

Problematic Internet Use, Mindfulness and Perceived Social Support among Adolescents

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Abstract

Problematic Internet Use (PIU) has grown into cause for concern due to the rapid advancement of the internet especially in school going adolescents. Joseph conducted a study through meta-analysis in India and found that 21.5% of school going adolescents showed moderate level of problematic internet use, while 2.6% reported severe level, indicating a significant concern for the public health (2022). The present study was conducted to examine the role of mindfulness and perceived social support in relation to PIU and explored gender differences. The sample comprised of 100 school going adolescents, 50 boys and 50 girls with age range of 15-18 years, randomly selected from government schools in the Tricity region of Chandigarh, India. Standardized tools were used, The Problematic Internet Use Questionnaire (PIUQ-18) (Demetrovics, Szeredi, & Rózsa, 2008), Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003), and Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988). Results show that no significant gender differences in PIU, mindfulness, or perceived social support. However, correlation analysis indicated that greater mindfulness and perceived social support were significantly associated with lower PIU scores.

Keywords: Problematic Internet Use, Mindfulness, Perceived Social Support, Adolescents, Gender Differences, India

The internet has become an inseparable part of adolescents' lives. For adolescents, it serves not only as a platform to learn but also as a place for entertainment and social connections. However, technology that has so many benefits can also create potential risks when used excessively.

Problematic Internet Use (PIU) refers to such patterns of internet overuse, often leading to neglect of responsibilities, emotional stress, and disruption in daily routines (Demetrovics et al., 2008). Adolescents, with their curiosity to explore the internet and developmental changes, are especially vulnerable to these challenges.

In India, this issue is gaining attention. A meta-analysis by (Joseph et al., 2022) found that around one in five school-going adolescents struggle with moderate levels of PIU, while a smaller but concerning proportion (2.6%) face severe levels of PIU. These numbers highlight that PIU is not a rare phenomenon but also a health concern that requires attention in school and community settings. Researchers are interested in understanding the factors that lead adolescents to problematic patterns of internet use.

Problematic Internet Use and Mindfulness

In psychology, mindfulness has been defined as an open, nonjudgmental state of conscious attention to one's present moment. According to Brown and Ryan (2003), mindfulness is the ability to be completely aware of how one feels, thinks, and acts in the current moment, which enhances mental stability and control over oneself. On the other hand, prolonged or

uncontrolled use of the internet that leads to distress or disrupts overall daily activities can be termed as problematic internet use (PIU) (Caplan, 2002). Adolescents are especially vulnerable to PIU since they are experiencing a stage that involves mental and identity formation whereby the use of technology rapidly shifts from being constructive to a threat.

Recent research in psychology has investigations which focused more on the association between PIU and mindfulness. By benefiting people in understanding and managing their online impulses before they become compulsive, mindfulness tends to act as a protective component. Improved mindfulness has been linked with better emotional regulation, decreased impulsiveness, and enhanced attention. Which in turn minimizes the possibility of negative internet habits. Adolescents who participate in practices of mindfulness may be less likely to jump onto the internet to overcome boredom, stress, or unpleasant emotions. On the other hand, individuals who have difficulty in self-control and have low mindfulness are more vulnerable to PIU. Therefore, developing mindfulness might serve as a significant part of early detection and intervention programs which are meant to lessen potentially harmful behavior on the internet.

Many research in India bring in a lot of cultural influence. As per a study conducted in 2025, a protected school program, namely Sahaja Yoga meditation for adolescents, gave many positive results. To list a few, it increased self-esteem,

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better coping strategies, which primarily focused on coping with the ongoing changes into education systems owing to the use of internet and Reduction in the PIU scale when compared to other samples in the same control group.

All this simply points in the direction that such mindfulness activities are not merely theoretical but can also be applied positively. Hence, it is crucial to highlight that such activities, when added to the educational curriculum, can help young minds build resilience and better digital habits especially in the Indian context.

According to a systematic review and meta-analysis, mindfulness-related interventions drastically decreased Problematic Internet Use (PIU) in 19 randomized controlled trials with 1,549 individuals. In the context of limiting time spent on screens, the study additionally identified significant outcomes. Though the observations are encouraging, nevertheless the researchers emphasized that additional trials are necessary to draw more definitive conclusions since the general condition of the information collected was inadequate and contradictory (Fendel et al., 2024).

Furthermore, a 2025 meta-analysis that integrated 29 research studies with 17,534 participants concluded that the trait of mindfulness had a slightly negative correlation ($r = -0.399$) with problematic use of smartphones. This connection tends to be higher in female individuals and Eastern populations in general, indicating that the preventive impact of mindfulness varies by ethnicity and gender (Fendel, Bürkle, & Schmidt, 2025). The correlation between mindfulness and fewer technology-related issues was further supported by a 2024 meta-analysis that demonstrated how decreased mindfulness had been associated with higher levels of problematic social media use ($r = -0.37$) (Fendel, 2024).

A study (Rao et al., 2025) conducted between a sample of 80 school students (aged 12-14 years) in 1:1 based on gender. This was primarily focused on studying the implications and effects of Sookshma Meditation Programme in relation to the PIU between the said sample. The said 80 students were randomly allocated to intervention and controlled groups, wherein the intervention group was given sessions (30 mins each) 5 times a week for four weeks. The session involved minimal physical movements while focusing on breathing exercises and other mindfulness activities. The study included tests such as Internet addiction tests (IAT), the emotional

Regulation Questionnaire (ERQ) and the Mindful Attention Awareness Scale (MAAS). The final results showed a vast decline in the PIU scores ranging below 0.001 ($p < 0.001$). Apart from this, it exhibited various other positive effects including increased mindfulness, improved emotional regulation, better perspective and helped reduce the suppression of expressions. Hence, the analysis showed that even a small, and short school-based activity with the right approach can change the digital habits towards positive and help with the emotional wellbeing being in the Indian adolescents. The results however seem restricted due to the small sample size, limited area and lack of follow up (Rao et al., 2025).

It has been recently reviewed based on a book published in 2025 as to how mindfulness activities & practices are being increasingly useful to address the problem of PIU in respect to the overuse of social media, online gaming and other digital platforms. It has been concluded therein, how mindfulness-based interventions (MBIs) are effective in regulating attention, refining emotional abilities and lowering the uncontrollable urge of technological use. It is primarily introduced to improve the digital wellbeing, through a new structured approach-“Mindfulness based Digital Balance” (MBDB). This approach, along with established mindfulness techniques, brings out unique challenges such as constant notifications while creating pressure for multitasking. The chapter of the book also mentioned therapeutic activities for MBIs (Singh & Verma, 2025).

Additionally, research experiments confirm this association of PIU and mindfulness. For instance, (Yazici celebi et al., 2025), it was indicated that the entire sample of college students showed immense reduction in addiction to mobile phones when compared to those for the other control groups.

In addition, mindfulness could be extremely successful in bringing down the negative effects of PIU, e.g. academic fallout, loss of attention control and dysregulation of emotions etc. These studies indicate that mindfulness seems to be an opportunity to lessen the PIU and mitigate its ill effects while also encouraging psychological resilience. Research is still needed to study its effects in different cultures and through different methods etc.

Problematic Internet Use and Perceived Social Support

The term "Perceived Social Support" (PSS) describes an individual's understanding that their friends, family, or significant others truly value them, truly support them, and are always willing to help. The concept that supporting relationships exists and can be counted upon whenever needed is just as important as their actual existence. This concept has been thoroughly investigated in psychology because of its impact on adaptation and coping. Perceived social support is a personal evaluation of the availability and quality of support from various social sources (Zimet et al., 1988).

Perceived social support and problematic internet use (PIU) are closely related because adolescents who experience less support often access the internet to satisfy their emotional or social needs. This dependence could ultimately result in uncontrolled or excessive internet use, further disconnecting connections to offline relationships. Nevertheless, since their main social needs are already being satisfied in real life, adolescents who feel more supported by their peers and family are more likely to use the internet in a positive and productive manner. Perceived social support could therefore operate as an inhibitor against PIU potential risks.

According to recent research, adolescents are more likely to migrate to the internet for comfort since they lack offline social support, which may raise the risk of PIU. On the other hand, people with strong physical relationships tend to take advantage of online resources in a more productive and desirable manner. Furthermore, the study highlighted gender differences, girls displayed stronger offline and online support, although boys displayed greater PIU and larger online networks. These findings demonstrate the significance of developing offline support networks as a barrier to problematic internet use (Benvenuti et al., 2024).

As has previously been stated, it is important to understand how psychological and social aspects may change against the negative effects of PIU. And hence to establish a theoretical connection for the same, most of such research and studies on PIU and Perceived Social Support being reviewed below.

A recent study in Punjab (Dhawan & Kang, 2025) taken up at an extensive scale of over 500 adolescents sampled equally from the urban and the suburbs within the age range between 16-18 years revealed a strong connection between PIU and PSS. The study highlighted a striking finding wherein the adolescents who were more addicted

to digital platforms would tend to have lower perceived social support from everyone including their parents, peers and teachers. It also indicated how PIU does not link just to PSS but also with psychological issues leading to problems. It has been observed that gender seems to play an important role, as male samples were found to be more linked to digital addiction than the female sample. Dhawan & Kang (2025) emphasized that healthy relationships and Mindful support from the family and the teachers, is the first wall of defense against PIU and that revitalized & guided adolescents have comprehensible goals with less exposure to problematic online behavior.

Patel & Sharma (2024), carried out a study on the undergrad girls in India primarily focusing on investigating the relationship between PSS & PIU. The study indicated that social support is directly proportional to the stress and loneliness level and hence showed higher levels of both stress and loneliness in the students getting less social support and consequently being more exposed to PIU. It also indicated high gender-specific vulnerabilities since the majority of the female sample initially tended to look heavily upon offline support networks and support groups and shifted to online platforms to attain their social needs once mentioned offline networks were unavailable. They emphasized that the interventions which are basically targeting the female populace should contemplate the significance of peer-to-peer groups which can be campus based and hence create mechanisms to shield against the risk of problematic digital use.

Singh et al. (2025) conducted a qualitative study with male adolescents enrolled at a liberal arts institution to understand how perceived social support relates to problematic internet use. Through interviews, students openly described how their offline friendships had declined as they increasingly relied on online platforms for connection. One participant reflected, "I miss spending time with them. I have lost so many friends because I don't go out anymore." Such narratives highlight the erosion of face-to-face relationships and the substitution of virtual peer groups, such as Facebook communities, for real-life support. The study underscores how adolescents may become caught in a reinforcing cycle as less offline engagement leads to greater online reliance, which in turn deepens feelings of isolation.

While it has been found that mindfulness and perceived social support lower Problematic Internet Use (PIU), the majority of research has focused on college students or Western populations, leaving little attention to Indian school-going adolescents, who are more vulnerable. Furthermore, there is evidence that boys and girls use technology & methods of coping, in different ways but gender differences are rarely taken into consideration in research. In India, school-based mindfulness programs have shown potential, but they are still quite inconsistent.

Need of the Study

Adolescents are increasingly the main concern about PIU, which often results in psychological, cognitive, and social challenges. Although studies draw attention to Mindfulness & PSS used as preventive measures respectively. There is still an absence of research on adolescents in India in this regard. A large number of existing research usually has focused on each of these variables separately rather than their combined impact and is based on Western samples or college students. Furthermore, even though there is evidence of unique trends in internet usage, gender differences have been given less attention. These gaps have been addressed by this study with the aim of delivering culturally relevant school-based results that would encourage better digital practices.

Objectives

1. To measure Problematic Internet Use in adolescents.
2. To examine the relationship of mindfulness and perceived social support and PIU.
3. To study gender differences in PIU, mindfulness, and perceived social support among adolescents.

Hypotheses

- H1: There will be no significant relationship between mindfulness and PIU.
 H2: There will be no significant relationship between perceived social support and PIU.
 H3: There will be no significant gender differences in mindfulness, perceived social support, and PIU.

Design

The study comprises Problematic Internet Use, Mindfulness and Perceived Social Support as variables. The relationship among these variables was investigated.

Method

Sample

The present study comprised of a sample of 100 school going adolescents in the age range of 15 to 18 years, (50 boys and 50 girls) were randomly drawn from the government schools in Tricity region of India for this purpose.

Tools

1. The Problematic and Risky Internet Use Screening Scale (PRIUSS; Jelenchick et al., 2014) is an assessment tool specifically developed to evaluate PIU among adolescents and young adults. It comprises 18 items and three subscales. A cut-off score of 25 has been proposed to identify individuals at risk for PIU. It demonstrates high internal consistency reliability with Cronbach's $\alpha \approx 0.88-0.90$.

2. The Multidimensional Scale of Perceived Social Support (MSPSS), developed by Zimet et al. (1988), is a vastly utilized self-report tool to measure perceived social support. Comprising 12 items, the scale assesses support from three sources: family, friends, and significant others. The MSPSS shows high internal consistency reliability (Cronbach's $\alpha \approx 0.85-0.91$) and strong construct and convergent validity,

3. The Mindful Attention Awareness Scale (MAAS), developed by Brown and Ryan (2003), is extensively used to assess mindfulness. It determines the regularity of mindful states in daily life, with 15 items rated on a 6-point scale. It demonstrates high internal consistency reliability (Cronbach's $\alpha \approx 0.80-0.90$).

Inclusion Criteria

1. Adolescents currently studying in Government educational institutions.
2. Adolescents residing with their families.
3. Adolescents within the age range of 15 to 18 years.
4. Adolescents who have been using the internet for a minimum duration of one hour per day.
5. Adolescents who own smartphones which have internet connectivity

Exclusion Criteria

1. Psychopathological cases shall not be taken.
2. Adolescents not studying in Government institutions.
3. Adolescents not residing with their families.
4. Adolescents under the age of 15 years or over the age of 18 years.
5. Adolescents who have been using the internet for less than one hour per day.
6. Adolescents who do not own a smartphone.

Results and Discussion

The obtained data were analyzed using descriptive and inferential statistical techniques and the results are given in tables and discussed below:

approximately similar values of perceived social support from friends, family, and significant others. There is no significant difference between the two groups overall social support scores, which continue to be moderate. Although

Table 1: Descriptive Statistics of Study Variables including Age, Social support, Mindfulness, Problematic Internet Usage along with their subscales.

	N		Minimum		Maximum		Mean		Std. Deviation	
	Femal e	Male	Femal e	Male	Femal e	Male	Female	Male	Femal e	Male
Age (years)	50	50	15.00	15.00	17.00	17.00	15.40	15.40	0.57	0.61
Family support	50	50	2.00	1.00	7.00	7.00	5.52	5.39	1.34	1.39
Friend Support	50	50	2.00	1.00	7.00	7.00	5.13	4.96	1.34	1.51
SO Support	50	50	1.50	1.00	7.00	7.00	5.00	5.16	1.58	1.66
Social Support	50	50	2.75	1.42	6.58	6.58	5.16	5.12	0.98	1.18
Mindfulness	50	50	2.00	2.00	4.40	4.67	3.05	3.29	0.66	0.67
Social impairment	50	50	2.00	1.00	21.00	23.00	9.60	9.50	4.24	4.89
Emotional impairment	50	50	0.00	1.00	16.00	17.00	7.68	7.88	3.83	4.07
Risky Use	50	50	0.00	0.00	24.00	22.00	11.90	12.60	5.29	4.96
PIU	50	50	11.00	11.00	46.00	48.00	29.210	29.90	9.49	10.60

Note: SO = Significant Other, PIU = Problematic Internet Use

Table 2: Coefficients of Correlation

Variables	1	2	3	4	5	6	7	8	9
PSS Family	1								
PSS Friends	.29**	1							
PSS SO	.31**	.40***	1						
SS	.26*	.50***	.34***	1					
Mindfulness	.15	.26**	-.02	.35***	1				
Social Impairment	-.41***	-.36***	-.28**	-.33***	-.33***	1			
Emotional Impairment	-.57***	-.36***	-.23*	-.32**	-.16	.29**	1		
Risky Use	-.30**	-.28**	-.29**	-.27**	-.35***	.32**	.31**	1	
PIU	-.56***	-.45***	-.37***	-.41	-.39***	.73**	.68***	.78***	1

*Note: *p < .05. **p < .01. ***p < .001.*

PSS= Perceived Social Support, SS= Social Support, PIU = Problematic Internet Use

The data was analyzed in the Cognition laboratory being run by the authors.

Table 1 illustrates descriptive data for the variables under study. The participants are 15.4 years old on average, both boys and girls report

the difference is not statistically significant, girls demonstrate slightly greater levels of mindfulness with mean of 3.29, and boys with mean of 3.05. Boys with mean value of 29.16 and girls with mean as 29.94, show

comparable mean scores for problematic internet use (PIU), suggesting that gender differences in internet-related challenges tend to be not of special significance.

and its effects on the problematic Internet use (PIU). The study especially delves into studying the potential gender differences that arise in such relationships.

Table 3: Means and t values

	t-value	df	p	Mean difference	SE difference	Cohen's d Effect Size
Support_family	0.48	98.0	0.63	0.130	0.27	0.095
Support_friend	0.58	98.0	0.56	0.165	0.28	0.116
Support_so	1.02	98.0	0.31	0.330	0.32	0.204
SS	0.17	98.0	0.86	0.038	0.22	0.035
Mindfulness	-1.77	98.0	0.08	-0.235	0.13	-0.355
Social_impairment	0.11	98.0	0.91	0.100	0.91	0.022
Emotional_Impairment	-0.25	98.0	0.80	-0.200	0.79	-0.051
Risky_use	-0.66	98.0	0.51	-0.680	1.02	-0.133
PIU	-0.39	98.0	0.70	-0.780	2.01	-0.078

According to statistical examinations that used independent t-tests (see Table 3), there are no statistically significant gender differences in family support, friend support, support from significant others, overall social support, PIU, or its sub variables. To study mindfulness, the only finding that is close to significance is that girls score slightly higher than boys with t value as -1.77 and p value of 0.079.

In reference to Table 2, Correlation indicates strong and consistent relationships among the variables. Perceived social support from family with a value of -0.56, friends with r as -0.45, and significant others with r as -0.37 at $p < 0.001$ respectively. Therefore, PSS as above is negatively correlated with PIU, indicating that higher levels of social support are correlated with less internet-related problems. Also, mindfulness is negatively correlated with PIU having r value of -0.39 at $p < .001$, indicating that adolescents who are more attentive to the present moment experience lower levels of problematic internet use.

On the other hand, PIU indicates positive correlations with social impairment having r value of 0.73, emotional impairment with r as 0.68, and risky internet use with r as 0.78, at $p < .001$. These results illustrate the strong correlation between higher levels of problematic internet use with more regular risky online behaviors, emotional challenges and social disturbances.

The current research focuses on the relationship between mindfulness, perceived social support

The findings show that girls scored moderately higher in the mindfulness scores.

The data additionally reveals that PIU is highly and negatively correlated with social support, whether that support is offered by friends, family, or significant others. Family support has shown a significant correlation among these, which is of particular significance in the social and cultural environment of India, where families continue to be the main provider of financial as well as emotional assistance. This result is in alignment with previous research findings showing that close social ties help people keep away from using the internet excessively, emotional needs of the person are met by the families. Adolescents who have positive friends and family relationships are less likely to use the internet in place of social networking.

In its role of a shield, mindfulness or awareness of oneself and momentary focus is crucial for controlling conduct on the internet, as seen by the correlation between lower PIU and higher mindfulness values. Adolescents who practice mindfulness seem to be more inclined to control impulses and avoid obsessive internet use. The mindfulness scores among girls indicate that more research could look from the angle of gender comparison in mindfulness.

Additionally, the study indicates that adolescents' lifestyles are seriously impacted by increased PIU scores. Interpersonal impairment, psychological issues, and dangerous online conduct are all highly predicted by PIU. This trend shows that problematic internet use is

perhaps closely associated with unfavorable outcomes in several areas of growth and development. It is not merely about the quantity of leisure time spent online. As is known, overuse of the internet disturbs relationships, causes emotional stress, and increases participation in potentially dangerous online behaviors. The idea that PIU is a significant threat to health during adolescence is supported by the results of the present study.

Overall, the results of the study highlight the value of both internal i.e. mindfulness and external i.e. family and peer support resources in protecting teenagers from harmful online behavior. Improving these resources could serve as the foundation for community and school-based preventive and remedial approaches.

Conclusion

This study provides evidence that mindfulness and social support are important factors which can contribute to decreasing problematic youth internet use. PIU levels are comparable in boys and girls, indicating that the problem is common in both genders. Further mindfulness as well as greater friend and family support have been consistently correlated to lower PIU level scores, whereas higher PIU scores is linked to more risky, social, and emotional impairments. These results have significant implications for everyday life. By creating supportive peer and family situations and implementing mindfulness-based activities into everyday routines, parents, educators, and mental health specialists can assist adolescents. These initiatives might decrease the likelihood of excessive internet use and its harmful consequences.

However, the research's shortcomings, such as the dependence on self-report data and its geographical limitation, could hinder its ability to be generalized. To verify correlation and assess practical methods for enhancing protective factors, future studies should use longitudinal and intervention-based designs. In conclusion, while problematic internet use is a complex issue, it can be reduced by encouraging mindfulness and interaction with others. Programs may encourage adolescents to explore the internet in more balanced and healthful ways by addressing both social and psychological aspects.

Implications

The study determines four significant implications. Firstly, good friend and family support serves as a protective factor, indicating that school-based peer support programs and

parent-child communication programs can help limit problematic internet use. Second, mindfulness is beneficial, suggesting that basic techniques like breathing techniques or meditation might enhance self-control and decrease dependence on technology in classrooms. Third, early screening and school-based awareness initiatives are essential for prevention since PIU is closely linked to behavioral, social, and emotional impairments. Last but not the least, the lack significance across gender demonstrates that treatments can be created generally for all adolescents without requiring gender-specific modifications, which would facilitate the execution of educational and community-based programs.

Limitations

1. The sample is limited to adolescents from government schools in the Tricity region of Chandigarh, India.
2. Data are based on self-report measures, which may be affected by social desirability.
3. Other possible factors were not considered, which may also influence internet use.

Future Directions

1. Longitudinal studies can be conducted to explore how social support and mindfulness influence problematic internet use over time.
2. One can expand sample size to include students from private schools, rural areas, and diverse cultural or socio-economic groups for broader applicability.
3. One can make use of qualitative methods to understand other possible factors in adolescents' life experiences which may be related to internet use.

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