upon request from the corresponding author.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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