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Research Paper

A Study of Smartphone Addiction and Quality of Sleep Among Young Adults

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ABSTRACT

The aim of the study is to identify the relationship between Smartphone addiction and Quality of sleep among young adults. The researcher had used the Smartphone Addiction Scale – Short version (SAS-SV) (2013), Groningen Sleep Quality Scale (GSQS-15) (1990). Pearson correlation was used to study the data. A sample of 104 including both genders was collected mainly from Bangalore. The researcher had used probability simple random sampling technique. The study results indicated that there is no significant correlation among smartphone addiction and sleep quality and indicated that there was no significant relationship between the Smartphone addiction and Quality of sleep. Here it is found that the Mobile addiction does not have a direct relationship with Quality of sleep.

Keywords: *Smartphone Addiction, Quality of Sleep*

The quote, "It is okay to own a technology, what is not okay is to be owned by technology." The smartphone has emerged as one of the most popular consumer electronic devices, especially among young adults (Deloitte. 2017). According to Cisco's 13th annual Visual Networking Index (VNI), 829 million people will be using smartphones by 2022(Barnett T et., 2017-20220). Smartphones provide numerous services as your navigation, personal assistant and entertainment source. Non-productive use of smartphones (problematic smartphone usage), together with excessive dependency and tolerance, is often referred to as smartphone addiction, and is one of the most common types of addictions among the younger generations (Soni et al., 2017). Smartphones have been a particularly disruptive influence, giving low-cost and quick access to services such as voice over internet protocol, social networking applications, online music and short films, online shopping, online payments, and mobile wallets (Ficci, 2016). Indian smartphones downloaded apps are dominated by chat and social media apps such as WhatsApp and Facebook (Ficci, 2016), whereas the top paid are streaming and dating apps such as Netflix, Hotstar and Tinder (economictimes. indiatimes.com). Adoption of mobile phone – based tools and solutions in sectors such as agriculture, healthcare, and education has aided in the improvement of living conditions in low and middle – income countries (GSMA, 2019). Moreover, the speed of the internet has contributed significantly, when 5G is now a reality (GSMA, 2019). Therefore, user experience is expected to be further enhanced with the rise in streaming 360^0 video and virtual reality(www.businesstoday.in). Smartphone addiction

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shows a few similarities with DSM- 5 substance related disorder criteria, such as the four core components of compulsive behaviour, functional impairment, withdrawal, and tolerance (American Psychiatric Association, 2013). In 2019, it is anticipated that there will be almost 2.5 billion smartphone users worldwide. As per India's official Telecom Statistics in 2019, the internet subscribers with smartphone access in India have almost tripled from 251.59 million in 2014 to 636.73 million in 2019 (Government of India, 2019). Several studies have found that women are more likely to develop an addiction to smartphone usage than men (Park N et al., 2014). According to the "Teen Smartphone Addiction National Survey 2018" by Screen Education, 70% of teenagers have only 3-5 applications or sites that they constantly cycle through (Teen Smartphone Addiction National Survey 2018). Technology is playing an increasing role in all parts of the environment and professional, private and social life of consumers (Miksch et., 2018). As reported by, there is a negative aspect to smartphone usage relate psychological characteristics such as locus of control, need for touch, social interaction anxiety and materialism with excessive smartphone usage leading to technostress (Lee et al., 2014). Excessive use of technology can adversely affect the physical and mental health of individuals (Michaels, 2016). Research points to excessive use of the internet impacting psychosocial well-being (Caplan et al., 2009). Quality of sleep is an important indicator of health (Aguirre, 2016). The International Classification of sleep disorders includes over 80 sleep disorders and it divided into six symptoms based on categories are hypersomnia, insomnia, parasomnias, sleep-related breathing disorders (SRBD), circadian rhythm sleep disorders and sleep related movement disorders (ICSD, 2005). Some of the studies found out that poor sleep-in adolescents and young adults can result in longer- term sleep problems (Bruce et al., 2017). Some of the symptoms of insomnia are difficulty in falling asleep at night, waking up during the night, irritability, depression and difficulty in focusing on tasks. Increased time spent on the internet disrupted the sleep wake schedule significantly, and this high rate of insomnia was found among the internet users (Jenaro et al., 2007; Rotunda et al., 2003; Thome´e et al., 2007). Recent research has found that excessive smartphone usage is connected with disruptions in sleep, daytime activity, and performance among students, all of which are biorhythm domains (Demirci et al., 2015). A meta – analysis published in 2019 discovered that the majority of studies (n = 31) reported a prevalence of smartphone addiction using SAS-SV questionnaire, ranging from 10 to 30%, among children and young adults, with the median being 23.3%, as well as a significant association between smartphone use and sleep quality, depression, anxiety, stress, and day-to-day functional impairment (Sohn et al., 2019). The current study aims to assess a study of smartphone addiction and sleep quality among young adults.

The subsequent findings of the research study indicate that the study was about the prevalence of smartphone addiction and its effects on quality of sleep among medical students, and the outcome was that nearly of the medical students were found to have smartphone addiction, that was associated with poor sleep quality among medical students (Vivek Arun Kumar et al., 2019). And an investigation on smartphone addiction and its effects on sleep quality among nursing students in a municipality town of West Bengal found that low smartphone users have slightly better sleep quality than high individuals, and they showed that using a mobile phone for calling and texting after lights out was associated with sleep disturbances. (Trishan Ghosh et al., 2021). And among adolescents and young adults in India, a cross-sectional study was conducted in order to investigate the association of screen time on smartphones with sleep problems. The results of this study showed that increased time spent on smartphone screens among adolescents and young adults, particularly females, is associated along with a higher likelihood of stating sleeping problems (Chanda Maurya et al., 2022). The prevalence of smartphone addiction and its

relationship with sleep disturbance and low self-esteem among medical college students reveals that smartphone addiction is more prevalent in boys than in girls, and there is a significant association between smartphone addiction and sleep disturbance (Sana Dhamija et al., 2021). The effect of smartphone addiction and sleep quality on academic performance of university students was investigated, and the findings revealed a negative relationship between smartphone addiction and poor sleep quality in teenagers and academic performance (Balan Radhakrishnan et al., 2021). A study of smartphone addiction among young adults in India found that over 25% of respondents had high scores on the smartphone addiction scale. The respondents spend the majority of their time on social networking site apps, and the study indicates that increased smartphone usage leads to lower sleep quality (Meenakshi Handa et al., 2019). Sleep disorders among a healthy population in South India indicate that sleep disorders are widely prevalent in India, and given the health implications and lack of public awareness, there is a need to sensitise physicians and raise public awareness (Samhita Panda et al., 2012). A study was done on the sleep patterns of teenagers at a school: Impact on their mood and academic performance, and the results show that older adolescents had higher depression but poor attendance and academic performance (Ruchi et al., 2018).And a comparative study of sleep quality in different phases of the medical course indicates that poor subjective sleep quality was high for students in all class years of the undergraduate medical course and reported worse sleep quality than did those in other class years (Shilpi et al., 2020). A systematic review on sleep duration, sleep quality, excessive daytime sleepiness, and chronotype in university students in India indicates that poor sleep quality and increased sleep duration and this study was conducted during COVID-19 (Christen Dunn et al., 2022). In Delhi among medical students conducted a study called Internet addiction, sleep quality and depressive symptoms and it shows that it has a strong correlation between internet addiction, distributed sleep quality and depression (Raghav Gupta et al., 2021). Using Pittsburgh sleep quality index conducted a study among college students and the findings shows that the prevalence of poor sleep quality was quite high (Ranjeeta Kumari et al., 2020). A cross sectional study was conducted to assess the traumatic impact of the second wave COVID 19 pandemics on depression, anxiety, stress, sleep quality, mental well-being, and resilience and it shows that the participants had significant depression, anxiety, and stress symptoms respectively and had disturbed sleep patterns (Tanveer Kaur et al., 2021). In Delhi conducted a study called sleep quality assessment of adolescents and the results shows that there is a significant difference in sleep duration (Mahasweta Dubey et al., 2019). A randomized controlled pilot study in sleep promotion program for improving sleep behaviours in adolescents and the findings showed that are correlated with each variable and no significant effect was observed in sleep hygiene and other sleep parameters (Bindu John et al., 2016). A Cross sectional study in smartphone addiction among medical students in South India and the results shows the problem of smartphone usage has reached an alarming level (Ramesh Ammati et al., 2018). Many smartphone users experience pain in the thumb and the results showed that there is a correlation between heavy smartphone usage and hand pain was found which indicates that heavy usage of these devices can cause subclinical effects on the human hand (Ayman Baabdullah et al., 2020).

***Aim*:** The aim of the study is to identify the relationship between Smartphone addiction and Quality of sleep among young adults.

Objectives

To find out the correlation between the variables of smartphone addiction and quality of sleep among young adults.

Hypothesis

H_1: There is relationship between smartphone addiction and quality of sleep.

METHODS

Variables

- Smartphone addiction: Independent Variable.
- Quality of sleep: Dependent Variable.

Area of the study

- Sample: Young adults.
- Population: Kristu Jayanti College students, Bangalore.

Sample Size

Sample Size: 104. The purpose of the study was to understand and analyse the smartphone addiction and quality of sleep. Hence, as a representative of a huge community, 104 young adults were taken into account for this study through simple random technique.

Need of the study

Sleep is essential for your body because it promotes good brain function and keeps your physical health in check. However, the smartphone has altered sleeping habits, resulting in insufficient sleep quality and a slew of difficulties. I also wanted to conduct this study to assist young adults understand the value of sleep.

Sampling Techniques

The probability sampling approach was employed in this investigation. Probability sampling is the choosing of a sample from a population based on the idea of randomization, often known as random selection or chance.

In Probability Sampling Technique, the sample of 104 young adults were drawn through simple random sampling technique from Bangalore. The age ranges from 18 to 24. The simple random technique was preferred because it's simple and unbiased.

Instruments

- **Smartphone Addiction Scale - Short Version (SAS-SV)** developed by Kwon et al (2013). The Serbian version of the SAS-SV showed good internal consistency (Cronbach's alpha = 0.89) and excellent reliability for test-retest scores (ICC = 0.94, 95% CI = 0.92-0.96). Factor analysis supported the extraction of one factor, which explained 51.538% of the variance. The Serbian version of the SAS-SV showed good internal consistency (Cronbach's alpha = 0.89) and excellent reliability for test-retest scores (ICC = 0.94, 95% CI = 0.92-0.96). Factor analysis supported the extraction of one factor, which explained 51.538% of the variance.
  Scoring for sleep quality: One point if the answer is "True" for questions (2, 3,4,5,6,7,9,11,13,14,15). One point if the answer is "False" for the questions (8,10,12).
- **The Groningen Sleep Quality Scale** (GSQS-15; Meijman et al1990) evaluates the subjective quality of sleep, covering the following complaints: the general quality of sleep, insufficient sleep, problems of falling asleep, problems sleeping and waking up feeling unrested. The reliability of the scale is 0.90 with a 95 % confidence interval of 88 to 0.92. Scoring for Mobile Addiction: 1 Point: Strongly Disagree, 2

Point: Mildly Disagree, 3 Point: Disagree, 4 Point: Agree, 5 Point: Mildly Agree, 6 Point: Strongly Agree.

Research Design

Descriptive research design is a scientific approach that involves monitoring and describing the subject's activity without altering it in any way. This research design measures smartphone addiction and quality of sleep are measured along with correlation between smartphone addiction and quality of sleep are identified.

RESULTS AND DISCUSSION

Table 1: showing the correlation between smartphone addiction and quality of sleep.

Variables	N	M	SD	r
Mobile addiction	104	29.78	9.84	.058
Quality of sleep	104	5.70	4.00	-

Table 1 denotes whether there is no correlation between the two variables Smartphone addiction and Quality of sleep among young adults. After analyses it is indicated that there is no significant relationship between the Smartphone addiction and Quality of sleep (.05). And the number of responses is 104.The mean value for Mobile addiction is 29.78 and the standard deviation value is 9.849. And the mean value for quality of sleep is 5.70 and the standard deviation value is 4.009. The results were not statistically significant at 0.05 levels. Here it is found that the Mobile addiction have a direct relationship with Quality of sleep. Hence, the hypothesis was rejected. And some of the supporting studies are by Balan Radhakrishnan, Mohammad Rahim Kamaluddin, Azizi Yahaya, Mohd Azrin Mohd Nasir, Fauziah Ibrahim, Zaizul Ab (2021) "smartphone addiction and sleep quality on academic performance of university students". And the result of that study is the negative association of smartphone addiction and poor sleep quality of adolescents on their academic performance. Also, there are many contradicting studies relating to Smartphone addiction and Quality of sleep and one among them is the study conducted Chanda Maurya, T. Muhammad, Priya Maurya & Preeti Dhillon (2022) and the result of this study was the increased time spent on mobile phones screen among adolescents and young adults, particularly in females is associated with a higher likelihood of reporting sleeping problems.

CONCLUSION

A study of the smartphone addiction and quality of sleep among young adults found that minority of the college population. And there is no significant relationship between the variables. The hypothesis taken for this study is significant and were not accepted.

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Conflict of Interest

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