Original Research Paper

Volume - 16 | Issue - 07 | July - 2026 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Psychology

NAVIGATING THE DIGITAL WORLD: GENDER DIFFERENCES IN INTERNET ADDICTION AND PSYCHOLOGICAL WELL-BEING AMONG ADOLESCENTS

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ABSTRACT **Background:** The advancement and rapid expansion of digital technology has considerably transformed the lives of adolescents globally. The internet now serves as an essential instrument for education, communication, entertainment, and social interaction. Although there are many benefits to using the internet, excessive and unchecked use can result in dangerous behavioural patterns known as internet addiction. Due to developmental factors like identity formation, emotional instability, peer pressure, and growing autonomy, adolescents are especially vulnerable to internet addiction. Overuse of the internet has been linked to a number of behavioural and psychological problems, such as social isolation, anxiety, depression, academic difficulties, and decreased psychological well-being. **Method:** The present study examined the relation between internet addiction and psychological health among adolescents. A cross-sectional survey method was used on 200 adolescents having 100 males and 100 females between the ages of 12 and 15 from secondary schools in Kolkata, India. Participant completed Ryff's Psychological Well-Being Scale and Young's Internet Addiction Test (IAT). **Results:** The findings showed that female participants reported significantly higher levels of psychological well-being. A statistically significant negative relationship between internet addiction and psychological well-being was found ($r = -.58$, $p < .01$). These findings imply that excessive internet use may have a detrimental effect on adolescent's psychological functioning and overall wellbeing. **Conclusion:** In order to promote healthy internet behaviours and improve teenage well-being, the study emphasizes the significance of putting in place school-based interventions, parental supervision, digital literacy instruction, and psychological support systems.

KEYWORDS : Internet Addiction, Psychological Well-Being, Adolescents, Psychological Support System, Digital literacy, etc.

INTRODUCTION

The twenty-first century has witnessed unprecedented advancements in information and communication technologies. Among these developments, the internet has emerged as one of the most influential innovations affecting nearly every aspect of human life. The internet has revolutionised communication, education, commerce, healthcare, entertainment, and social interactions. For adolescents, internet access has become increasingly integrated into daily activities, making digital engagement a central component of contemporary adolescence.

Adolescence is a period marked by substantial biological, cognitive, emotional, and social transformations. These developmental stages can provide psychological challenges that call for effective coping mechanisms. As a result, teenagers may use the internet for entertainment, identity development, social support as well as emotional control.

While excessive use of the Internet has raised alarm among researchers, educators, and mental health experts, moderate use can be beneficial in improving social connectedness, school achievement, and information gathering. There are concerns that the increasing use of mobile phones, social media, internet gaming and video streaming services is encouraging adolescents to spend too much time looking at screens.

Research shows that teenagers often devote many hours a day to online activities that affect their academic responsibilities, physical activity, family relationships, and sleep quality. As a result, their psychological adjustment and general well-being may be negatively impacted by such behavioural patterns.

Psychological well-being is a multifaceted concept that signifies healthy mental health and optimal performance. Ryff (1989) defined psychological well-being as consisting of six dimensions: self-acceptance, autonomy, environmental mastery, personal growth, purpose in life, and positive relationships with others. Individuals exhibiting elevated psychological well-being display resilience, life satisfaction, proficient coping mechanisms, and constructive interpersonal relationships.

The concept of internet addiction was first systematically discussed by Young (1998), who described it as an impulse-control disorder characterised by excessive internet use resulting in impairment in personal, academic, and social functioning. Since then, internet addiction has become an important area of investigation within behavioural addiction research.

Understanding the relationship between internet addiction and psychological health is important because adolescence is a critical stage for the development of mental health. Preventive actions and educational initiatives aimed at promoting healthy development in digital environments might be guided by identifying factors that contribute to decreased well-being.

There are numerous studies have done on the increasing risk of in internet addiction among adolescents worldwide. Adolescent's exposure to online environments has significantly increased due to the widespread accessibility of cell phones and high-speed internet. About six percent of people worldwide may experience problematic internet use, according to a meta-analysis by Cheng and Li (2014). Due to their greater engagement in digital activities and developmental weaknesses, adolescents have higher prevalence rates.

Studies show that numerous psychological issues have been connected to excessive internet use. According to Ko et al. (2009), there are strong links between teen internet addiction and emotional instability, anxiety, and depression. Internet addiction is linked to low self-esteem, poor social adjustment, loneliness, and lower academic accomplishment, according to Kuss and Griffiths (2012). Overuse of the internet can disrupt sleep patterns, make it difficult to concentrate, and reduce participation in offline social activities. Ozdemir et el. (2014) also discovered that internet addiction is a strong predictor of diminished psychological well-being in adolescents. Anderson et al. (2017) showed that problematic internet use predicts worse life satisfaction and emotional well-being.

The present data collectively indicates that internet addiction may significantly jeopardise teenage mental health and well-being. Recent studies indicate that teenagers who excessively engage online may have challenges in emotional regulation, interpersonal connections, and identity formation, consequently impairing their psychological well-being. Adolescents possessing elevated psychological well-being typically demonstrate enhanced resilience, optimism, self-assurance, and social competence. This study aims to investigate internet addiction and its correlation with psychological well-being among school-aged teenagers in India.

The Present Study

The rapid digitalisation of society has increased adolescent's dependence on internet-based activities. Despite numerous benefits, excessive internet use has raised concerns regarding its impact on mental health and psychological functioning. In the Indian context, empirical studies examining internet addiction and psychological well-being among school-going adolescents remain limited. The study is grounded in Ryff's Psychological Well-Being Theory and the Cognitive-Behavioural Model of Problematic Internet Use. internet as

a coping strategy, which can eventually result in addiction and diminished well-being. The present study addresses this gap by investigating the relationship between these variables among adolescents in Kolkata.

Objectives of the Study

1. To evaluate internet addiction and psychological well-being in adolescents.
2. To investigate gender disparities in internet addiction.
3. To investigate gender disparities in psychological well-being.
4. To determine the relationship between internet addiction and psychological well-being.

Hypotheses

The following hypotheses were framed for this study:

H1: Boys and girls differ significantly in internet addiction.

H2: Boys and girls differ significantly in psychological well-being.

H3: Internet addiction is negatively correlated with psychological well-being.

METHOD

Sample & Procedure

A descriptive cross-sectional survey design was adopted. The sample consisted of 200 adolescents aged 12–15 years from two secondary schools in Kolkata. The gender distribution was balanced, with 100 boys (50%) and 100 girls (50%) participating in the study. This equal representation of boys and girls helps minimise gender bias and allows for meaningful comparisons between male and female adolescents regarding internet addiction and psychological well-being.

The purposive sampling was used in present study to choose participants. This technique was deemed suitable as the research especially sought to examine internet addiction and psychological well-being in adolescents who frequently utilise the internet.

Participants had to fulfil specific inclusion requirements. Enrolment in conventional educational institutions was required, with an age range of 12 to 15 years, and access to internet-capable devices such as smartphones, tablets, or PCs was necessary. Students with serious medical or psychological conditions that could substantially impact their replies were excluded from the study.

Following a thorough explanation of the study's goals and importance, permission was secured from the relevant school officials. Participants were selected from this pool of eligible students to ensure enough representation of both genders and diverse age groups.

The Internet Addiction Test (IAT), which was created by Young (1998), is one of the most commonly used and standardized tools for measuring problematic internet use and internet addiction. It consists of 20 items that measure how much an individual's internet use affects their daily routine, social life, productivity, sleeping patterns, and emotional well-being. Participants answer each item on a five-point Likert scale that ranges from 1 (Rarely) to 5 (Always). The total scores range from 20–39 indicate average internet use, 40–69 indicate moderate internet addiction, and 70–100 indicate severe internet addiction. Psychological well-being was assessed using Ryff's Psychological Well-Being Scale (1989). The measure is based on Ryff's multifaceted model of positive psychological functioning. It assesses six essential components of well-being: self-acceptance, positive interpersonal relationships, autonomy, environmental mastery, life purpose, and personal development. More psychological well-being is indicated by higher scores. A Likert-type scale is used to rate a set of statements that make up the instrument. Ryff's scale defines well-being as not just the absence of psychological suffering but also optimal human growth and positive psychological functioning.

Before commencing data collection, formal approval was obtained from the principals and administrative authorities of the participating schools. Teachers, parents, students, and school administrators were all given a thorough explanation of goals, importance, and methods of the present study. Participants received assurances that their answers would be kept private and used only for scholarly and scientific objectives. Data was gathered in a classroom environment during regular school hours. The participants were given clear instructions on how to fill out the questionnaires. They were told there were no right or incorrect answers and encouraged to answer truthfully. Anonymity was upheld throughout to reduce response bias.

Demographic Information

The participants first filled out a self-created demographic questionnaire that collected information on age, gender, academic level, family history, and internet usage tendencies. They subsequently performed the Internet Addiction Test (IAT) and the Psychological Well-Being Scale. The administration of all instruments necessitated around 30 to 40 minutes.

Following this process, the questionnaires were subjected to a comprehensive screening procedure to guarantee that they were accurate and comprehensive. Throughout the research process, the ethical principles of participant welfare, voluntary participation, informed consent, and confidentiality were adhered to in a stringent manner.

Table 1: Demographic Characteristics of Participants (N = 200)

Variable	Category	Frequency	Percentage
Gender	Boys	100	50%
Gender	Girls	100	50%
Age	12 Years	42	21%
Age	13 Years	54	27%
Age	14 Years	58	29%
Age	15 Years	46	23%

Table 1 presents the demographic profile of the adolescents who participated in the study. It provides information regarding the participant's gender and age distribution. The sample consisted of 200 adolescents, equally divided between boys (50%) and girls (50%). With respect to age, 29% of the participants were 14 years old, 27% were 13 years old, 23% were 15 years old, and 21% were 12 years old. The balanced gender distribution and adequate representation across age groups suggest that the sample was suitable for examining the relationship between internet addiction and psychological well-being among adolescents.

RESULTS & DISCUSSIONS

The collected data were coded, tabulated, and analysed using appropriate statistical techniques. Descriptive statistics, such as the mean (M) and standard deviation (SD), were computed to summarize adolescent's levels of internet addiction and psychological well-being; an independent-samples t-test was used to examine gender differences in internet addiction and psychological well-being; Pearson's Product-Moment Correlation Coefficient (r) was computed to determine the nature and strength of the relationship between internet addiction and psychological well-being; statistical significance was tested at the 0.05 and 0.01 levels, and the results were interpreted appropriately.

Table 2: Descriptive Statistics of Internet Addiction and Psychological Well-Being (N = 200)

Variable	Mean	SD
Internet Addiction	49.87	12.41
Psychological Well-Being	184.65	21.34

Table 2 presents the descriptive statistics for internet addiction and psychological well-being among adolescents. The mean score of internet addiction was 49.87 (SD = 12.41), indicating a moderate level of internet addiction among the participants. The mean score for psychological well-being was 184.65 (SD = 21.34), indicating that adolescents generally experienced a satisfactory level of psychological well-being. The obtained standard deviations indicate moderate variability in both variables, reflecting individual differences in internet use behaviour and psychological functioning.

The results indicate that adolescent's daily routines now heavily incorporate internet use. Despite being in the moderate range, the average internet addiction score raises questions about the possible psychological effects of excessive internet use. However, the comparatively high psychological well-being score shows that despite frequent internet use, many teenagers maintain healthy psychological functioning.

Nonetheless, the cohabitation of varied degrees of psychological well-being and mild internet addiction emphasises how crucial it is to look at the connection between these factors. The descriptive results provide initial evidence that adolescent's emotional and psychological well-being may be affected by excessive internet use; the correlation analyses in the following tables further investigate this finding.

Table 3: Gender Difference in Internet Addiction

Gender	Mean	SD	t-value
Boys	52.40	11.65	2.35*
Girls	47.34	12.90	
p < .05			

Table 3 presents the gender-wise comparison of internet addiction scores among adolescents. The mean internet addiction score for boys (M = 52.40, SD = 11.65) was higher than that of girls (M = 47.34, SD = 12.90). The statistically significant t-value (t = 2.35, p < .05) confirms that gender is an important factor associated with internet addiction among adolescents. Thus, boys were found to exhibit significantly higher levels of internet addiction than girls. Therefore, Hypothesis 1 was accepted.

The higher internet addiction scores among boys may be explained by their greater involvement in activities such as Online gaming, Competitive multiplayer games, Video streaming, Social media engagement, and technology-oriented recreational activities. The findings are consistent with earlier studies conducted by Young (1998), Ko et al. (2009), and Kuss and Griffiths (2012), which reported higher levels of internet addiction among boys compared to girls.

Table 4: Gender Difference in Psychological Well-Being

Gender	Mean	SD	t-value
Boys	180.25	20.43	2.12*
Girls	189.05	21.85	
p < .05			

Table 4 presents the gender-wise comparison of psychological well-being among adolescents. It is evident from the above table the Mean value on psychological well-being score of girls (M = 189.05, SD = 21.85) was higher than that of boys (M = 180.25, SD = 20.43). The obtained t-value (t = 2.12, p < .05) indicates a statistically significant gender difference in psychological well-being. Thus, female adolescents were found to possess significantly higher psychological well-being than male adolescents. Therefore, Hypothesis 2 was accepted.

The greater psychological well-being of girls can be linked to various elements, such as lower internet addiction, stronger social support systems, and improved emotional expression. Table 3 shows that girls exhibited lower levels of internet dependency compared to boys. A reduction in excessive internet engagement could lead to better psychological adjustment and overall health. These results are consistent with prior studies indicating that effective coping mechanisms, emotional awareness, and supportive connections are vital factors for the psychological well-being of adolescents.

Table 5: Correlation between Internet Addiction and Psychological Well-Being

Variables	r-value
Internet Addiction and Psychological Well-Being	-0.58**
p < .01	

Table 5 illustrates the correlation between internet addiction and psychological well-being among adolescents. The findings indicate a significant negative correlation between the two variables ($r = -0.58$, $p < .01$). This result suggests that higher levels of internet addiction are associated with lower levels of psychological well-being. Consequently, adolescents exhibiting excessive internet use tend to experience diminished psychological functioning, whereas those with lower levels of internet addiction tend to report enhanced psychological well-being. Therefore, Hypothesis 3 was accepted.

The negative correlation indicates that a number of aspects of psychological well-being, such as self-acceptance, interpersonal relationships, environmental mastery, personal development, life purpose, and autonomy, may be negatively impacted by excessive internet use. The findings are consistent with earlier research by Young (1998), Ko et al. (2009), Caplan (2002), Kuss and Griffiths (2012), and Anderson et al. (2017), which all found a link between problematic internet use and poor psychological well-being and negative mental health outcomes. A significant relationship between the variables is indicated by a correlation coefficient of -0.58. The square of the correlation coefficient yields the coefficient of determination (r^2): $r^2 = (-0.58)^2 = 0.3364$

This shows that internet addiction has a significant impact on the psychological well-being of adolescents, accounting for about 33.64% of the variation in psychological well-being.

The results show that among teenagers enrolled in school, internet addiction is somewhat common. Compared to girls, boys scored far higher on internet addiction, which is consistent with earlier research indicating that men are more likely to engage in online gaming and leisure activities. Psychological well-being scores were higher among girls. Stronger emotional expressiveness, social support networks, and interpersonal connections among female teenagers may explain this finding.

The detrimental relationship between internet addiction and psychological well-being was the most important discovery. Higher levels of internet addiction were associated with lower psychological well-being in adolescents. Overuse of the internet can lead to emotional suffering and fewer opportunities for meaningful human relationships. These results are consistent with earlier studies by Young (1998), Ko et al. (2009), Kuss and Griffiths (2012), and Anderson et al. (2017).

CONCLUSION

The study shows a strong negative correlation among adolescent's internet addiction and psychological health. Although the internet is still a vital social and educational tool, excessive use can have negative effects on mental health and developmental outcomes. To encourage balanced internet use and improve teenagers' psychological well-being, educational institutions, parents, and mental health specialists must work together.

Implications

The findings of this study are very significant for legislators, educators, parents, and mental health specialists. It is recommended that educational institutions incorporate online awareness and digital literacy programs into their curricula to educate students about the possible dangers of excessive internet use. In addition to encouraging participation in offline recreational, social, and physical activities, parents are urged to keep a tight eye on their child's internet activities. School counselors and psychologists may create preventive and therapeutic programs to reduce hazardous internet use and improve psychological well-being. In conclusion, encouraging teens to use the internet safely can enhance their general wellbeing and support positive psychological growth.

Limitations of the Present Study

The present study has several limitations. First, it is difficult to demonstrate causal correlations between internet addiction and psychological well-being because of the cross-sectional design. Second, the results may not be as broadly applicable because the sample size was limited to 200 teenagers. Third, the study's geographic breadth was constrained because participants were chosen from just two Kolkata schools. Fourth, self-report measures were used to gather the data, which could be influenced by social desirability effects and response bias. Lastly, the results of the study should be interpreted with caution, and larger, more diverse samples should be used in future studies.

Future Research Directions

Future studies should employ longitudinal methodologies to enhance the comprehension of causal relationships between internet addiction and mental health; such findings would be especially pertinent for research with larger, more diverse samples from various geographical regions.

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