

Problematic Internet Use among Adolescents: Role of Gender and Age

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ABSTRACT

Virtual media has taken the world by a storm and the likelihood of having different expectations and experience towards use of the Internet, across genders and different age groups cannot be denied. Its growing popularity among the teenagers is even more evident. In this period of “stress and storm”, there is a tendency to indulge in excessive Internet use which can turn into maladaptive behaviour called Problematic Internet Use (PIU). However, this transition is different for both the genders and also for those in early and late adolescent years. The present study was conducted to find the role of gender and age in PIU among adolescents. A sample of 611 (Boys = 308, Girls = 303) in the age group of 12-14 years (early) and 17-19 years (late) were assessed using PIUQ (Demetrovics et al., 2008). The data was analyzed using t-ratio and the results obtained indicate that PIU among girls and boys differ significantly; whereas, this difference is insignificant among younger and older adolescents. Hence, mental health professionals addressing the issue of PIU among adolescents can frame interventions considering these differences.

Keywords: *Adolescents, Problematic Internet Use, Age, Gender.*

It has been more than a decade since a concern about the addictive use of the Internet was first expressed, and its possible inclusion into the lists of mental disorders has recently become a popular topic of scientific discussion. Moreover, with improvements in its availability and affordability, astonishing growth in the internet’s popularity among adolescents, internet overuse has become evident (Arthanari et al., 2017). Among the diverse age groups, adolescents, who struggle to cope up with academic performance or have peer and behavioural concerns, are more prone to develop internet addiction (Arthanari et al., 2017; Lepp, et al. 2015; Thomée, Härenstam & Hagberg, 2011). Studies reveal that the overall global prevalence of internet addiction is 6% (Chen & Li, 2014), while in Indian context the range is between 0.7% (Goel, Subramanyam & Kamath, 2013) to 18.88% (Chathoth et al., 2013). Yet there is a paucity of studies on internet addiction and its determinants conducted in Indian, a country with large adolescent population.

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While several factors playing role in development of PIU are being studied, there are several debates over the link between gender and Internet usage. Many researchers have acknowledged gender inequality in Internet usage. The differences between Internet use of girls and boys can be due to different factors. There are some gender differences, which are relevant to Internet use, such as expressiveness, social aggressiveness, and the structure of friendship (Oktuğ, 2012). Lin & Yu (2008) proposed that there is a difference in the motive behind using the Internet for males and females; males are more into downloading and shopping activities, while the females spend more time on the Internet for messaging activities, promotional campaigns. Early involvement of females with Internet was restricted; however, the transition of developed society has changed women's engagement in Internet-related activities (Liu & Wilson, 2001).

The lucrative features (like anonymity, role experimentation, etc.) of the Internet do tempt young individuals towards it which can eventually turn into problem behaviour (McKenna & Bargh, 2000). Numerous studies have reported significant gender and age differences in problem behaviours, like problematic Internet use, among adolescents. During adolescence, besides the difference in the physiological and psychological changes among the two sexes, the social environment of boys can be remarkably different from that of girls'. Boys enjoy more freedom while the restrictions for girls increase at times. While boys can openly exercise their autonomy in real world, girls might start experimenting with the newer roles online. Unlike the real world boundaries, the cyber world might appear as a safe space to interact, surf, and seek information. This can possibly result in aggravated amount Internet misuse among the girls. On the other hand, problematic Internet use in boys could be due to reasons like online gaming and online pornography.

Besides the gender, difference in the age also plays a crucial role in development of problem behaviours during adolescence. Adolescence can be divided into three sub-stages, that is, early, middle and late adolescence (Blum et al., 2014; Perkins, 2001). During early adolescence (12-14 years), identity starts to develop; they begin to strive for independence and start showing greater preference for peers over parents (Ozretich & Bowman, 2001). There are rapid changes in the physiology of the adolescent (like the development of secondary sex characteristics) that become more noticeable during this stage (Morgan & Huebner, 2009). During this stage, adolescents often start experimenting with their bodies and sexuality (e.g. masturbation) (Ozretich & Bowman, 2001; Perkins, 2001). This stage is also marked with an increase in problem behaviours like experimentation with drugs and alcohol, with an increase in risk-taking behaviour (Spano, 2004). During late adolescence (17-19 years), most adolescents' identities have been stabilized and they are developed physically. During this stage, relationships become more serious than before, and adolescents develop the capacity for tender and sensual love, most likely because their sexual identities have been formed (Spano, 2004). In case of successful mastery of psychosocial tasks associated with early years of adolescence, a tendency to indulge in problem behaviours declines as the individuals can assess the consequences of such behaviour more competently (Bhandarkan, 2006; Perkins, 2001).

Early and late stages of adolescence, particularly, are hence very crucial while studying problem behaviours, problematic Internet use being one of them. While Internet can be used as a medium to execute newly learnt psychosocial tasks during early adolescence, during the late adolescent years, Internet can offer a platform to execute adult roles before entering adulthood. While several studies examining gender differences in problematic Internet use have been conducted in the past, there is scanty research material available to understand role

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of age differences in maladaptive use of the Internet. Hence, a need was felt to study age along with gender differences in problematic Internet use among adolescents.

Objective

- To study gender and age related differences in Problematic Internet Use among adolescents.

Hypotheses

Considering the previous research studies and theoretical perspectives, the following hypotheses were formulated.

1. There will be significant gender differences in Problematic Internet Use.
2. There will be significant age differences in Problematic Internet Use.

METHODOLOGY

Sample

A total sample of 700 adolescents (girls = 350; boys = 350) drawn from different schools and colleges of Mumbai (Maharashtra, India) was considered for the present study. To maintain homogeneity of the sample, the schools and colleges were selected after considering the cultural background, socio-economic and academic setting. For the research work, only those forms were considered which were duly filled, while all the incomplete questionnaires were omitted. Hence, the actual sample was reduced to 611 adolescents (girls = 303; boys = 308). The sample was further classified into adolescents in early years (girls = 150; boys = 153; n=303), that is 12-14 years, and adolescents in late years (girls = 153; boys = 155; n=308), that is 17-19 years.

In the sample of adolescents in early years, the mean age and SD for girls and boys was 13.01 years and 12.94 years, and 0.82 and 0.85 respectively. The mean age and SD of adolescent girls and boys in late years was 17.98 years and 18.05 years, and 0.82 and 0.82 respectively.

Psychological Measure

- 1) **Problematic Internet Use Questionnaire (PIUQ) – Demetrovics, Szeredi and Rozsa, (2008)** The Problematic Internet Use Questionnaire (PIUQ) developed by Demetrovics et al. in 2008 assesses the extent of problems resulting from the misuse of the Internet. It consists of three subscales and there are 6 items in each subscale; in all Problematic Internet Use Questionnaire consist of 18 items. The three subscales are as follows:
 1. **Obsession** -It refers to mental engagement with the Internet – like daydreaming, fantasizing about the Internet, waiting to get online again, anxiety, worry and depression due to lack of Internet use.
 2. **Neglect** - It refers to neglect of everyday activities and essential needs, depleting importance of work, academics, household chores, eating, partner relationship and other activities.
 3. **Control Disorder** - It refers to the difficulties encountered while controlling Internet use, unable to stop using the Internet for longer duration.

The internal reliability (Cronbach's α) of Problematic Internet Use Questionnaire is 0.87. The internal reliability of the subscales, namely, obsession, neglect and control disorder was found to be 0.85, 0.74 and 0.76 respectively. The test-retest reliability of the scale was calculated on 3 week interval between the two testing session. The data was collected from 63 university student. The reliability coefficient for Problematic Internet Use Questionnaire

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was 0.90 and for the three subscales ranged between 0.76 and 0.90. The Problematic Internet Use Questionnaire has been successfully used in Indian setting by Pednekar and Tung (2017) and DeSa (2010).

The Problematic Internet Use Questionnaire consists of 18 items, six in each subscale. The responses can be marked on a 5-point scale. The responses range from “Never” to “Always.” The total scores can fall between 18 to 90 and scores of each subscale range from 6 to 30. The three subscales can be scored separately to obtain three different scores for the purpose of this study a single score of PIU was calculated.

Procedure

Before administrating the scales, a rapport was built with the subjects. The subjects were assured that the information they provide will be kept confidential and will be used for research purpose only. After obtaining consent from the school and college authorities the scales were administered. The subjects filled in all the tests on their own and it was made sure that participants’ doubts, if any, were clarified by the researcher. The above mentioned test was administered on the subjects with the help of their teachers. Instructions were given precisely. Their personal details were collected on a separate sheet prepared by the researcher. They were given the provision of not writing their names, if they weren’t comfortable with it as it could help to elicit true responses. The participants were encouraged to complete the questionnaire honestly as there was no right or wrong response.

Statistical Analysis: t-test was applied to study gender and age differences in Problematic Internet Use.

RESULTS AND DISCUSSION

The objective of the present paper was to study the gender and age differences in Problematic Internet Use among adolescents. For this purpose, scores of Problematic Internet Use of adolescent girls (N = 303) were compared with the scores of adolescent boys (N = 308). To study the age differences, scores of Problematic Internet Use of early adolescents (N = 303) were compared with that of late adolescents (N = 308). The t-ratio was applied to find any significant difference in Problematic Internet Use across the gender and age. A comparison of means and S.D. was done and is presented in Table 1.1 and Table 1.2.

Gender Difference in Problematic Internet Use

Table 1.1 shows the means, S.D., and t-ratio for gender differences. As seen, adolescent girls differ significantly from adolescent boys on Problematic Internet Use ($t = 3.12, P < 0.01$). The comparison between the genders become even more prominent on comparing the means scores of girls and boys on Problematic Internet Use, wherein, the girls were seen to be indulging more in Problematic Internet Use than boys. The result of girls and boys on Problematic Internet Use across age suggests that girls are significantly higher on Internet misuse as compared to boys.

Table 1.1 Showing Means, Standard Deviations and t – ratio of Scores for Problematic Internet Use Scale (Gender wise)

Gender	Problematic Internet Use (PIU)		
	Mean	SD	t – Ratio
Adolescent Girls (N = 303)	45.64	9.24	3.12**
Adolescent Boys (N = 308)	43.64	6.34	

** Significant at 0.01 level

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Gender differences in Internet use has always existed. Previous studies identified gender as a risk factor for Problematic Internet Use (Baloğlu, Kozan & Kesici, 2018; Dong et al., 2018; Tsitsika et al., 2009; Lam et al., 2009; Cao et al., 2011; Ghasemzade et al., 2007; Griffiths, 2003; Stefanescu et al., 2007). In the past it was postulated that girls are usually more skeptical and less keen with regard to new information technologies (Kennedy et al., 2003). They were believed to be often confused about using new communication tools, particularly at work (Ilie et al., 2005). Girls are more careful and guarded about meeting new people on the Internet. Although both genders pose similar numbers of acquaintances while using the Internet, girls report more anxiety about entering into relations this way (Kennedy et al. 2003). Moreover, on visiting social-networking sites, girls focus on maintaining and cherishing existing bonds, while boys are equally interested in looking for new relationships (Muscanell & Guadagno, 2012). However, a different perspective has been reported as well. Researchers have postulated that girls can be at an equal risk of developing Problematic Internet Use (e.g. Hamburger & Artzi, 2000; Davoodabadi, 2005).

In the present study, the results obtained indicate that, adolescent girls are more prone to show problem behaviour related to the Internet as compared to the adolescent boys. Several features of the Internet might be contributing towards this finding. According to Khan (2003), the experience created online in several ways will be understood as a psychological “space.” This cyberspace can be experienced as an extension of one’s mind where the individual can understand themselves better, can explore their identity, vent out their frustrations, anxieties and desires. For an adolescent girl, this cyberspace can thus act as a buffer. Owing to different changes that adolescents undergo during the transitional period, especially for girls, this could bring drastic transformation in their social and psychological domains. As a part of social life, girls learn to hide their emotions, and express their emotions differently as compared to boys because of social roles and stereotyped expectations that are imposed on girls and boys from an early age (Simon & Nath, 2004). In Indian context, girls do experience more restrictions from their families; these limits can get even more rigid as they step into adolescent years. Their behaviours, dressing, relationships outside families, etc. might get constantly monitored by the family members who could press them to find an outlet which is safe enough to experiment with newly found identity. The lack of face-to-face communication can particularly give them an opportunity to enjoy more anonymity online. It provides them the option of being themselves, expressing only a part of their true identity, or displaying imaginative identity or being totally autonomous. Moreover, the online world can appear to be non-judgmental towards gender, status, race, etc. (Khan, 2003) which further helps them to behave freely unlike the real world restrictions. According to Suler (2004), this phenomenon is called benign inhibition. The online disinhibition effect refers to losing of social restrictions and inhibitions that are otherwise present in face-to-face interactions (Thakur, 2011). This further helps these teenagers to be more willing to open up to others online in order to achieve emotional catharsis. As a consequence, the online interactions might seem more rewarding than real life communication resulting in Problematic Internet Use.

During adolescence, especially in girls, the pubertal changes affect their self-esteem, mood state, and can result in depression too (Croll, 2005); this can particularly make the virtual world look more tempting and can be used as a mean for overcoming negative feelings (Kraut et al., 2002). On the other, they are already preparing themselves to master adult roles. Girls in their adolescent years might find the virtual platform to be safe enough to develop romantic relationships or maintain the existing ones. As Internet gives them more freedom and help them escape parental control and supervision, they might use this medium to explore

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these relationships further without encountering negative consequences, like teenage pregnancy. This feature of the virtual domain can result in maladaptive use of this technology. Thus, it can be said that, among the two sexes, adolescent girls were found to be indulging in Problematic Internet Use which has been empirically supported (e.g. Leung, 2004).

On the basis of t-ratio analysis presented in Table 1.1, girls have been found to be displaying more Problematic Internet Use than boys. Thus, the results reflect that girls and boys significantly differ from each other on Problematic Internet Use. Hence, **hypothesis 1** is accepted.

Age differences in Problematic Internet Use

One of the objectives of the present study was also to examine the age differences in Problematic Internet Use among adolescents. The t-ratio was applied to find any significant difference in Problematic Internet Use across the two age groups. Table 1.2 shows the means, S.D., and t-ratio analysis for age differences. The results obtained show that there was no significant difference between adolescents in early and late teen years, on Problematic Internet Use ($t = 1.810$, $P = \text{not significant}$). However, the results obtained show that, younger adolescent girls significantly differed from the older adolescent girls on Problematic Internet Use ($t = 1.72$, $P < 0.05$) and younger adolescent boys significantly differed from older adolescent boys on Problematic Internet Use ($t = 0.716$, $P < 0.01$). On comparing the mean scores of adolescents in early and late teen years on Problematic Internet Use, it becomes prominent that although the means for younger adolescents were more than the means of older adolescents, the difference was not much.

Table 1.2 Showing Means, Standard Deviations and t – ratio of Scores for Problematic Internet Use Scale (Age wise)

Age	Problematic Internet Use (PIU)		
	Mean	SD	t – Ratio
Early Sample (N = 303)	44.04	8.19	1.810
Late Sample (N = 308)	45.21	7.72	

From the results presented in Table 1.2 it can be inferred that, there was no significant difference in Problematic Internet Use between early and late adolescents. However, it does not refute the fact that Internet misuse is prevalent between both the age groups. This further hints that, although the Problematic Internet Use among the two age groups shows no significant difference, but the factors contributing towards it might be different for early and late adolescents, which will be discussed in the following sections. The findings of the present study were supported by researches conducted in the past (Lam et al., 2009; Lin et al., 2009).

On the basis of t-ratio analysis presented in Table 1.2, no difference was seen in Problematic Internet Use among early adolescents and late adolescents. Thus, the results show that early adolescents and late adolescents do not differ from each other on Problematic Internet Use. Therefore, **hypothesis 2** is rejected.

CONCLUSION

In the present study, while gender was found to be a significant predictor of Problematic Internet Use, difference in PIU among different age groups was not found to be significant. However, this doesn't refute the fact that Problematic Internet Use is observed among

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adolescents in early as well as late teenage year. But it definitely gives further scope to study whether there are similar or different variables contributing towards it. Hence, while developing intervention programs, mental health professionals could possibly consider this factor as well in order to help adolescents virtually detox themselves. Further, studying the various psychosocial factors causing Problematic Internet Use during these years should be a researched as well.

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Conflict of Interest

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