

Impact of excessive smartphone use on sleep quality and sleep length of college students

Saurav Uniyal^{1*}, Dr. Savita K Tiwari²

ABSTRACT

Like any other technology now a day's smartphone has become a need not leisure it is absorbed by individuals as a basic need like other needs especially young college students. This addiction is affecting their lifestyle in such a manner that they find it ok to compromise with their sleep which is not good at all for their mental as well as physical health. The current study examined the relationship between problematic mobile phone use and sleep pattern in college students. This cross-sectional study was conducted on 210 students from Doon University, Dehradun. Online google form containing self-administered questionnaire containing Mobile Phone Problematic Use Scale-10 (MPPUS-10) and Pittsburgh Sleep Quality Index (PSQI) were used. Pearson correlation coefficient was used to correlate PSQI score and MPPUS-10 score. The result showed that sleep length was not related to problematic mobile phone use but sleep quality was positively correlated with problematic mobile phone users. The study concluded that excessive use of the mobile phone was found to related with poor sleep quality and is most common among the college students. This study further brings to our notice that there should be counselling services in the colleges to help the student who are already addicted and facing the problems as they are the future of our country.

Keywords: *Smartphone Impact, Sleep Quality, Sleep Length*

According to top addiction experts, “giving your child a smartphone is like giving them a gram of cocaine”. Introduction In this era where everyone is deeply dived into the distraction of new aged cell phones who just pretend to be concerned about the humanitarian crisis. To wake up feeling refreshed it's important to focus both on Sleep Length (the duration of sleep you get each night) as well as sleep quality which indicates how well you sleep. On average adult should optimally receive between seven and nine hours of sleep each night, but those needs vary individually. For example, some people feel best with eight consecutive hours of sleep, while others do well with six to eight consecutive hours of sleep, while others mix up their sleep of taking nap in the daytime with night sleep of six to seven hours. But for a college-going student whether it's male or female, sleep plays an important role in the student's life whether it may be physically or mentally. As in a

¹Student, Department of Psychology, Doon University, Dehradun, India

²Associate Professor, Department of Psychology, Doon University, Dehradun, India

*Responding Author

Received: September 27, 2020; Revision Received: November 17, 2020; Accepted: November 22, 2020

Impact of excessive smartphone use on sleep quality and sleep length of college students

student's life, there is a busy schedule every day and with the increasing competition in life, they have to move neck to neck with everybody so that they can compete in the real world so here sleep plays a vital role. The main reason sleep is so important for a student's success in college is because this is the time when their brain is "cleaning itself".

The benefits of quality sleep imply the increased level of mental, emotional and physical activity. It improves their immune system, balance hormones, boosts metabolism, and improve brain function. If students are not getting enough sleep then all this "brain garbage" stays backed up in the brain, reducing cognitive performance and learning potential. The curiosity in college students makes them extend their bar of independence and want of having their own rules in their every part concerned with their life especially sleeping schedules. Since the introduction of smartphones in 2009, smartphones have had a significant impact on daily life across the world. Smartphones fill with numerous features helps in the education field as well by allowing one to take notes, have information on any topic, be connected with others and skill yourself with various application. Several studies have shown, however, that the rare instances where the excessive use of smartphones leads to several mental or behavioural problems. However, the ill effects of excessive use are known to have psychopathological symptoms, which directly impacts mental health causing depression, anxiety, poor health and sleep quality, and lower academic achievements. Maladaptive behavioural difficulties are seen in students with low performance in academics or work and reduction in the social interference among peers along with mental preoccupation, neglect of personal life, mood modifying experiences and also lead to relationship disorders. These all may indicate addiction among the students. A grown-up man has a different schedule than a teenager and has a choice of using phones, not under any pressure from the parents. These points indicate the higher use of smartphones among college students. The current smartphones are like laptops because of including web browsing, Wi-Fi, third party apps, etc., and in the twenty-first century, they are more portable and attractive, especially for adolescents. The curiosity and joy of using smartphones among adolescents are very high which offers them to use varied music wallpapers, etc to maintain the joy and help express themselves.

Therefore, young college students are most likely to be attracted towards this thus becoming dependent on their smartphones. Factors Influencing Sleep scrutinized the link between the use of mobile after lights out and sleep disturbances. Since the excessive use of mobile which has no starting and stopping time due to continuous involvement in that pleasuring aura of the phone replaces other activities and also displaces sleep. Distorted sleeping patterns is a matter of concern among the new tech-generation. The curiosity in college students makes them extend their bar of independence and want of having their own rules in their every part concerned with their life especially sleeping schedules. As students transition from the structure of high school to the loosely organized collegiate lifestyle, sleep patterns, length and quality may undergo drastic changes. Most of the students compromise on their sleep than giving up their technologically advanced social life. They stand in a dilemma of choosing from their schedules which often leads to problems in their life while students have to participate in numerous activities like sports, extracurricular and might have jobs along with maintaining good academics. While such erratic schedules may decrease one's opportunity of achieving the proper duration and quality sleep, the combination of altered schedules and lack of sleep comes at a steep price. A slight shortage in sleep from an expert advised eight to nine hours of sleep for good mental health may not have larger issues. But, it's not true college students those who sleep for less amount of time than

Impact of excessive smartphone use on sleep quality and sleep length of college students

suggested may have a poor sleep quality thus affecting a college student academically, physically and emotionally.

Some factors that many previous kinds of research showed may be responsible for this are: College students are constantly being confronted with immense pressure to meet deadlines and fulfil other rigorous demands while maintaining a social life. Thus, stress from this pressure act as the greatest hindrance to sleep initiation. the stress increases when you have no sleep because of stress. A night without sleep can lead to dizziness in the next day which many students try to cope up with caffeine. the vicious cycles consume them of continuously thriving for caffeine to deal up with dizziness and offset the effects of the stimulants. Online games like PUBG, Counterstrike etc. are very popular among the college students thus excessive playing of these online games may affect the students sleep pattern and thus students bore the physical indications of sleep deprivation like dark circles under eyes, muscle stiffness and pain in the scapula.

Various previous studies revealed that online games impact sleep length and sleep quality. One of the main factors that result in the deprivation of sleep in college students is that many college students use social networking apps, online games, and music as a sleeping aid. since this new tech-phones allow them to use varied media at any time in any environment. Researchers have found that many individuals turn to their online gaming, social networking apps and various entertainment programs in their smartphones before sleeping. These are called "unstructured activities" since they don't have a starting and ending time. Involving in these types of unstructured activity as opposed to a measure of activity with a stopping point that is determined is likely to lead to time disruptions, such as bedtime. the screen light and the interests it stimulates in one brain tend to have an adverse effect on the quality of sleep through prolonging sleep-onset latency and shortening rapid eye movement (REM) sleep. Excessive smartphone use similar to the other technological invention has brought both problems and benefits. Nowadays, smartphone users are particular about owning the latest versions, apps, and upgrade for which they are ready to spend large sums of money.

People are so much dependent on the smartphones that the second they are away from it makes them feel useless and regular use of it makes them neglect the other important work. Many kinds of research suggest the overuse of smartphones can lead to the number of problems including addiction-like symptoms and feeling of dependence, dangerous use, especially while driving, even using them in libraries, classrooms and public transport. The evidence connects the immoderate use of smartphones leads to increase psychopathological symptoms such as depression and anxiety. We are so much indulged in our smartphone that we are not aware of the fact that not only our body but so does our brain need some rest. According to the Attention Restoration Theory, when you are in an environment with lower levels of sensory input, the brain some of its cognitive abilities. In this modern world we are processing enormous amounts of information that we are under lot of stress thus affecting prefrontal cortex that is responsible for decision making and problem solving. Thus, we need to spend time in silence so that our brain can relax and focus well. An irrational overuse of smartphones has been described as smartphone addiction by psychologists and is likely to be among the most prevalent forms of addictions. Young students especially, have grown up in this smartphone age and are now totally dependent on it thus have made these smartphones an important part of their lifestyle.

Thus, exposure to smartphone addiction in them is more than the previous generation. addiction of smartphones leads to many negative effects on the health and privacy of the

Impact of excessive smartphone use on sleep quality and sleep length of college students

person as it may cause physical (neck and wrist pain and accidents) as well as behavioural problems (depression). This addiction can also interfere with school or work performance, reduce social interactions, cause negligence in personal life and forms an important environmental factor disturbing quality sleep. Sleep restoration has shown a strong relationship with better physical, cognitive, and psychological well-being in adults, adolescents, as well as in children. This makes good quality sleep an extremely essential part of student life with poor sleep quality further increasing the risk of physical and mental disorders. Smartphone addiction is present in these students might aggravate this problem and further, reduce the quality of sleep. This research has been conducted among students with respect to smartphone addiction and its possible physical and mental consequences. Taking into account the importance of self-management in maintaining a healthy sleep pattern, it is anticipated that reinforcement of health-related behaviours may improve the situation of sleep deprivation in college students. Of age between 18 and 25 years, college students are at a critical stage of transition from adolescence to adulthood when the development of appropriate health-related behaviours would lay the foundation of a healthy lifestyle in adulthood. Thus, this study was conducted with an aim to find out the impact of smartphone addiction on sleep patterns of various students of different universities in Dehradun.

REVIEWS

Many Researcher in the past have shown that lack of sleep duration and quality of sleep may have a negative impact on a well-being of a college going student. These days students are so much engaged in their smartphone devices thus trying to explore their boundaries of independence and thus affecting their healthy sleep pattern. It is also found that students are suffering from various sleep difficulties that directly affect their lifestyle in a negative manner. In another study given by (White G Abbey, Buboltz Walter, Igou Frank) it was found that various aspects of mobile phone use are related to Sleep Quality but not sleep length. Research has shown the relationship of smartphone use severity with sleep quality, depression, and anxiety in university students, there was found to be a positive correlation between the mobile phone addiction scale score and depression levels, anxiety levels, and some sleep quality scores. (Emirci Kadir, Akgonul Mehmet and Akpınar Abhullah).

Various study has been conducted to see the relationship between mobile phone use severity and sleep pattern, one such study given by (Pilcher. J June and Ott. S Elizabeth,2010) college students were assessed over 3 months to see the stability of subjective measures of sleep, health, and well-being, it was seen that college students those were healthy had no complain of sleep difficulties thus completed a seven days sleep log and battery of surveys at 3 different time during 3 months. Across the experimental time it remained constant to see the relationship between the sleep and the well-being. As we can see excessive mobile use not only has an impact on sleep pattern of a student but also other things like mental issues, family relation and many more, one such study in which it was found that undergraduate students who had smartphone addiction demonstrated greater odds of having high anxiety compared to those who were not addicted. It also showed positive relationship between smartphone addiction and problematic family relations (Hawi. S Nazir & Samaha Maya).

There are many factors involved affecting students sleep that might be late night studying, parties, work and drug abuse might be a reason. So, this lack of sleep largely affects the emotional stability of a student (Pilcher & Huffcutt, 1996). It is really important to focus both on sleep quantity as well as sleep quantity as lack of sleep can have negative affect on the mind of a healthy individual. A quality sleep can enhance your mood thus resulting in a

Impact of excessive smartphone use on sleep quality and sleep length of college students

relaxed atmosphere for you to keep your mind focused thus allowing a person to have a healthy lifestyle. As students transition from the structure of high school to the loosely organized collegiate lifestyle, sleep patterns, length and quality may undergo drastic changes. These days students are dealing with such a hectic schedule like there are too many cultural activities, sports activities then their academics, that makes them to give their attention toward a lot of things thus compromising with the sleep pattern of a student that involve sleep duration as well as a good quality sleep. Even in these days' student are trying to be independent thus doing part time jobs in addition so imagine the time they must be giving to their sleep. Lack of sleep is not only common in adults but also in adolescents and it has also been reported that these sleep disturbances has been associated with smoking, drug abuse, alcohol and many other habits that not only affect their mental health but also physical. We can define a healthy sleep habit in many ways. For example, Peters, Joireman, and Ridgeway (2005) have described "sleep patterns" in terms of four different factors: "self-rated satisfaction with sleep", "sleeping during the day", "difficulty sleeping at night", and "oversleeping". Today most common problem in college campuses are lack of sleep thus developing a poor sleep habit. Many researches have demonstrated that there a many college student in the world that report to have poorer sleep habits, and experiencing poorer sleep quality that affect their life style and now it has become a routine in their lifestyle whether it's a college student living in the hostel or is a day scholar.

Lund and colleagues (2009) conducted an online survey of student sleep habits and found that 25% of students reported attaining less than 6.5 hours of sleep a night and 8-hour sleep was reported by 29.4% of them. Everyone thinks that little change in their sleep pattern may not have any affect in their life but it just the start of it. However, Caldwell (2002) stated that 5% of college students complaint of fatigue when they receive one hour less sleep then the normal 8 hours sleep and those students who received a good amount of sleep have a slightly better academic result as compared to other students. In addition to experiencing a decreased amount of sleep, research also reveals that college students experience poor sleep quality (Lund et al., 2009).

Those students who received poor quality of sleep were not only academically suffering but also emotionally and physically (Lund et al., 2009). As a result of research showing that college students have developed poorer sleeping habits, many researchers have begun to focus their attention on finding the factors that lead to poorer sleeping habits and poor sleep quality in a college student. Here, College students are put under tremendous pressure to complete the demands before the deadlines while also maintaining their social life. Therefore, it was clearly seen most of the students reported stress ass the main reason behind their sleep disturbance (Lund et al., 2009). A question was asked from them as to tell that one factor that strongly attribute to their sleep disturbance so most of them reported that academic stress was one of the main reasons for their sleep disturbance. When students experience a sleepless night, they try to overcome it by use of stimulants like caffeine. Students are finding themselves trapped in this stimulants cycle to get rid of their tiredness thus involved in this vicious number of stimulants (Lund et al., 2009).

In the recent years it is seen that mobile phone has been closely associated with these sleep disturbances and many health problems. One such study given by Rosen Larry, Carrier .M Louis, Miller MA, Rokkum Jeffrey & Ruiz Abraham found that, cognitive and affective factors that influence technology usage have a drastic impact upon sleep problems. It was also seen that too much dependence on the mobile phone and late-night awakening spending their endless nights in mobile phones affect the sleep problems. Many researches have also

Impact of excessive smartphone use on sleep quality and sleep length of college students

shown previously that many electronic devices such as television, computer, video games are closely associated with sleep disorders. So, smartphones being one of the most common devices used by the young college students, so it is the most important factors that affects the sleeping pattern of the students. As smartphones are frequently used after the lights are off thus it has a more adverse impact on the sleep pattern thus resulting in as one of the main reasons for an unhealthy lifestyle. There was one such study given by Tao Shuman, Wu Xiaoyan, Zhang Yukun, Zhang Shichen, Tong Shilu & Tao Fangbiao in Chinese college students. It was also noted that poor sleep quality may be an important reason for mental problems in a student. Another similar study was conducted among medical students to see the impact of over-use of mobile cell.

Phone and social network and it were found that sleep quality is directly significant to mobile phone addiction. It also showed that in relation to mobile phone addiction, being male gender and studying in general physician level are the most important predictors of poor sleep quality (Mohammadbeig Abolfaz, Absari Rozita, Valizadeh Faezaneh, Saadaati Mohammadreza, Sharif Moghadam, Ahmadi Ali, Mokhatri & Ansari Hossein). Despite so many studies showing the importance of a good quality sleep student does not take it seriously but they should be aware of the fact that lack of sleep has a huge impact on their academics thus can reduce their academic achievement.

Massimini and Peterson (2009) The majority of students indicated that they had lost sleep at least one time within the previous seven days due to interference of mobile phone use. It was also seen over two thirds of the sample reported that they texted between late evening hours of 10 p.m. and 1:59 a.m. A significant relationship between sleep length and mobile phone addiction was also found. Adolescents when move from their schools to colleges have to adopt a totally different lifestyle which can also be a reason for this over dependency on the mobile phone. There was a study given by (Wang Yu-Po, Chen Li-Kai and Lin Hsuan-Pin) they found that sleep quality was significantly associated with degree of smartphone dependence. Better sleep quality was found among the subjects' who were found to be less dependent on smartphone.

There are various risk factors are associated with smartphone addiction in young adults, one such study given by (Liu Hao-Chun, Lin Hsuan-Sheng, Pan Chien-Yuan, Lin Hsuan-Yu) found that smartphone gaming and frequent smartphone use were associated with smartphone addiction in the young adults. Gender, duration of owning a smartphone, and substance use were not associated with smartphone addiction. One such study by (Thomé Sara, Härenstam Annika, Hagberg Mats) shows the world that high frequency of the smartphones was one of the main reasons for the mental health symptoms in young adults. Those who had perceived accessibility via mobile phones to be stressful found that the risk for reporting mental health symptoms was greatest among them.

Various study had proved how college students are under the dependency of mobile phones and how it's affecting their mental as well as physical health. A study by (Sahin Sevil, Ozdemir Kevser, Unsal Alaattin, Temiz Nazen) found that in university students, the addiction level was determined to be higher in the second-year students, those with, those whose age for first mobile phone is 13 and below, poor family income, those whose duration of daily mobile phone use is above 5 hours and those with type A personality. The sleep quality is affected with increasing mobile phone addiction. There was research conducted to find the association between use of mobile phones after lights out and sleep disturbances among Japanese adolescents and it was seen that calling and sending messages were one of

Impact of excessive smartphone use on sleep quality and sleep length of college students

the main reasons for sleep disturbance after lights out (Takeshi Munezawa, Osaki Munezawa Yoneatsu, Kanda Hideyuki, Minowa Masumi, Suzuki Kenji, Higuchi Susmu, Mori Junichiro, Yamamoto Ryuichiro Ryuichiro & Ohida Takashi).

It's very common among college students nowadays how mobile phone addiction is associated with various behavioural problems, a study given by Soni Ruchi, Upadhyay Ritesh & Jain Mahendra (2016) showed that young generation are so addictive to their smartphone thus spending most of their time in smartphones. This study concludes that youths are not only into mobile phone addiction but certainly are developing significant sleep and behaviour problem because of excessive mobile phone usage. Various previous studies showed that mobile phone addiction not only affect the sleep quality but is associated with the sleep duration thus affecting health behaviour in young college students. One such study showed that that though there was a negative correlation between smartphone dependence and sleep duration, as well as a positive associations of sleep duration with the nutrition, health responsibility, stress management. It further showed that smartphone dependence was the only significant predictor of inadequate sleep (Yang Yu-Shang, Chen Li-Kai, Lin Hsuan-Pin & Wang Yu-Po). Smartphone addiction if present in these college students might aggravate this problem and further, reduce the quality of sleep. Thus, welcoming various mental, behavioural and physical problems thus affecting one's healthy lifestyle.

Objective

The objective of this study was to examine the problem mobile phone users and its relationship with sleep length and sleep quality of college going students.

Hypothesis

Problem mobile phone user will be negatively related to sleep length and sleep quality. Students who are problem mobile phone users will report less sleep and poor sleep quality as compared to students with no problem mobile phone use.

METHODOLOGY

Participants

210 students participated in this study from Doon University, Dehradun. Among 210 students 51.6% were male and 48.4% were female. Participants average age was approximately 19 years old (Mean = 19.76, SD = 2.153). Most of the students were from the undergraduate level studying in different course in the university.

Instrument used

The demographic questions were asked like age, gender and the time they started using mobile phone.

- 1. Mobile Phone Problematic Use Scale -10 (MPPUS-10:** Milena Foster, Katharina Roser, Anna Schoeni and Martin Rossli): The MPPUS-10 is a shorter version of original version of MPPUS that consists of 27 items. MPPUS-10 consist of 10 items that measure the excessive or problematic mobile phone use. In this, 10 items cover addictive symptoms like withdrawal, craving, peer acceptance, loss of control and negative life consequences. The 10 items have to be answered in a 10-point Likert scale ranging from 1 ("not true at all") to 10 ("extremely true") resulting in a final score theoretically ranging from 10 to 96.
- 2. The Pittsburgh Sleep Quality Index (PSQI,** Carole Smyth): The Pittsburgh Sleep Quality Index is an effective questionnaire that is used to measure sleep duration as

Impact of excessive smartphone use on sleep quality and sleep length of college students

well as sleep quality. It measures sleep by seven domains: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction over the last month and then differentiate poor to good sleep quality. The scoring of answer is based on a 0 to 3 scale where 0 reflect the positive extreme on the Likert scale while 3 reflect the negative extreme. In this paper we are looking for the duration of sleep as well sleep quality so we would be focusing on those two aspects mainly.

Procedure

Participants consist of 210 college aged student and the survey was done through an online google form which contain the demographic questions, MPPUS-10 questionnaire and PSQI questionnaire. The Forms were shared through mails and WhatsApp with the message of providing the detailed introduction of why this survey is conducted and only if their willing to do the survey was totally voluntary. The participants were assured that their results will be kept confidential. They were also requested to give their honest response. The response given by the participants were directly saved in the drive thus after we got all the response a response sheet was then interpreted and then the result was used to find the mean, standard deviation and the correlation between them.

RESULTS

The mean, standard deviation of sleep length, sleep quality and problem mobile phone use is first calculated in excel. During the result it was seen that students were sleeping approximately 6.95 hours a night, and had a moderate sleep quality. The result also showed that the students started using mobile phones at such a young age approximately at the age of 14 they received their personal mobile phones. Then, the correlation between Sleep length, Sleep Quality and Problematic mobile use were performed using Pearson correlation and we obtained the following results:

Table: 1 Pittsburgh Sleep Quality Index score

	Mean	Standard Deviation
Sleep Length	6.95	0.75752
PSQI score (Sleep Quality)	5.4333	1.403288

Table: 2 Mobile Phone Problematic Use Scale-10 score

	Mean	Standard Deviation
MPPUS score	48.29524	17.49063

Table: 3 Correlation between MPPUS-10 and PSQI

	N	Correlation Coefficient R	t-value	p-value
Sleep Length	210	-0.01246	--	--
Sleep Quality	210	0.166081	2.428984	0.015

Correlation is significant at the 0.05 level(two-tailed)

Correlation is significant at the 0.01 level(two-tailed)

Our hypothesis was that student who are problematic mobile phone users will report less sleep and poor-quality sleep as compared to other students. As, we can see from the above table that sleep length ($r = -0.01246$, ns) was not significantly related to problematic mobile phone use, but it was seen that sleep quality ($r = 0.166081$, $p = 0.015$) was significantly related to problem mobile phone use. Hence, it showed students with higher problematic

Impact of excessive smartphone use on sleep quality and sleep length of college students

mobile phone use tend to experience poor sleep quality as compared to others. These results provide partial support for the hypothesis as problematic mobile phone users was related to poor sleep quality but not with sleep length.

DISCUSSION

This study aims at finding the relationship between the impact of excessive mobile phone use on the sleep pattern of a college going student. The participants were from Doon University, Dehradun. There were total of 210 participants in total. The survey forms were filled by the participants through online google form containing questionnaires. The data thus collected were directly recorded in a response sheet after that converted into a google excel sheet for computation. Various researches before were conducted on the sleep length and its relation with mobile use but there were less studies that focuses on the importance of the sleep quality and its relation with the excessive mobile phone use. In general, the result indicated that problem mobile phone use was related to sleep quality, but not with the sleep length. From, this study we can see who many individuals are so addicted into their mobile phones that they not able to shut off this behaviour when needed and thus this behaviour is affecting their lifestyle in a negative manner, because of this behaviour individuals are not able to power off their mobile phone when needed and are so into it. One of the reasons might be that they have developed a habitual behaviour towards their mobile phone even in the late-night hours. The adverse effect of excessive mobile phone use is not only limited to poor sleep pattern but thus lead to severe health problems. For example, spending most of their time on the mobile phone screen leads to incrementally increased stress on the cervical spine that may cause immense neck pain when there is a continuous stress on the cervical spine. Another example may be students are spending sleepless nights spending their time on the mobile phones that may lead to sleep deprivation and day time fatigue, which can affect our immune system.

Many other people, such as college students choose to deprive themselves for sleep in order to keep up with all their demands of time and mobile phone being one such reason. But we should always keep in mind that sleep is an important restorative activity, and people who deny themselves sleep may be doing more harm to themselves than they realize. Good quality sleep is essential for college going students as there are immense pressure in today college life lot of activities and pressure to perform good in academics. Students deprived from a quality sleep can cause various physical, mental and emotional problems. In this study it gives an extra hand to show the importance of sleep quality and how students are addicted to there smartphones after lights are off. This cause students to awake late nights thus being sleep deprived and daytime fatigue thus using unwanted things such as smoking, drug abuse, alcohol and some other to tackle with that fatigue thus leading to poor physical as well as mental health. Students are so much into these activities that eventually they become addicted to these and thus it become a part of their lifestyle. Let us take an example of parents they are easily sleeping even there are sounds of loudspeakers nearby but immediately are awake at the sound of their crying baby. Just as parents have developed their ears for crying baby similarly college students have developed their ears for the notification sound coming from their mobile phones that force them to awake even in the deep sleep. Think this mobile phone has become so much addictive to them that even a minute sound of a mobile can may the awake. This situation arises with a lot of college students and have affected their sleep quality to worse which is causing a lot of stress among the students as a student with these habits may experience this feeling many times in their life and thus interrupting their sleep pattern and sleep quality thus spending sleepless nights.

Impact of excessive smartphone use on sleep quality and sleep length of college students

So, when a person experiences these types of feelings of awakening the next day, they feel tired and do not feel rested.

In this present study as we can see college students are drawn toward mobile phone and thus high rate of stress, anxiety, tiredness and many other symptoms are observed in the college going students because of the lack of quality sleep they are ignoring. This study also shows as how important it is for a college to have a counselling cell so that the students already addicted to it can be shown the right path and help the student to overcome it. This type of addiction is categorized under behaviour addiction and thus common in young college students, they are attracted toward drug addiction, smoking, alcoholism and many other unwanted things there might be other reasons like peer pressure, but mostly students at such young age find a way to overcome the daytime fatigue because of the poor-quality sleep. This leads them to deeper way that has no way back and can make their life hell that they might find attractive, enjoyable from outside but they are not thinking about the consequences such things may lead them to.

Limitations

One of the main limitations is that data is collected over a self-report so we cannot tell whether this might be their actual behaviour so there might be self-report bias. As the study is homogenous in nature so it cannot be generalized for all the college going students. Also, other factors might be involved leading to sleep disturbance which may have given a more precise result.

Future Research

This study may give emphasis on the importance of the sleep quality not just on the sleep length. More beneficial in the future for the researcher would be that if they directly measure the problem mobile phone use and the sleep quality to get more accurate results. This could be done by designing a more precise sleep study component and monitoring the participants through tracking devices or other devices so that a more accurate relationship can be found between modern technologies like smartphones and sleep.

CONCLUSION

In this growing competitive world smartphone addiction is one of the main issues among the young college students so it cannot be ignored. It is seen in the study that excessive mobile phone use is related with the poor sleep quality among the college students. As, college students are the future of the country so it must be taken into account and something should be done to enhance their lifestyle rather than letting them carry their same unhealthy lifestyle. This proves the importance of counselling cell in a college as this can help the students already addicted to bring back to the right path and make them realize the importance of a quality sleep.

REFERENCES

- Abbey G. White, Walter Buboltz, & Frank Igou. Mobile Phone Use and Sleep Quality and Length in College Students. Department of Psychology, Louisiana Tech University, United States of America.
- Carole Smyth. The Pittsburgh Sleep Quality Index (PSQI). Issued Number 6.1, Revised 2012.
- Christoph Randler, Luca Wolfgang, Katharina Mati, Eda Demirhan, Horzum, & Besoluk. Smartphone addiction proneness in relation to sleep and morningness-eveningness in German adolescents. August 6, 2016. DOI: 10.1556/2006.5.2016.056

Impact of excessive smartphone use on sleep quality and sleep length of college students

- Chun-Hao Liu, Sheng-Hsuan Lin, Yuan-Chien Pan, & Yu-Hsuan Lin. Smartphone gaming and frequent use pattern associated with smartphone addiction.
- Milena Foerster, Katharina Roser, Anna Schoeni, & Martin Roosli. Problematic mobile phone use in adolescents: derivation of a short scale MPPUS-10. Swiss Tropical and Public Health Institute, Basel, Switzerland.
- Munezawa, Kaneita, Osaki, Kanda, Minowa, Suzuki, Higuchi, Mori, Yamamoto, & Ohida. The Association between Use of Mobile Phones after Lights Out and Sleep Disturbances among Japanese Adolescents: A Nationwide Cross-Sectional Survey. DOI: 10.5665/SLEEP.1152
- Nida Nowreen & Farhana Ahad. Effects of smartphone usage on quality of sleep in medical students. Department of Physiology, SKIMS Medical college, Srinagar, Jammu and Kashmir, India. 2018.
- Ruchi Soni, Ritesh Upadhyay, & Mahendra Jain. Prevalence of Smartphone addiction, sleep quality and associated behaviour problems in adolescents. (2016) DOI: <http://dx.doi.org/10.18203/2320-6012.ijrms20170142>
- Sara Thomee, Annika Harenstam, & Mats Hagberg. Mobile phone use and stress, sleep disturbances, and symptoms of depression among young adults- a prospective cohort study. <http://www.biomedcentral.com/1471-2458/11/66>
- Sean E. Nelson, Dysfunctional Text messaging as Related to social Anxiety, Self-Esteem, Emotional Intelligence, and Attention Control. (2015)
- Shuman Tao, Xiaoyan Wu, Yukun Zhang, Shichen Zhang, Shilu Tong and Fangbiao Tao. Effects of Sleep Quality on the Association between problematic Mobile Phone Use and Mental Health Symptoms in Chinese College Students. (2012)
- Xiaochun Xie, Yan Dong, & Jinliang Wang. Sleep Quality as a mediator of problematic smartphone use and clinical health symptoms. May 5,2018. Journal of Behavioural Addictions 7(2), pp. 466-472 (2018). DOI: 10.1556/2006.7.2018.40

Acknowledgement

The author appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author declared no conflict of interest.

How to cite this article: Uniyal S. & Tiwari S.K. (2020). Impact of excessive smartphone use on sleep quality and sleep length of college students. *International Journal of Indian Psychology*, 8(4), 530-540. DIP:18.01.067/20200804, DOI:10.25215/0804.067