Perceived Stress, Personality Traits on Internet Addiction Among Young Adults: A Cross Sectional Study

Anjana Sinha, Sujatha, V. R. Priyanka, Cynthia Sara James, and N. C. Kiran Babu

1 Introduction

Internet addiction refers to excessive and compulsive use of the internet that interferes with daily life, responsibilities, and social well-being spoils interpersonal relationship. It's often characterized by a loss of control over internet use, preoccupation with online activities, breaking off when not online, and negative consequences on various aspects of life, such as work, family relationships, and mental health. Common online activities that can contribute to internet addiction include excessive social media use, online gaming, streaming videos, browsing, online shopping, and gambling. The obsessive nature of these activities can lead to neglect of real-world responsibilities, social isolation, sleep disturbances, anxiety, depression, and decreased overall quality of life. Internet addiction is dysfunctional behavior associated with intense or inadequately regulated addictions, inclinations, or behaviors in relation to computer use and Internet access, resulting in disability or stress [1, 2]. It is influenced by social factors such as demographics, availability and access to the

A. Sinha (✉) · Sujatha · V. R. Priyanka · C. S. James · N. C. Kiran Babu
Department of Psychology, Kristu Jayanti College, Bengaluru, India
e-mail: anjana@kristujayanti.com

Sujatha
e-mail: sujatha@kristujayanti.com

V. R. Priyanka
e-mail: priyanka.vr@kristujayanti.com

C. S. James
e-mail: cynthiasara@kristujayanti.com

N. C. Kiran Babu
e-mail: kiranbabu@kristujayanti.com

A. Sinha
Department of Psychology, Reva University, Bangalore, India

internet, and biological factors such as genetics [3]. Internet addiction is linked to various personality traits, such as neuroticism where the Internet addiction is one of its primary causes [4]. People high in neuroticism tend to be internet addicts, exhibit inappropriate responses, and can cause depression [5].

The concept of perceived stress is complex and encompasses numerous causal and beneficial factors. Stressful life experiences trigger the sympathetic nervous system and the hypothalamic–pituitary–adrenal axis, altering the body's reaction and affecting the immune, metabolic, and cardiovascular systems [2, 6–8]. The importance of mental health indicators as a risk consideration for physical and psychological illnesses has recently become clear in clinical and epidemiological studies, especially in affluent societies and recently also in emerging countries. Rare causes of death such as suicide cannot fully explain the large increase in mortality in the general population, which is also linked to psychological stress. The association between mental stress and poor lifestyle may partially help explain this excess mortality from natural causes in people with mental stress [8]. Factors such as socioeconomic factors, gender impact, and sociodemographic and occupational variables are important determinants of mental health.

Personality also encompasses their attitudes, moods, and beliefs, and it is most easily observed in how they interact with other people. The study of personality has two main meanings: the persistent differences between humans and the traits that make all humans the same and distinguish the psychological human from other species [9].

Openness, conscientiousness, extraversion, agreeableness, and neuroticism are the Big Five traits of personality. Conscientiousness is organized, disciplined, and goal-oriented, but openness is a person's receptivity to experiences. Extraversion is the most well-known personality trait, with extraverts being talkative and outgoing, and drawing force from groups. Agreeability gauges a person's degree of warmth and friendliness. Unpleasant people are aloof, wary of others, and less willing to work together. Neuroticism is a personality trait linked to bad health outcomes such as anxiety and depression. People high in neuroticism tend to worry and easily fall into anxiety and depression, while people low in neuroticism tend to be emotionally stable and balanced [10].

These attributes are largely reported to a variety of operational areas, including psychopathology, academic and occupational deed, mental well-being, religion, culture, longevity, and marital success [7]. The Five Factor Model (FFM) (Big Five) is a popular tool for studying personality traits that share the following five attributes: Conscientiousness, Extraversion, Agreeableness, Openness to Experience, and Emotional Stability [11].

Internet addiction is a growing phenomenon worldwide, particularly in countries with widespread computer access and technology [12, 13]. Factors associated with Internet addiction include stress, personality traits, depression, and anxiety [14]. The objective of the current investigation is to find a connection between personality traits, Internet addiction and the perception of stress in young adults.

According to a longitudinal study by [15], adolescent internet expectancy and self-discipline acted as an intervening factor in the relationship between perceived

stress and excessive internet use. The Perceived Stress Scale (PSS) demonstrated a respectable level of reliability and demonstrated relationships with scores on life events, depressing and physical symptoms, and usage of health facilities, social anxiety, and maintaining smoking cessation. The PSS is advised as a tool for determining the degree of stress experienced as well as for examining the role of non-specifically evaluated stress in the etiology of disease and behavioural disorders.

In a survey of 888 college students, it was discovered that 49 of them were addicted to the Internet after graduation and achieved considerably higher on neuroticism/ stability, psychoticism/socialization, and lying than their regular counterparts did. These conclusions imply that neuroticism, psychoticism, and immaturity are risk personality aspects for Internet addiction. High degrees of neuroticism are associated with internet addiction, and neurotic individuals use the internet to interact with their thoughts and feelings, which increases their chance of developing depression [7].

According to a different study, higher internet usage rates and higher levels of anxiety are related to life satisfaction and anxiety [9]. According to [9], there is a direct correlation between felt stress and anxiety and both academic performance and active coping during exams [10]. Looked explored the relationship between personality traits and religiosity as protective or risk variables for young Israeli-Palestinian adults acquiring internet addiction.

The lack of studies specifically addressing the relationship between personality traits, perceived stress, and internet addiction in young adults is a study vacuum in the literature. Therefore, the present investigation is to improve early detection and prevention efforts by examining this association in Bengaluru and Thiruvananthapuram, India.

2 Method

The non-experimental correlational research design was used to understand the relationship between Big Five personality traits, perceived stress and internet addiction among 220 young adults (age group of 18–25 years). The sample comprising of 109 males and 119 females were chosen from Thiruvananthapuram and Bengaluru using convenient sampling. The participants were administered with the following questionnaires by the researchers.

Chen Internet Addiction Scale
Perceived Stress Scale
Big Five Inventory

2.1 Objectives

1. To study the relationship between Big Five Personality traits and Internet addiction among young adults.

2. To study the relationship between Perceived Stress and Internet addiction among young adults
3. To determine the influence of Personality Traits and Perceived Stress on internet addiction among young adults.

2.2 Hypotheses

H^{01}: There is no significant relationship between Big Five personality traits and Internet addiction among young adults
H^{02}: There is no significant relationship between perceived stress and Internet addiction among young adults
H^{03}: There is no significant influence of Big Five personality traits and perceived stress on Internet addiction among young adults

2.3 Variables of the Study

Dependent variable—Internet addiction
Independent variable—Big Five personality traits, Perceived stress

2.4 Ethical Considerations

The article focuses on the ethical considerations and statistical analysis methods used in a study. In terms of ethical considerations, the participants in the study were provided with informed consent before participating. They were informed about the purpose and nature of the study and were assured that their data would be kept anonymous and confidential. The data collected from the participants would only be used for research purposes.

2.5 Statistical Analysis

In terms of statistical analysis, the researchers used the Statistical Package for the Social Sciences (SPSS) 15 software. This software allowed them to perform both descriptive and inferential statistics. Descriptive statistics were used to summarize and organize the data collected in the study. Measures such as mean, median, and standard deviation were used to provide a comprehensive understanding of the data.

3 Results and Discussion

The collected data were scored, tabulated and calculated.

Table 1 shows the mean and standard deviation of internet addiction, perceived stress and personality traits. The total sample size (N) = 220 emerging adults. For internet addiction, the mean was found to be 56.2 and standard deviation was found to be 13.39. For perceived stress, the mean was 20.31 and S.D. was 6.3. For extroversion, the mean was 25.71 and S.D. was 5.93. For agreeableness the mean was 33.16 and S.D. was 4.93.For conscientiousness, the mean was 28.31 and S.D. was 5.59. For neuroticism, the mean was 24.42 and S.D. was 5.8.Finally for Openness, the mean was found to be 34.82 and standard deviation was found to be 5.57. It can be found that overall agreeableness is high compared to other personality traits (Table 2).

$H_0$1.1: There will no significant relationship between Extroversion and internet addiction among emerging adults. For Internet Addiction and Agreeableness it has a negative low correlation $r = -\ 0.15$, $p < 0.05$ and was statistically significant at 0.05 level. So the null hypothesis was rejected, $H_0$1.2: There will no significant relationship between Agreeableness and internet addiction among emerging adults. For Internet Addiction and Conscientiousness there was a negative low correlation $r = -\ 0.30$, $p < 0.001$ and was statistically significant. So the null hypothesis was rejected, $H_0$1.3: There will no significant relationship between Conscientiousness and internet addiction among emerging adults. For Internet Addiction and Neuroticism perfect positive correlation $r = 0.19, p < 0.001$ and was statistically significant. So the null hypothesis was rejected, $H_0$1.4: There will no significant relationship between Neuroticism and internet addiction among emerging adults. For Internet Addiction and Openness had negative low correlation $r = -\ 0.14, p < 0.05$ and was statically significant at 0.05 level. So the null hypothesis was rejected, $H_0$1.5: There will no significant relationship between Openness and internet addiction among emerging adults (Table 3).

Agreeableness was positively related to Internet addiction. Conscientiousness was negatively related to Internet addiction [16, 17]. The correlation was calculated for the two variables, i.e. Percieved stress and Internet Addiction for 220 emerging adults which were further broken down into 101 males and 119 females and significant at $p < 0.01$ levels. As shown in Table 2. The Pearson correlation results showed that there was a perfect positive correlation between Internet Addiction and Perceived Stress $r = 271, p < 0.01$ Therefore, the study rejects the null hypothesis $H_0$2: There will no significant relationship between perceived stress and internet addiction among emerging adults. Over all the results shows that all the two variables are positively correlated (Table 4).

In Step 1 regression, the results indicated that the Extroversion on Internet Addiction was statistically not significant. In Step 2, it was found between Extroversion and Agreeableness on Internet Addiction, Extroversion was found to be statistically not significant and Agreeableness was found to be $B = 67.78, p < 0.05$. In Step 3, it was found between Extroverison, Agreeableness and Conscientiousness on Internet Addiction, Extroversion was found to be statistically not significant, Agreeableness

Table 1 Descriptive statistics of internet addiction, perceived stress and personality

N = 200	Internet Addiction	Perceived stress	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Mean	56.22	20.31	25.71	33.16	28.31	24.42	34.82
Std. deviation	13.39	6.35	5.93	4.93	5.59	5.89	5.57

Table 2 Correlation between internet addiction and personality traits

N = 220		Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Internet addiction		0.03	− 0.15*	− 0.30***	0.19***	− 0.14*
Mean	56.2	25.71	33.16	28.31	24.42	34.82
Standard deviation	13.39	5.93	4.93	5.59	5.89	5.57

$^{*}p < 0.05,^{**}p < 0.01,^{***}p < 0.001$

Table 3 Correlation between perceived stress and internet addiction

	Mean(S.D.)	Internet addiction	Percieved stress
Internet addiction perceived stress	56.22(13.39)	–	0.27***
	26.31(6.35)	0.27***	–

$^{***}p < 0.001$

was found to be $B = 84.43$, $p < 0.01$, Conscientiousness was found to be $B = 84.43$, $p < 0.001$. In Step 4, it was found between Extroverison, Agreeableness, Conscientiousness and Neuroticism on Internet Addiction. Here Extroversion was found to be $B = 72.4$, $p < 0.05$, Agreeableness was found to be $B = 72.47$, $p < 0.05$, conscientiousness was found to be statistically not significant, neuroticism was found to be statistically not significant.

In Step5, it was found between Extroversion, Agreeableness, Conscientiousness, neuroticism and openness on internet addiction, Extroversion was found to be $B = 74.43$, $p < 0.05$, agreeableness was statistically not significant, Conscientiousness was found to be $B = 74.43$, $p < 0.001$, neuroticism was found to be $B = 74.43$, $p < 0.05$and openness was statistically not significant. In Step 4, it was found between Extroversion, Agreeableness, Conscientiousness and Neuroticism on Internet Addiction. Here Extroversion was found to be $B = 72.47$, $p < 0.05$, agreeableness was found to be $B = 72.47$, $p < 0.05$, conscientiousness was found to be statistically not significant, neuroticism was found to be statistically not significant. In Step 5, it was found between Extroversion, Agreeableness, Conscientiousness, Neuroticism, Openness and Perceived Stress on Internet Addiction, Extroversion was found to be $B = 68.14$, $p < 0.05$, Agreeableness was statistically not significant, Conscientiousness was found to be $B = 68.14$, $p < 0.001$, neuroticism was found to be not statistically significant, openness was statistically not significant and Perceived Stress was found to be $B = 68.14$, $p < 0.05$). The above results are in concordance with the present findings.

Table 4 Stepwise regression of personality traits and perceived stress on internet addiction

Model	Unstandardized coefficients B	Std. error	t	Sig.
Step1	54.23	4.03	13.43	
Extroversion	0.077	0.15	0.505	0.614
Step 2	67.78	7.14	9.49	0.001
Extroversion	0.08	0.15	0.582	0.561
Agreeableness	− 0.41	0.18	− 2.29	0.023
Step 3	84.38	7.56	11.15	0.001
Extroversion	0.25	0.14	1.69	0.091
Agreeableness	− 0.38	0.17	− 2.20	0.029
Conscientiousness	0.77	0.15	− 4.95	0.001
Step 4	72.47	10.01	7.23	0.001
Extroversion	0.31	0.15	2.09	0.038
Agreeableness	− 0.35	0.17	− 2.02	0.044
Conscientiousness	− 0.69	0.16	− 4.30	0.001
Neuroticism	0.28	0.15	1.80	0.073
Step 5	74.34	10.18	7.30	0.001
Extroversion	0.32	0.15	2.13	0.034
Agreeableness	− 0.30	0.17	− 1.70	0.091
Conscientiousness	− 0.64	0.16	− 3.81	0.001
Neuroticism	0.31	0.16	1.97	0.050
Openness	− 0.16	0.16	− 1.00	0.316
Step 6	68.14	10.56	6.45	0.001
Extroversion	0.33	0.15	2.20	0.029
Agreeableness	− 0.28	0.17	− 1.58	0.115
Conscientiousness	− 0.54	0.17	− 3.10	0.002
Neuroticism	0.15	0.18	0.83	0.407
Openness	− 0.17	0.16	− 1.08	0.279
Percieved stress	0.33	0.16	2.02	0.044

4 Summary, Conclusion and Implication

This scientific article explores the relationship between personality traits, perceived stress, and internet addiction among young adults. Specifically, the study aims to determine if there is a significant link between personality traits (including extraversion, agreeableness, conscientiousness, neuroticism, and openness) and internet addiction, as well as whether perceived stress is related to internet addiction. For the young adults, it's is an age where they have to make complex life decisions,

career decisions, find a suitable spouse, self-focus, feeling in between, and of possibilities and these are the factors that may make them to alter their life choices, and in this day and age when lifestyle choices are quite sedentary, there are high chances of a person depending or using the internet in a way that can hamper with their day-to-day proper functioning.

Addictive behaviors can be a way for individuals to avoid feelings of anxiety or depression, or as a means of coping with daily stressors. This suggests that factors such as personality and perceived stress could play a role in an individual's internet usage and potentially lead to addiction. Study indicate that there is indeed a significant association between personality traits and internet addiction among young adults. This suggests that individuals with these traits may be more prone to developing an addiction to the internet.

Additionally, the study found a significant relationship between perceived stress and internet addiction among young adults. Higher levels of perceived stress were related with higher levels of internet addiction. This suggests that individuals who perceive themselves as experiencing more stress are more likely to turn to the internet as a coping mechanism or form of escapism.

Overall, this research highlights the importance of considering personality traits and perceived stress when examining internet addiction among young adults. These findings have implications for intervention and prevention strategies aimed at reducing internet addiction among young adults. By identifying individuals with specific personality traits or high levels of perceived stress, targeted interventions can be developed to address their unique needs and help mitigate the risk of internet addiction.

Finally, personality traits and perceived stress are related to internet addiction among young adults. The findings suggest that those with certain personality traits and higher levels of perceived stress may be at a greater risk of developing an addiction to the internet. These findings can inform the development of targeted interventions and prevention strategies to address internet addiction in this population.

5 Limitations

However, it is important to note that this study has certain limitations. The cross-sectional design of the study only captures data at a single point in time, making it difficult to establish causal relationships between variables. Longitudinal studies could provide a more comprehensive understanding of how perceived stress and personality traits contribute to internet addiction over time. The sample might not represent the entire population of young adults accurately. If participants are recruited from a specific location, the results may not be generalizable to a broader population. Study's findings could be influenced by the cultural context of the participants. Perceived stress, personality traits and internet addiction might be perceived and experienced differently across cultures, limiting the generalizability of the results to

other cultural settings. Finally, the study focuses on young adults, so the findings may not apply to other age groups. Internet addiction and its correlates might differ in children, adolescents, and older adults.

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