Research Paper

Relationship between Internet Addiction and Sleep Quality among Female Students

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ABSTRACT

This study attempted to find out the relationship between internet addiction and sleep quality among female students in Mysuru and Bengaluru cities. The sample consisted of 124 female students pursuing various courses and aged between 18-22 years. The students completed Internet addiction scale developed by Young (1998) and Pittsburg Sleep Quality Index (PSQI-1989). Internet addiction scale measured addiction in 7 dimensions -salience, excessive use, neglect work, anticipation, lack of control, neglect social life. PSQI measured global sleep quality. Pearson's product moment correlations were employed to find out the relationship between dimensions of internet addiction and sleep quality. Stepwise multiple regression was employed to find out the major predictors of sleep quality by dimensions of internet addiction. Results reveled that As the internet addiction increased, sleep quality of the female students decreased linearly and significantly 'Neglect work' and 'excessive use' of Internet were found to be the best predictors of sleep quality.

Keywords: Relationship, Internet Addiction, Sleep Quality, Female Students

Internet addiction is an explanation for uncontrollable, damaging use of this technology and it is a warning sign that a person is having difficulty controlling his or her internet use (Beard, 2002). Internet addiction, also described as pathological internet use, is defined as an individual's inability to control his or her use of the internet, which eventually causes psychological, social, school and/or work difficulties in a person's life (Davis, 2001; Young & Rodgers, 1998).Internet is being widely utilized all around the world. The number of users is incrementing day by day. Globally there is an 82% in 2009 with an average of 5 and half hours spent on internet and other social networks (Nielsenwire, 2010).Internet addiction is an impulse control disorder which does not involve intoxication (Young, 1998). It is characterized by extortionate and poorly controlled preoccupation or behaviours regarding the computer use and internet access that's lead to disorder (Martha, 2008). The utilization of

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interactive screen media is wide spread and for some users leads to pathological symptoms that are phenomenological similar to signs of addictive disorders. Other symptoms include anger, tension and anxiety (Goldberg, 1995) increased social maladjustment (Chandrashekara & D'Souza, 2013). Internet addiction disorders (IAD) is rapidly becoming a prevalent mental health concern around the world. Mahadevaswamy and D'Souza (2017a) in a recent study reported that internet addiction adversely affects psychological wellbeing of adolescents. However, internet addiction did not affect subjective wellbeing of the adolescents (Mahadevaswamy & D'Souza, 2017b).

Today, the budding generation is relying on technology more than ever for nearly everything; they are making the world come closer. Cyberspace is a fascinating world with lots of features, places, activities, people and subcultures to explore. Sleep problems and internet addiction are common among children and adolescents, and are a main concern of parents. Approximately 20% of youth have been reported to have internet addiction (Ko et al., 2005), and approximately 45% of elementary and junior high students were reported by their parents to have had at least one kind of sleep problem (Gau, 2006). Addiction-related sleep problems and addiction are prevalent, and contribute to a notable fraction of the disease burden in mental and neurological disorders in established market economies (Fineberg et al., 2013). Chen and Gau (2016), in their study indicated that internet addict students have higher chance of experiencing sleep problems.

In the present study an attempt is made to find out the relationship between internet addictions and sleep quality among female students pursuing their undergraduate courses. The other interests of the researchers are to find out among various dimensions of Internet, which are the possible predictors of sleep quality. It is hypothesized that internet addiction does affect sleep quality and there will be definite predictors for sleep quality by dimensions of internet addiction.

METHODOLOGY

Sample

Female students pursuing undergraduate courses were selected for the purpose of the study. A total of 124 female students puruing their education in Arts, Commerce, and Science were randomly selected from few colleges of cities of Mysuru and Bengaluru.

Tools employed

1. **Internet addiction scale:** Internet Addiction Test (IAT) was developed by Dr. Kimberly Young, 1998 and it consists of 20 questions was adopted to evaluate the respondents' level of internet addiction. Each item is scored using a five-point Likert's scale, a graded Response can be selected (0 = "does not apply" to 5 = "always"). It covers the degree to which internet use affect daily routine, social life, productivity, sleeping pattern, and feeling. The minimum score is 20 while the maximum is 100 and the higher the score the greater the level of internet addiction. The types of Internet-user groups were identified in accordance with the original scheme of Young and the score <

20 indicate normal users.The scores ranging from 20 to 49 indicate minimal users, while scores from 50 to 79 indicate moderate users and the scores from 80 to 100 indicate excessive users. The minimal users were classified as problematic internet users, while moderate and excessive users were categorized as internet addicts. The instrument has exhibited good psychometric properties in previous researches. The reliability for this questionnaire is 0.899 in Cronbach's Alpha.

2. **The Pittsburgh Sleep Quality Index (1989):** The Pittsburgh Sleep Quality Index (Buysse, Reynolds, Monk, and Berman PSQI-1989) was used to assess the extent of sleep quality among the sample selected. This scale contains 18-items self-reporting the respondents. The items measure seven components sleep quality, score ranging from from 0 (no difficulty) to 3 (severe difficulty) for sleep duration, sleep disturbance, sleep latency, daytime disturbance, habitual sleep efficiency, sleep quality, and use of sleep medications. The total of these provide an index referred to as global sleep quality which ranges from 0 to 21. Reliability measures indicate that the PSQI generally has high internal consistency (α = .80 to .85) and test-retest reliability (r = .85 to .87). It also has acceptable concurrent validity; scores on the PSQI are highly correlated with scores on other subjective measures of sleep quality (r > .69) too.

Procedure

The second and third authors personally visited few colleges in Mysuru and Bengaluru, took the permission from the respective heads of the institution and administered the tool to 124 female students. Before administrating the questionnaire, they were assured of confidentiality. They were asked to answer all the questions. The instructions were read out and each item in the questionnaire was explained in case of difficulty in understanding the item/s, in order to get good response. Once the data were collected, they were scored and fed to the computer.

The data were analyzed using Pearson's product moment correlation and stepwise multiple regression analysis. Table 1 presents results of Pearson's product moment correlations between dimensions of internet addiction and sleep quality and Table 2 shows results of stepwise multiple regression for sleep quality scores by various dimensions of Internet addiction. .

Table 1 Results of product moment correlations between sleep quality and dimensions of internet addiction

Variable 1 Dimensions of IA	Variable 2	Correlation coefficient	Significance
Salience	Sleep quality	0.344	.001
Excessive use	Sleep quality	0.393	.001
Neglect work	Sleep quality	0.506	.001
Anticipation	Sleep quality	0.287	.001
Lack of control	Sleep quality	0.259	.004
Neglect social life	Sleep quality	0.188	.037
Total Internet addiction	Sleep quality	0.487	.001

From the above table it is clear that sleep quality scores were significantly and positively related to all the dimensions of internet addiction test. Sleep quality was found to be significantly and positively related to salience (r=0.344; p=.001), excessive use (r=0.393; p=.001), neglect work (r=0.506; p=.001), anticipation (r=0.287; p=.001), lack of control (r=0.259; p=.004), neglect social life (r=0.188; p=.037) and total addiction scores (r=0.487; p=.001). In other words, as the internet addiction both in individual dimensions and total scores increased, sleep quality also decreased linearly and significantly.

REGRESSION ANALYSIS

Table Summary results of stepwise multiple regression or prediction of sleep quality from internet addiction

Model	Variables Entered	Variables Removed	R	R Square	Adjusted R Square
1	Neglect work	-	.506	.256	.250
2	Excessive use		.549	.302	.290
Beta coefficients					
		Step 1		Step II	
1	Neglect work	.506		.416	
2	Excessive use	-		.233	

Regression analysis: When all the scores of 6dimensions of Internet addiction scale were regressed on the sleep quality scores, stepwise multiple regressions revealed that only two dimensions of IAwere found to bethe best predictors of sleep quality. The first dimension entered into the equation was neglect work with correlation coefficient of .506, squared R value of .256 and variance of .25. The second dimension to enter the equation was excessive use along with neglect work, with the combined correlation coefficient of .549, squared R value of .302 and variance of .29. In other words, both neglect of work and excessive use of internet contributed to 29.0% of the sleep quality among the present sample. The beta values for the first predicted models neglected work at steps I and II with the beta coefficients of 0.506 and 0.416 respectively. The beta coefficient for the second predicted model-excessive use was found to be .233 at step II.

DISCUSSION

Major findings of the study

1. As the internet addiction increased, sleep quality of the female students decreased linearly and significantly
2. 'Neglect work' and 'excessive use' of Internet were found to be the best predictors of sleep quality.

From the above findings it is clear that there is a significant association between internet addiction and sleep quality. Further, neglecting work and excessive use of net were found to be the micro level predictors of the sleep quality. Studies have revealed that sleep problems

and internet addiction are common among children and adolescents, and are a main concern of parents. Ko*et al*. (2005) reported that approximately 20% of youth are internet addicts, parental observation on elementary and junior high students revealed that about 45% of them have some kind of sleep problems (Gau, 2006). Fineberg et al (2013), opined that "Addiction-related sleep problems and addiction are prevalent, and contribute to a notable fraction of the disease burden in mental and neurological disorders in established market economies". Hence, verifying the long term associations between sleep problems and internet addiction may lead to form prevention and treatment strategies for improving sleep quality and reduction of internet addiction. In Nepal, Bhandari et al, (2017) found that Internet addiction mediated 16.5% of the indirect effect of sleep quality on depressive symptoms among undergraduate students.

Chen and Gau (2016), after a longitudinal study on sleep problems and internet addiction concluded that dyssomnias sequentially predicted internet addiction, and internet addiction sequentially predicted disturbed circadian rhythm. Young people with dyssomnias may fill the time where they struggle to sleep with internet use, but this in turn can lead to circadian rhythm disturbances, possibly through the effects of light at adverse times.

Conflict of Interests: The author declared no conflict of interests.

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