Internet Addiction, Psychological Well-Being, and Sleep Quality among Adolescents

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Abstract

The purpose of the present study was to explore the nature of the relationships among Internet addiction, psychological well-being, and sleep quality in school students of the Bundelkhand region, UP, India. It was hypothesized that there will be no significant relationships among the above-mentioned variables in adolescents. The sample (126 students) was selected by the simple random sampling, from the different public and private schools, between the age-range of 15 to 19 years. Internet addiction scale (Young, 1998), Psychological Well-being Scale (Ryff, 1989), and Sleep Quality Scale (YI, H., et al., 2006) was used. With the help of SPSS (version, 21) the data was computed, including; mean, SD, Pearson correlation coefficient, and linear regression. The results were concluded that the negative correlation was found among Internet addiction, psychological well-being, and its sub-dimensions. Moreover, a positive correlation was found among Internet addiction, poor sleep quality, and its dimensions.

Keywords: *relationship, internet addiction scale, sleep quality scale, Pearson correlation coefficient, and sub-dimensions.*

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Introduction

Internet is an integral part of life, especially for adolescents (Thorsteinsson & Davey, 2014; Wallace, 2014; Tzavela, Karakitsou, et.al. 2017). Through it, they complete their school projects, access the subject related materials (Lareki, et al., 2017), chat, play online games, and decide their meetings (Subrahmanyam & Greenfield, 2008). For communication, mostly they use text messages from different social networking sites, i.e.; Twitter, Facebook, Whatsapp, etc. (Oberst, et al., 2017). By fake identity or without self-disclosure, they can do argue, and discussion on any topic or personal problems, which make them happier, less threatening with improving their wellbeing than real-life interactions (Blais, et al., 2008; Lee, et al., 2011; Cole, et al., 2017). Although the Internet has a positive side, it has a negative side also. Its' excessive use becomes like an addiction that is known as "Internet Addiction" (Goldberg, 1996). In which people show withdrawal symptoms, poor interpersonal relationships with family and friends (Anderson, et al., 2016), decline academic performances (Chao, and Hsiao, 2000; Griffiths, 2000), daily functioning, poor self-esteem (Lai, et al., 2015), feel depression and loneliness (Kross, et al., 2013), disturbance in sleep quality and pattern (Cheng, et al., 2012; Chen, and Gau, 2016).

All the studies mentioned above are from differed socio cultural background. Many of them are conducted in western countries. There is extreme scarcity of studies conducted on local soil of the Bundelkhand region. Present study is attempt in this direction. Considering these gaps, the present study focuses on to explore the nature of relationships among Internet addiction, psychological well-being, and sleep quality in the students of the Bundelkhand region, India.

Objectives

1.   To explore the nature of the relationship between Internet addiction and psychological well-being.
2.   To explore the nature of the relationship between Internet addiction and sleep quality.

Hypotheses

H1: There will be no significant relationship between Internet addiction and psychological wellbeing.

H2: There will be no significant relationship between Internet addiction and poor sleep quality.

Method

Sample

For this correlational study, the sample (126) was taken from various public and private schools of the Bundelkhand region, UP. Through the simple random sampling, the students (60 male and 66 females) were selected, ranging between 15 to 19 years, (with the mean age of 16.62 years).

Tools

1.   Socio-demographic sheet: it developed by the researcher for getting information about the students (like; age, gender, family status, parents' qualification, residential area, etc.).

2.   Internet Addiction Scale: developed by Dr. Kimberly Young (1998) to measure the level of Internet addiction in individuals. A higher score (above 79) on the scale indicates the higher level of internet addiction and a lower score (below 25) indicates a low level of Internet addiction into the participants.

3.   Psychological Well-being Scale: developed by Ryff (1989), to measure the level of psychological well-being in the individuals. The higher score indicates the higher level of psychological well-being and the lower score indicates the low level of the psychological well-being of the individuals.

4.   Sleep Quality Scale (SQS): it was administrated to analyze the sleeping pattern into the individuals (YI, H., et al., 2006). Using the four points Likert scale, on the 18 items. The score lies between 0 to 84.

Procedure

Through direct administration of the questionnaires, data was collected from the students. Firstly, the investigator taken permission from the school-principals, after that from the class teachers. The researcher gave a briefed description about the study to the students and made them assure that their responses will be keep secret and use for research purpose only.

Result and Discussion

The results were statistically analyzed, with the help of the statistical program for social sciences

(SPSS, version 21), including the Pearson correlation coefficient (r), and linear regression analysis. Table 1 shows the mean and SD values of Internet addiction, psychological well-being, and its' subscales, and sleep quality and its' sub-scales.

Table- 1: Descriptive statistics about Internet Addiction, Psychological Well-being, and its' subscales, and sleep quality and its subscales (N=126)

Variables	Minimum	Maximum	Mean	SD
Internet Addiction	0	85	29.25	18.40
Psychological Well-being	91	296	194.16	33.90
Autonomy	11	52	32.34	7.72
Environmental Mastery	14	49	32.00	6.23
Personal growth	14	49	31.76	6.43
Positive relations with others	14	54	32.63	6.78
Purpose in life	11	49	31.94	7.72
Self-acceptance	12	53	33.37	7.47
Sleep Quality	4	42	22.64	5.96
Restoration after sleep	0	9	5.62	2.37
Difficulty in falling asleep	0	11	3.40	2.42
Difficulty in maintaining sleep	0	6	2.12	1.51
Sleep satisfaction	0	9	4.65	2.14
Difficulty in getting up	0	9	3.45	2.19
Daytime symptoms	0	9	3.42	2.26

Table-2: Correlation statistics among Internet addiction, psychological well-being and its' subscales

Variables	IA	PWB	Autonomy	Environmental Mastery	Personal Growth	Positive relationships	Purpose in life	Selfacceptance
IA	1							
Psychological Well-being	-.135	1						
Autonomy	-.095	.829**	1					
Environmental Mastery	-.171*	.719**	.534**	1				
Personal Growth	-.172*	.738**	.475**	.485**	1			
Positive relationships	-.079	.785**	.574**	.437**	.536**	1		
Purpose in life	-.045	.840**	.647**	.491**	.558**	.615**	1	
Self-acceptance	-.080	.835**	.651**	.517**	.536**	.615**	.653**	1

**. Correlation is significant at the 0.01 level.
*. Correlation is significant at the 0.05 level.

Table-3: Correlation statistics among Internet addiction, sleep quality and its' sub-scales

Variables	IA	Sleep Quality	Restoration after sleep	Difficulty in falling asleep	Difficulty in maintain sleep	Sleep satisfaction	culty in getting up	Daytime Symptoms
IA	1							
Sleep Quality	.210*	1						
Restoration after sleep	.112	.531**	1					
Difficulty in falling asleep	.139	.397**	-.150	1				
Difficulty in maintain sleep	-.079	.343**	-.002	.240**	1			
Sleep satisfaction	.075	.397**	.360**	-.147	-.061	1		
Difficulty in getting up	.181*	.516**	.003	.146	.025	-.073	1	
Daytime Symptoms	.103	.542**	.172	-.024	.005	-.012	.294**	1

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level

Table-4: Linear regression analysis among Internet addiction, Psychological well-being, and Sleep quality, and its' sub-scales

Dependent Variables	R^2	B	Std. Error of B	t-value	Sig.	F	Sig.
Psychological Well-being	.018	-.249	.164	-1.520	.131	2.311	.131
Autonomy	.009	-.040	.038	-1.064	.290	1.131	.290
Environmental Mastery	.029	-.058	.030	-1.929	.056	3.721	.056
Personal Growth	.030	-.060	.031	-1.946	.054	3.787	.054
Positive Relation	.006	-.029	.033	-.886	.377	.784	.377
Purpose in life	.002	-.019	.038	-.506	.614	.256	.614
Self-acceptance	.006	-.032	.036	-.889	.376	.791	.376
Sleep quality	.044	.068	.028	2.392	.018	5.720	.018
Restoration after sleep	.019	.014	.012	1.255	.212	1.574	.212
Difficulty in falling asleep	.019	.018	.012	1.567	.120	2.456	.120
Difficulty in maintain sleep	.006	-.007	.007	-.887	.377	.786	.377
Sleep satisfaction	.006	.009	.010	.840	.402	.706	.402
Difficulty in getting up	.033	.022	.011	2.052	.042	4.212	.042
Daytime symptoms	.011	.013	.011	1.148	.253	1.319	..253

Table 2 shows that a negative correlation between Internet addiction, psychological well-being, and its dimensions. In which, internet addiction has a negative and significant correlation with environmental mastery ($r = -.171$, $p < .05$) and personal growth ($r = -.172$, $p < .05$). Further, results illustrate that all the dimensions of psychological well-being have a strong and positive correlation with psychological well-being. In regression analysis (Table 4), Internet addiction has an account for 1.8% of variance in the psychological well-being [$R^2 = .018$, $F (1, 124) = 2.311$, $p = .131$]. In other words, Internet addiction can predict the variances in the psychological well-being and its' dimensions. Therefore, the null hypothesis "There will be no significant relationship between Internet addiction and psychological well-being", is rejected.

Similarly, the literature (Kraut, et al., 1998; Liu, 2004; Zhu, et al., 2005; and Zhang, 2015) supported that a high level of internet activities influence the psychological well-being of adolescents and adults. Waldo (2014) also found a negative association among internet addiction, psychological well-being and its' dimensions of the adolescents. Because of easy availability, and low cost, the nature of internet activities increases in the adolescents (Lopez, et. al., 2015), which decrease the well-being of adolescents (Wang, et al., 2012; Wang, et al., 2013) and increase depression, loneliness, and poor social and interpersonal relationships (Kraut, et al., 1998; Liu, 2004; Pontes, et al., 2014).

Further, results (Table 3) show a positive and significant correlation between internet addiction and poor sleep quality ($r = .210$, $p < .05$). On behalf of the sub-dimension of sleep quality, it has a strong and significant association with internet addiction, except difficulty in maintaining sleep ($r = -.079$, $p = .377$). The results also showed a positive and strong correlation among sleep quality and its sub-dimensions. According to the linear regression analysis (Table 4), internet addiction can predict the sleeping problems with having an account (4.4%) for variances in the poor sleep quality [$R^2 = .044$, $F (1, 124) = 5.720$, $p = .018$]. Therefore, the null hypothesis "There will be no significant relationship between Internet addiction and poor sleep quality", is rejected. Thus, it can be said that when internet activities increases, sleep quality to be poor.

Same as results were found in the previous literature. In which, Cheng, et al. (2012), and Chen and Gau (2016) reported that internet addiction and poor sleep quality have a positive association, because of emitting light from the gadgets. Similarly, Gau (2006), and Young (1998) concluded that due to, using the Internet in the bedtime, the circadian cycle disturb, and around 45% of adolescents feel poor sleep and sleeping pattern.

Conclusion

The major findings of this study are;

• A significant and negative association was found between Internet addiction and psychological well-being.

• Internet addiction and sub-scales of psychological well-being also have a negative association.

• A significant and positive association was found among internet addiction and poor sleep quality, and its' sub-scales.

References

Anderson EL, Steen E, Stavropoulos V. (2016). Internet use and problematic internet use: a systematic review of longitudinal research trends in adolescence and emergent adulthood. Int J Adolesc Youth, 22:430–54. doi: 10.1080/02673843.2016.1227716

Blais JJ, Craig WM, Pepler D, Connolly J. (2008). Adolescents online: the importance of Internet activity choices to salient relationships. J Youth Adolesc; 37:522–536.

Chen Y, Gau S (2016): Sleep problems and internet addiction among children and adolescents: a longitudinal study. Journal of Sleep Research, 25(4): 458-465.

Chou C, Hsiao MC. (2000). Internet addiction, usage, gratifications, and pleasure experience—The Taiwan college students' case. Comput Edu; 35:65-80.

Cheng SH, Shih CC, Lee IH, Hou YW, Chen KC, Chen KT, Yang YK, Yang YC (2012): A study on the sleep quality of incoming university students. Psychiatry research, 197(3): 270–274.

Cole, DA., Nick, EA., Zelkowitz, RL., Roeder, KM., and Spinelli, T. (2017). Online Social Support for Young People: Does It Recapitulate In Person Social Support; Can It Help? Computer Human Behavior; 68: 456-464. Doi:10.1016/j.chb.2016.11.058.

Gau, S.S. (2006). Prevalence of sleep problems and their association with inattention/hyperactivity among children aged 6-15 in Taiwan. J Sleep Res. 15 (4), 403414.

Goldberg, I. (1996). Internet Addiction Disorder. Retrieved November 24,2004 from http://www.rider.edu/? suler/psycyber/supportgp.html

Grıffıths, M. D. (2000). Does Internet and computer "addiction" exist? Some case study evidence. CyberPsychology and Behavior, 3 (2), 211-218.

Kross E, Verduyn P, Demiralp E, Park J, Lee DS, Lin N, et al. (2013). Facebook Use Predicts Declines in Subjective Well-Being in Young Adults. PLoS ONE 8(8): e69841. https://doi.org/10.1371/journal.pone.0069841.

Kraut, R., Patterson, M., Lundmark, V., et al. (1998). "Internet paradox: A social technology that reduces social involvement and psychological well-being?", American Psychologist, 53, 1017—31

Lareki, A., Martinez de Morentin, J.I., Altuna, J., & Amenabar, N. (2017). Teenagers' perception of risk behaviors regarding digital technologies. Computers in Human Behavior, 68, 395-402. http://refhub.elsevier.com/S0190-7409(17)30002-6/rf0085

Lai CM, Mak KK, Watanabe H, Jeong J, Kim D, Bahar N. (2015). The mediating role of Internet addiction in depression, social anxiety, and psychosocial well-being among adolescents in six Asian countries: a structural equation modelling approach. Public health; 129(9):1224–36. https://doi.org/10.1016/j.puhe.2015.07.031 PMID: 26343546

Lee, G., Lee, H. and Kwon, S. (2011). Use of social-networking sites and subjective wellbeing: A study in South Korea. Cyberpsychology, Behavior and Social Networking, 14, 151–155. doi:10.1089/cyber.2009.0382 • Liu JY. (2004). The relationship between college student's internet use and loneliness. Chin J Clin Psychol; 12:286-7.

López, M. C. A., Gutierrez, J. C. S. and Jiménez, A. G. (2015). Problematic Internet use among Spanish adolescents: The predictive role of Internet preference and family relationships, 30(4), pp. 470-485. DOI: 10.1177/0267323115586725.

Oberst U, Wegmann E, Stodt B, Brand M, Chamarro A. (2016). Negative consequences from heavy social networking in adolescents: The mediating role of fear of missing out. J Adolesc., 55:51–60. doi: 10.1016/j.adolescence.2016.12.008.

Pontes, HM., Griffiths, MD., & Patrao, IM. (2014). Internet addiction and loneliness among children and adolescents in education setting: An empirical pilot study. Aloma; 32(1), 91-98. https://www.researchgate.net/publication/261547625.

Ryff C. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. J Pers Soc Psychol; 57:1069-81.

Subrahmanyam K, Greenfield PM. (2008). Online communication and adolescent relationships. Future Child; 18:119–146.

Thorsteinsson, E. B. and Davey, L. (2014). Adolescents' compulsive Internet use and depression: A longitudinal study. Open Journal of Depression, 3, 13–17. doi:10.4236/ojd.2014.31005.

Tzavela, E. C., Karakitsou, C. Halapi, E. and Tsitsika, A. K. (2017). Adolescent digital profiles: A process- based typology of highly engaged internet users. Computers in Human Behavior, 69, pp. 246-255. Doi http://dx.doi.org/10.1016/j.chb.2016.11.032.

Waldo AD. (2014). Correlates of internet addiction among adolescents. Psychology; 5:1999-2008.

Wallace, P. (2014). Internet addiction disorder and youth. EMBO Reports, 15, 12–16. doi:10.1002/embr.201338222.

Wang L., Luo J., Luo, J. (2012). The effect of Internet use on adolescents' lifestyles: A national survey. Computers and Human Behavior, 28(6): 2007–2013. doi: http://dx.doi.org/10.1016/j.chb.2012.04.007.

Wang, L., Luo, J., Bai, Y., Kong, J., Luo, J., Gao, W., & Sun, X. (2013). Internet addiction of adolescents in China: Prevalence, predictors, and association with well-being. Addiction Research and Theory, 21(1), 62–69. doi:10.3109/16066359.2012.690053

Yi, H., Shin, K., and Shin C. (2006). Development of the Sleep Quality Scale. J. Sleep Res. 15, 309-316.

Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. CyberPsychology and Behavior, 1, 237–244.

Zhang, R. (2015). Internet dependence in Chinese high school students: Relationship with sex, self-esteem, and social support. Psychological Reports, 117(1).

Zhu H, Zhang F, Shen M, and Xu M. (2005). Development of concept of internet-related social-psychological health for undergraduates. Chinese Journal of Clinical Psychology; 13: 4-8.

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