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Prevalence of Psychological Distress among Adolescents in relation to Internet Addiction during COVID-19 Times

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Abstract:
Background: The times today are ruled by internet facilitated work and digital inspired entertainment. Long hours of internet use, with no outdoors does have consequences for the psychological health of an adolescent. At the same time, poor psychological health, can be a trigger for using internet as a means of escape from boredom, loneliness, anxiety, sadness, and frustration, a trend which seems to be rising during the current COVID-19 times. The present study explores the correlation between psychological distress and internet addiction among adolescents.
Materials and Methods: In this descriptive exploratory survey, a sample of 300 adolescents in the age range of 13 to 18 years were administered Internet Addiction Test by Dr. Kimberly S. Young (1996) and Psychological Distress Subscale of Mental Health Inventory by Veit & Ware (1983). The levels of Internet Addiction and Psychological Distress were assessed in terms of percentage of population affected. The correlation between Internet Addiction and Psychological Distress, as measured through the levels of anxiety, depression and loss of behavioural/ emotional control, was examined using Pearson Product Moment Correlation Method.
Results: The total number of uncontrolled users of internet (moderately and severely addicted combined) constituted about two thirds (66.7%) of the sample population. Moderate to severe Psychological Distress was discovered in 71.7% of the sample population. There were no gender differences in Internet Addiction. Internet Addiction positively correlated with Psychological Distress ($r=0.82$; $p<0.01$).)
Conclusion: The assessment of Internet usage can be helpful in the treatment of psychological problems among adolescents. In a similar vein, for the treatment of Internet addicted adolescents, the evaluation of psychological distress, particularly depression and anxiety, must be considered. Effective counselling and intervention programs need to be designed and implemented for teaching healthy, moderate and non-addictive internet use for improving the overall psychological well-being of the adolescents.
Key Words: Adolescents, Anxiety, Depression, COVID-19, Internet Addiction, Psychological Distress

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I. INTRODUCTION

The virtual environment, facilitated through the use of the Internet, is a well acknowledged socio-economic-cultural reality of the present times, especially in the wake of COVID-19 related precautionary measures and restriction related to real time interactions. In the face of social isolation and online schooling, there is an exponential rise in the screen time and internet usage by the young generation. The general prevailing atmosphere of isolation, anxiety, and fear is leading to addictive behaviours like compulsive eating, substance use, and compulsive internet use, as a means of distraction from the uncomfortable feelings arising in the current situation. There is no doubt that the adolescents today are gravely affected by excessive internet use, by what develops into an unhealthy and uncontrollable attachment to internet use. At the same time, addiction to the Internet and electronic devices might just be the tip of an ice-berg, a larger psychological problem underlying the whole phenomenon of Internet Addiction.

Internet addiction, compulsive internet use, problematic internet use and pathological internet use, are some of the concerns that have merited the attention of clinical psychologists and mental health professionals all over the world. This compulsive and addictive use of the internet can have significant influence on the psychological health of the emotionally most vulnerable individuals of the society, that is, the adolescents. Therefore, research on the different aspects of psychological health of adolescents in relation to internet addiction is one of the most pressing needs in the field of research in community mental health and psychopathology. This need becomes even more profound now than ever because of the escalation in digital consumption due to COVID-19 related stay-at-home mandates and the associated psychological concerns arising due to anxiety, insecurity, frustration, deprivation, and boredom.

The term internet addiction was proposed by Dr. Ivan Goldberg in 1995 for a maladaptive pattern of Internet use, leading to clinically significant impairment or distress. The addiction is characterized by the use of computers that takes up so much time as to cause discomfort or decreased occupational, academic, social, work-related, family-related, financial, psychological, or physiological functioning (Goldberg, 1996; Cited in Goel et al., 2013). According to Dr. Young (1996), Internet addiction is any online-related, compulsive behaviour which interferes with normal living and causes severe stress on family, friends, loved ones, and one's work environment. Young (1999) is of the opinion that Internet addiction could actually result from another existing disorder like depression, stress or anxiety.

The state of emotional suffering characterized by symptoms of depression, e.g., lost interest, sadness, hopelessness; and anxiety, e.g., restlessness, feeling tense; has been defined as psychological distress (Mirowsky & Ross, 2002). Psychological distress is widely used as an indicator of the mental health of the population in public health, in population surveys and in epidemiological studies and, as an outcome, in clinical trials and intervention studies (Drapeau, Marchand & Beaulieu- Prévost, 2012). Veit and Ware (1983) conceptualized psychological distress as comprising of anxiety, depression and loss of behavioural/ emotional control.

Parent's Guide to Teen Depression opines that teens may go online to escape their problems, but excessive computer use only increases their isolation, making them more depressed. Bajaj & Sheoran (2016) state that this addiction to internet can be viewed as a double edged sword. It can be conceived to be an outcome of psychological distress among adolescents, as most of the addictions are. Moreover, the addiction to internet itself may have severe implications for the mental health of the young adolescents (Bajaj & Sheoran, 2016).

II. LITERATURE REVIEW

The Data from the 2004 National Health Information Survey (2004) found that over 1 in 10 (11.6%) adolescents aged 12-17 years had serious behavioral or mental health difficulties. Kim et al. (2005) found that the levels of depression and suicide ideation were highest in the Internet-addicts group of Korean adolescents, the prevalence of internet addiction not varying with gender. In a two-wave panel household survey, Fu et al. (2010) found a positive correlation found between number of symptoms of internet addiction and depressive symptoms among a sample of 208 adolescents, aged 15-19 years. Weinstein & Lejoyeux (2010), in their review of the research published in Medline and PubMed from 2000-2009, discovered a high co-morbidity of Internet addiction with affective disorders and anxiety disorders. Kaess et al. (2013) found that suicidal behaviours, depression, anxiety, conduct problems and hyperactivity/inattention were significant and independent predictors of pathological internet use.

A descriptive, cross-sectional, correlational study by Al-Gamal et al. (2015) established the prevalence of Internet Addiction at 40% among 587 university students in Jordan. Al-Gamel and colleagues also reported that Internet Addiction was associated with high mental distress among the students. Lai et al. (2015) revealed that Internet addiction mediated the association between social anxiety and poor psychosocial well-being among adolescents in China, Hong Kong, and Malaysia. Kawa & Shafi (2015) discovered that male university students experienced more internet addiction and psychological distress as compared to the female university students and internet addiction was positively correlated with psychological distress. In a study involving university undergraduate students, Uddin et al. (2016) observed that 47.7% male and 44.5% female students showed severe Internet addiction, while 27.1% male and 33.9% female students showed moderate Internet addiction. In a cross-sectional study conducted among 846 students of various faculties from Deemed University, Gedam et al. (2017) reported that the total prevalence of internet addiction was 19.85%, with moderate and severe addiction being 19.5% and 0.4%, respectively. Internet addiction was associated with gender as well as with anxiety, depression, and loss of emotional/ behavioral control.

Sharma & Sharma (2018) found that the Psychological Well-Being of college students was negatively affected by internet addiction. Based on a study involving 1086 engineering students, Anand et al. (2018) reported that 27.1% of the participants met criterion for mild addictive internet use, 9.7% for moderate addictive internet use, and 0.4% for severe addiction to internet. The researchers also reported that psychological distress (depressive symptoms) predicted Internet Addiction. In a comparative study, Fernandes et al (2020) discovered that the COVID-19 outbreak has had a significant effect on adolescent internet use and psychosocial well-being. According to Dong et al (2020), the frequency and duration of recreational internet use, and the frequency of stay-up internet use internet usage has grown during the COVID-19 epidemic.

III. SIGNIFICANCE OF STUDY

The review of literature shows that internet addiction not only has a marked prevalence among the young generation, especially the college and university students, but also affects their psychological well-being. It is, therefore, imperative to look into the negative impacts of this addictive behaviour, particularly during the more initial and early stages of its use, that is the adolescent stage. The present study assesses the correlation of

Internet Addiction with specific psychological distress variables, viz., anxiety, depression, and loss of behavioural/ emotional control.

The study raises a significant food for thought- Is Internet Addiction the cause of Psychological Distress or it is Psychological Distress among the adolescents that lead to Internet Addiction? Thus, the study sets the ground for further research to establish cause and effect relationship between Psychological Distress and Internet Addiction among adolescents. Most importantly, the findings have significant implications in the field of clinical and counselling psychology in the present times. The results serve as a foundation to inspire research on treatments for these rapidly expanding and disabling conditions, as well as the development of suitable intervention programmes to shift the future young population from a state of psychological distress to psychological well-being.

Objectives

1. To assess the level of Internet Addiction among adolescents.
2. To assess the level of Psychological Distress among adolescents.
3. To study the gender difference in Internet Addiction among adolescents.
4. To study the gender difference in Psychological Distress among adolescents.
5. To explore the relationship between Internet Addiction and Psychological Distress among adolescents.

Null Hypotheses

1. There exists no significant difference in Internet Addiction among male and female adolescents.
2. There exists no significant difference in Psychological Distress among male and female adolescents.
3. There exists no significant relationship between Psychological Distress and Internet Addiction among adolescents.

IV. MATERIAL AND METHODS

Design and Participants: The study uses a descriptive survey method. The participants consist of a total of 300 adolescents (Mean Age= 15.57, SD= $\pm$1.42), selected through quota sampling from different states of India.

Measurement Instruments:

Internet Addiction Test (IAT)

Internet Addiction Test (IAT) is a 20-item questionnaire, answered in a five-point Likert scale and covers six factors, that is, Salience, Excess Use, Neglecting Work, Anticipation, Lack of Self -control and Neglecting Social Life. Developed by Dr. Kimberly Young, the IAT measures mild, moderate and severe levels of Internet Addiction. Individuals who score 0-30 are classified as average online user, or normal Internet user; 31-49 as controlled users, or mild Internet Addiction; 50-79 as experiencing occasional or frequent problems because of uncontrolled use of the Internet, or moderate Internet Addiction; and 80-100 as having significant problems in life because of the uncontrolled use of the Internet, or Severe Internet Addiction (Young, 2008). The Pearson's r for the correlations among the six factors ranges from r=0.62 to r=0.226 (Widyanto & Mc Murran, 2004). These factors show good to moderate internal consistency (alpha coefficients 0.54 to 0.82).

Mental Health Inventory (MHI-38)

Psychological Distress was measured through the Psychological Distress Subscale of Mental Health Inventory (MHI-38). The MHI has 38 items scored on a six-point scale (range 1-6) except two items 9 and 28 which are scored on a five-point scale (range 1-5). The inventory measures two global scales- Psychological Distress and Psychological Well-being; as well as global Mental Health Index. For the purpose of this study, the Psychological Distress (PD) subscale was used. There are three dimensions of PD- Anxiety, Depression, and Loss of Behavioural / Emotional Control. The Cronbach alpha for Psychological Distress has been estimated at 0.94 (Veit and Ware, 1983).

Procedure: A total of 300 adolescents (150 males and 150 females) in the age group of 13-18 years were administered the Internet Addiction Test and Psychological Distress Subscale of Mental Health Inventory through Google forms. The statistical techniques of Mean, Standard Deviation, Percentage and Product Moment Correlation were used to analyze and interpret the data.

V. RESULT AND DISCUSSION

Internet Addiction among Adolescents:

Table No 1: Mean and SD of Internet Addiction Test (IAT) Scores among Adolescents

Variable	Number of Adolescents	Mean Age (in years)	Mean IAT Score	SD
Internet Addiction	300	15.57	57.09	20.68

Table No 2: Number and Percentage of Adolescents Showing Different Levels of Internet Addiction (N=300, Mean Age=15.57 years; Mean IAT=57.09; SD=20.68)

Levels of Internet Addiction	Score Range	Number of Adolescents	Percentage
Normal (Average Users)	0 to 30	41	13.7
Mild Addiction (Controlled Users)	31 to 49	59	19.7
Moderate Addiction (Uncontrolled Users with occasional or frequent problems)	50 to 79	115	38.3
Severe Addiction (Uncontrolled Users with significant problems)	80 to 100	85	28.3
Total	0 to 100	100	100

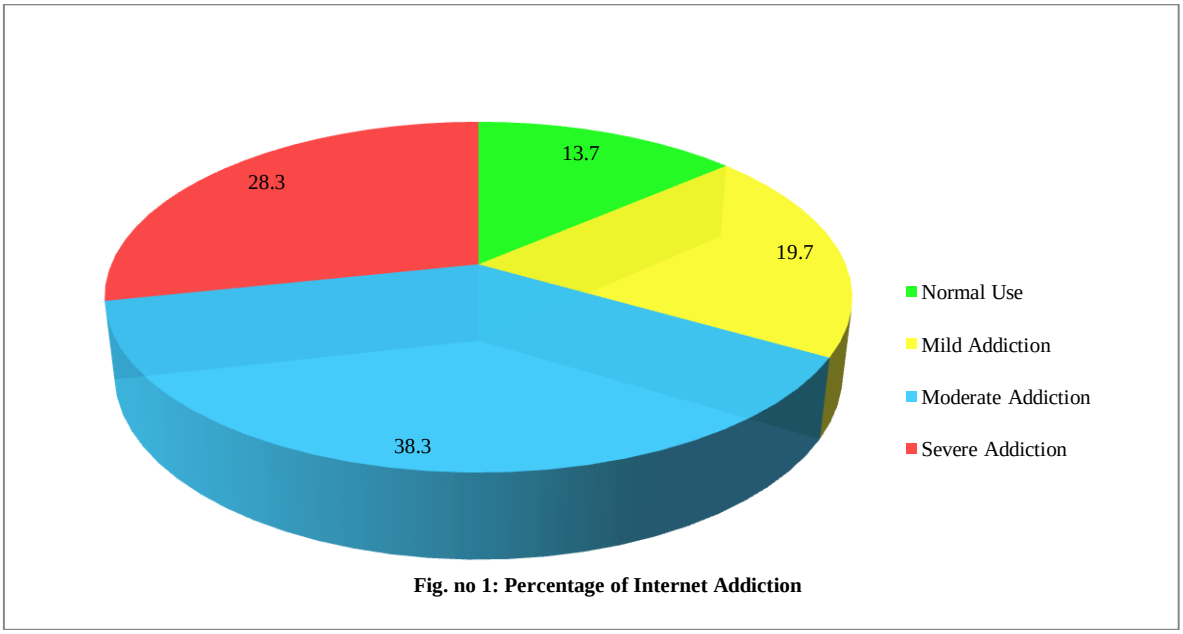

Fig. no 1: Percentage of Internet Addiction

Table No 3: Significance of Difference between IAT Means of Male and Female Adolescents

Gender	Mean Age	Mean IAT Scores	SD	SE_D	t' -Value	Remark
Male Adolescents (N=150)	15.52	55.73	19.96	2.39	1.14	P > 0.01
Female Adolescents (N=150)	15.51	58.45	21.35			

Table values of t' (df=298) at 0.05 and 0.01 level of confidence are 1.97 and 2.59 respectively.

As seen in Table no1, the Mean and SD of Internet Addiction among adolescents were found to be 57.09 and 20.68 respectively. Table no 2 shows that out of the 300 adolescents that constituted the sample population, only 41 (13.7%) were found to be using the Internet within normal limits. While 59 adolescents (19.7%) were mildly addicted to the Internet, 115 adolescents (38.3%) met the criteria for moderate addiction, and 85 adolescents (28.3%) were severely addicted (Fig. no 1). Table no 3 summarizes the differences in the Mean IAT scores of the male and female adolescents, the mean scores of female adolescents being slightly higher at 58.45 than the mean of male adolescents at 55.73. The t-value is 1.14 which is not significant. Hence, our null

hypothesis that there exists no significant difference in Internet Addiction among the male and female adolescents is not rejected.

Psychological Distress among Adolescents:

Table No 4: Mean, SD and Percentage of Psychological Distress (PD) Variables among Adolescents

Psychological Distress Variables	Score Range	Sample Mean	SD	Levels of Psychological Distress	Number of Adolescents	Percentage
Anxiety (A)	9 to 54	29.44	6.81	Normal	81	27.0
				Moderate	117	39.0
				High	102	34.0
Depression (D)	4 to 23	12.89	4.34	Normal	102	34.0
				Moderate	106	35.3
				High	92	30.7
Loss of Behavioural/ Emotional Control (B)	9 to 53	27.08	7.13	Normal	80	26.7
				Moderate	114	38.0
				High	106	35.3
Psychological Distress (PD)	24 to 142	75.27	18.07	Acceptable	85	28.3
				Moderate	106	35.3
				High	109	36.3

Table No 5: Significance of Difference between Psychological Distress (PD) Means of Male and Female Adolescents

Gender	Mean Age	Mean PD Scores	SD	SE_D	t' -Value	Remark
Male Adolescents (N=150)	15.52	73.33	17.89	2.08	1.86	P > 0.01
Female Adolescents (N=150)	15.51	77.21	18.10			

Table values of t' (df=298) at 0.05 and 0.01 level of confidence are 1.97 and 2.59 respectively.

Table no 4 summarizes the Mean Scores of Psychological Distress (PD) variables among adolescents. The mean score on Anxiety was 29.44, while the number of adolescents in normal, moderate and high range of anxiety were 27%, 39%, and 34% respectively. On Depression, the mean score was 12.89. Approximately one third of the population (34 %) were in normal range, while 35.3 % were moderately depressed, and 30.7% met the criteria for severely depressed. Loss of Behavioural/ Emotional Control showed a mean of 27.08, with the normal, moderate, and severe range percentages being 26.7%, 38%, and 35.3% respectively. The Psychological Distress mean was found to be 75.27. It was found to be within acceptable range in 28.3% of the adolescents, while 35.3% showed moderate levels, and 36.3% showed severe levels of Psychological Distress. Data presented in Table no 5 shows that the mean PD scores of female adolescents was higher than that of the male adolescents, the scores being 77.21 and 73.33 respectively. The t-value for this difference was found to be 1.86 which is not significant. Hence, our null hypothesis that there exists no significant difference in Psychological Distress among the male and female adolescents is not rejected.

Relationship between Internet Addiction and Psychological Distress among Adolescents:

Table No 6: Correlation between Internet Addiction and Psychological Distress among Adolescents (N=300, Mean Age= 15.57±1.42)

Correlation Variables		Mean	SD	Correlation
Correlation Between Anxiety and Internet Addiction	Anxiety	29.44	6.81	0.73**
	Internet Addiction	57.09	20.68	
Correlation Between Depression and Internet Addiction	Depression	12.89	4.34	0.77**
	Internet Addiction	57.09	20.68	
Correlation Between Loss of	Loss of Behavioural/Emotional Control	27.08	7.13	0.78**

Emotional/ Behavioural control and Internet Addiction	Internet Addiction	57.09	20.68	
Correlation Between Psychological Distress and Internet Addiction	Psychological Distress	75.27	18.07	0.82**
	Internet Addiction	57.09	20.68	

**** Significant at 0.05 level***
*****Significant at 0.01 level***
Critical values of r (df=298) at 0.05 and 0.01 levels of confidence are 0.113 and 0.148 respectively.

Data presented in Table no 6 indicate that the value of Pearson Product Moment Correlation Coefficient between Anxiety and Internet Addiction was 0.73, between Depression and Internet Addiction was 0.77, between Loss of Behavioural/ Emotional Control was 0.78. The Pearson Product Moment Correlation between Psychological Distress and Internet Addiction among adolescents was 0.82. These correlations are positive and are significant at 0.01 level of confidence.

VI. CONCLUSION

The results of the study revealed that 13.7 % of the sampled population was making normal use of the Internet, 19.7% were mildly addicted and 38.3% were moderately addicted and another 28.3 % were in Severe Addiction category. In fact, the situation is quite alarming with the total number of uncontrolled users of internet (moderately and severely addicted combined) constituting about two thirds (66.7%) of the sample population. There were, however, no significant gender differences in Internet Addiction among the male and female adolescents. The present findings are in line with Kim et al. (2005) who reported that the prevalence of Internet Addiction did not vary with gender. However, the results refute the findings of Kawa and Shafi (2015) and Gedam et al. (2017) who had reported that Internet Addiction was associated with gender. It may be said that the trends are repeating, and pathological dependence on Internet use is increasing among the adolescents, irrespective of gender. Both the male and female populations are equally vulnerable.

In case of Psychological Distress, more than one third of the sample population (35.3%), was in moderate range and another 36.3 % population was found to be in the severe range. The female adolescents seem to be at a higher risk of Psychological Distress as compared to male adolescents though the differences with respect to gender are not statistically significant.

The current study established significant positive correlation between Psychological Distress and Internet Addiction among adolescents (r= 0.82). The findings are in line with the results of Gedam et al. (2017) who confirmed that Internet addiction was associated with anxiety, depression, loss of emotional/behavioral control. The present results also corroborate the findings Anand et al. (2018) who reported that psychological distress (depressive symptoms) predicted Internet Addiction.

Given the definite, high, significant positive correlation between Psychological Distress and Internet Addiction among adolescents, it is recommended that internet addiction should be viewed in relation with the psychological health of the adolescents. Adolescents screened for internet addiction should also be assessed for psychological distress variables like anxiety, depression, and loss of behavioural/ emotional control. A comprehensive psychological health program must involve appropriate interventions for psychological distress along with steps for internet de-addiction. Educational institutions and community mental health bodies should work in tandem to raise awareness regarding the healthy, balanced and non-addictive use of internet. Non-digital leisure and entertainment activities like reading, painting, sports, music, dance, etc. should be encouraged. Steps to develop strategies for prevention of internet addiction can go a long way in promoting the psychological well-being of the adolescents.

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