

Research Paper

Screen Time, Sleep Quality, Mindful Attention and Study Interest of Students in Hybrid Education Mode After Covid Lockdown

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ABSTRACT

Beyond the effects of sleep on memory consolidation, lack of sleep has been linked to poor attention and cognition. Well-controlled sleep deprivation studies have shown that lack of sleep not only increases fatigue and sleepiness but also worsens cognitive performance. The purpose of the current study was to investigate sleep quality, study habits, mindfulness and screen time among school students after COVID-19. The data was collected from a total of 100 high school students (girls and boys) in the academic year 2021 – 2022 of age ranges between 15 – 18 years in Kerala. Demographic data sheet and standardized psychological measures such as Sleep Quality Scale (SQS) (Yi, Shin & Shin, 2006); Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003); Study Interest Questionnaire (SIQ) (Schiefele, Krapp, Wild & Winteler, 1993) were used to assess the sleep quality, study habits, mindfulness and screen time among the participants. Mean differences based on gender and screen time were obtained and the results found no significant difference on the study variables. The study aims to study how sleep quality, interest in learning and attention in students exists after Covid Lockdown. This study will help teachers and educational psychologists to understand how these things exist among students in the current hybrid learning environment and thereby can provide students with needed support in their academics.

Keywords: *Sleep Quality, Study Habits, Mindfulness, Screen time, Adolescents, COVID-19*

India has been one of the hardest-hit countries by COVID-19. In the spring of 2020, the COVID-19 pandemic caused severe disruption to everyday life around the world. As one of several measures taken to prevent the spread of the virus, many governments closed schools for several weeks or months. Although school closures are considered to be one of the most efficient interventions to curb the spread of the virus (Haug et al., 2020), many educators and researchers raised concerns about the effects of COVID-19-related school closures on student academic achievement and learning inequalities.

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Received: November 06, 2022; Revision Received: December 25, 2022; Accepted: December 31, 2022

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The pandemic caused further shocks to the system with schools forced to shut down during the lockdown period, and the transition of students and teachers to online teaching-learning. In India, around 250 million students were affected due to school closures at the onset of the lockdown induced by COVID-19. The pandemic posed several challenges in public and private schools which included an expected rise in dropouts, learning losses, and an increase in the digital divide.

The variables of screen time, sleep quality, mindful attention and study interest considered in this study are explained below.

Screen Time

Caregivers regulate the digital ecosystem within which their children grow up. A child learns new skills by impersonating their parents or family members regarding media use. Developing an understanding of how caregivers influence their child's motivation is principally vital as children grow up and become autonomous in their recreational time. Over the last three decades, the accessibility and usage of mobile devices have increased among Students. DSE (digital screen exposure) might be associated with screen-based sedentary behaviours affecting health outcomes like emotional behaviours. Sleep problems in the students or development of non-communicable diseases during adolescence and adulthood.

Researchers found that the sufficient sleep is important for students to improve their learning, study habits and academic performance. There are several factors that affect sleep quality, such as stress from studying and the use of screen time during bedtime. Various studies worldwide have shown that insomnia is prevalent in 10–30% of the population, with some studies even recording prevalence as high as 50–60%. Sleep quality has significant impacts on cognitive ability and physical strength, and the consequences of poor sleep quality are also serious, such as depression, impaired work performance, work-related motor vehicle accidents, and poor overall quality of life.

Sleep Quality

Sleep is a period of bodily rest characterized by reduced awareness of the environment, a species-specific posture and for most species, a particular sleep place. Sleep refers to a state of inactivity suggesting sleep; unconsciousness, hibernation, or death. A recent review on sleep problems during home confinement due to COVID-19 outbreak and the academic level focused attention on sleep and insomnia. Researchers found that the changes in sleep patterns, sense of time, and use of electronic devices increase digital media use in the evening before bedtime. Moreover, they found that people went to bed and woke up later, and spent more time in bed, with a lower quality of sleep. Younger people are more vulnerable to sleep problems than elderly people (Beck, Leger, Fressard, Peretti-Watel & Verger, 2020). Marelli et al. (2021) found an increase in Bed Time hour, Sleep Latency, and Wake-Up time between before and during COVID-19. In particular, during the lockdown, the impact of the delay in Bed Time and in Wake-Up was more pronounced in students.

Mindful Attention

Mindful attention is a receptive state of mind in which attention, informed by a sensitive awareness of what is occurring in the present, simply observes what is taking place (Brown & Ryan, 2003). The merit of incorporating mindfulness as a practice to help cope with problems. There is growing interest to utilize mindfulness-based psychological interventions

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as a treatment option for people experiencing anxiety, stress and depression (Ainsworth et al., 2015). In recent years, various counseling practitioners in the Western world have promoted the practice of mindfulness as a way of being that prevents and/or alleviates suffering from different psychological problems. Numerous psychological and physical benefits of meditation have also arisen in mainstream media as countless books, reports, articles and professionals purport to provide the understanding necessary to begin mindfulness practice.

Thus, Mindfulness is a powerful, yet simple antidote to habitual multitasking, helping people be more effective as students or professionals. It is also a great way to improve the quality of our daily lives.

Study Interest

The term interest refers to a psychological state of getting an effective reaction to any topic of focus. At the same time, it deals with engaging and re-engaging with the same ideas, objects, or events. In education, student interest refers to the inclination of the student towards a particular subject in which he or she is easily able to connect without any hassle or hurdle. The student may develop an interest in any specific content or work in education. Without the student interest, it is not possible to achieve much. Thus, for achievement the teachers and academicians put efforts first to develop the interest.

Schimdt and Kus (2021) explain study engagement even under pandemic conditions. Suitable digital learning formats and social support are identified as important study resources for study engagement during major life events, while emotional resilience, active self-care and academic self-efficacy are identified as important personal resources.

Matthew (2021) explained that there are psychological impacts of COVID-19 on college students. Many feel increased stress levels and anxiety and depressive symptoms as a result of changed delivery and uncertainty of university education, technological concerns of online courses, being far from home, social isolation, decreased family income, and future employment. These impacts have been observed in universities across the world.

Welcezwesik, Gorbanick and Guiri (2021) explored the psychological and academic effects of studying online from the home during the coronavirus disease 2019 (COVID-19) pandemic in Poland. The study revealed that the students who returned to their home country found online communication with other students more contributing to their online learning experience and exhibited higher academic adjustment than students who remained in the host country. Moreover, the positive influence of (peer and familial) support on online learning experiences from the home country. They experienced acculturative stress that occurred for students in quarantine/self-isolation in the host country, which expands prior literature on the disruptive effects of social distancing on students' mental health.

In terms of study experience, students are often dissatisfied with remote learning, as they miss interactions with peers and teachers (Haas et al., 2020). They perceive their academic experience as difficult and worse than before the pandemic due to the chaotic organization of online learning and a lower quality of online classes as compared to traditional ones (Wilczewski et al., 2020). Less is known, however, about the impact of COVID-19-related school closures on student achievement.

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Need And Significance

The Covid - 19 pandemic came with restrictions, regulations and stay-at-home orders. This meant that people stayed indoors, offices remained shut, playgrounds were empty and streets remained barren of human interaction. Many individuals could not return to their homes, many stuck in foreign lands and many in solitude. As a result, the usage of digital devices has increased manifold across the globe. Negative consequences often result when people are pushed to rely on digital platforms.

Education and socializing suddenly leaped from offline to online. The digital technology came as a blessing in disguise, enabling individuals to remain emotionally connected despite the social distancing. At the same time, prolonged screen time has caused concerns related to its impact on physical, mental health and academic performance, etc. The online schooling of learning provides an alternative way to minimize either the contact between students themselves or between the students and lecturers. However, many students have no access to the online teaching due to lack of either the means or the instruments due to economical and digital divide. Students during the quarantine showed the delay sleep quality that lead to the lack of attention towards academic performance in poor. COVID 19 lockdown had a negative effect on sleep quality. Moreover, the students could not concentrate in their studies.

Beyond the effects of sleep on memory consolidation, lack of sleep has been linked to poor attention and cognition. Well-controlled sleep deprivation studies have shown that lack of sleep not only increases fatigue and sleepiness but also worsens cognitive performance. Thus, the purpose of the current study was to investigate sleep quality, study habits, mindfulness and screen time among school students after COVID-19.

Objectives

1. To find out the prevalence of quality sleep among students.
2. To find out the prevalence of Mindful attention among students.
3. To find out the prevalence of study interest among students.
4. To check the gender difference in study variables.
5. To check the difference in study variables based on student's screen time.

Hypotheses

1. There will be a significant difference among high and low-level screen time users on quality sleep, mindful attention and Study interests.
2. There will be a significant difference between male and female students in quality sleep, mindful attention and Study interests.

METHODOLOGY

Randomly selected 113 male and female school students age ranges between 15 – 18 years of Malappuram district, Kerala participated in the study. To assess sleep quality, mindful attention and study interest among adolescents, the standardized tools namely the Sleep Quality Scale (Yi, Shin & Shin, 2006), Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003) and The Study Interest Questionnaire (SIQ) (Schiefele, Krapp, Wild & Winteler, 1993) was given to participants and was collected with their consent. Student screen time was collected along with the demographic details. Participants were given a brief introduction about what the study means and also made aware of confidentiality. Collected data scored and coded in an excel sheet for doing percentage analysis and t-test.

RESULT AND DISCUSSION

The results of the prevalence and t-test are discussed here. Table 1 shows the number of students having high- and low-quality sleep, high and low mindful attention capacity and high and low study interests.

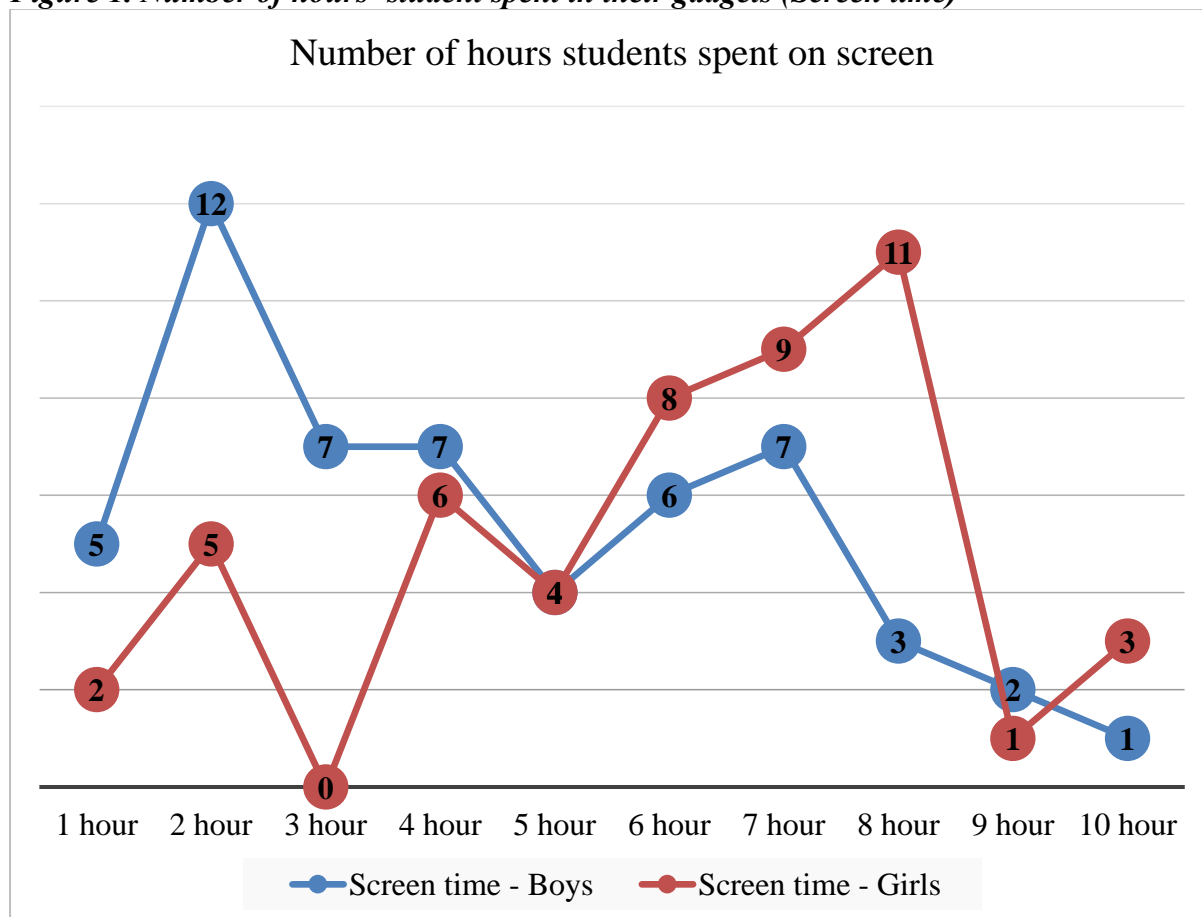
Table 1. Frequency of students on high and low-level scores on different variables

Variables	High	Low	Total
Sleep Quality	83	30	113
Mindful Attention	84	29	113
Study Interest	57	56	113

From table 1, it can be seen that 83 students have good quality sleep, 84 students have good mindful attention and 57 students are interested in their studies.

Screen time is an umbrella term that includes a variety of devices (computer, television, phone) and uses (gaming, social communication). Among the 113 participants, 37 students spent below 3 hours on screen, 21 students spent 4 – 5 hours and 55 students spent above 5 hours on screen for different purposes.

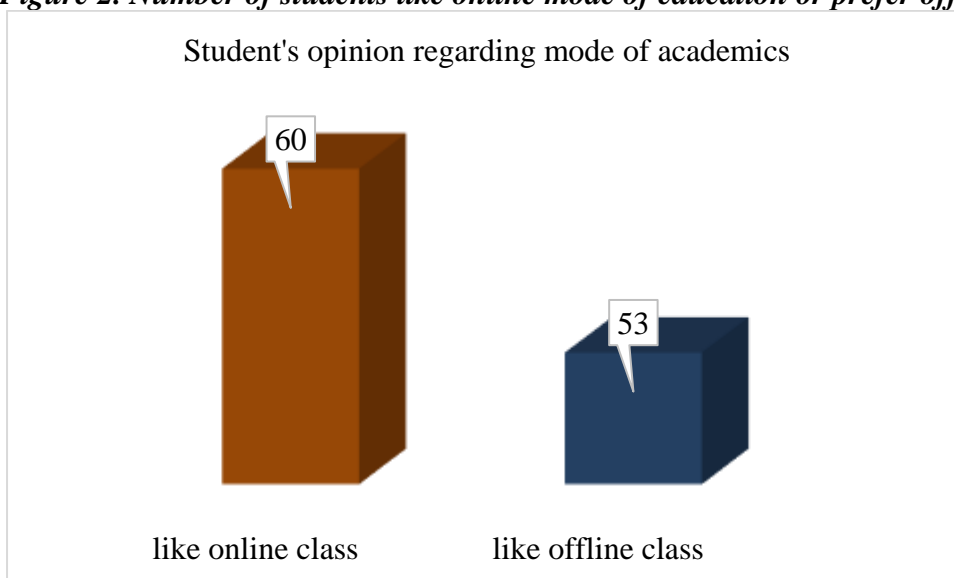
Figure 1. Number of hours’ student spent in their gadgets (Screen time)



It was found that the average time students spent on their screens is 5 hours per day. From figure 1 it can be seen that the screen time of girls is higher than boys.

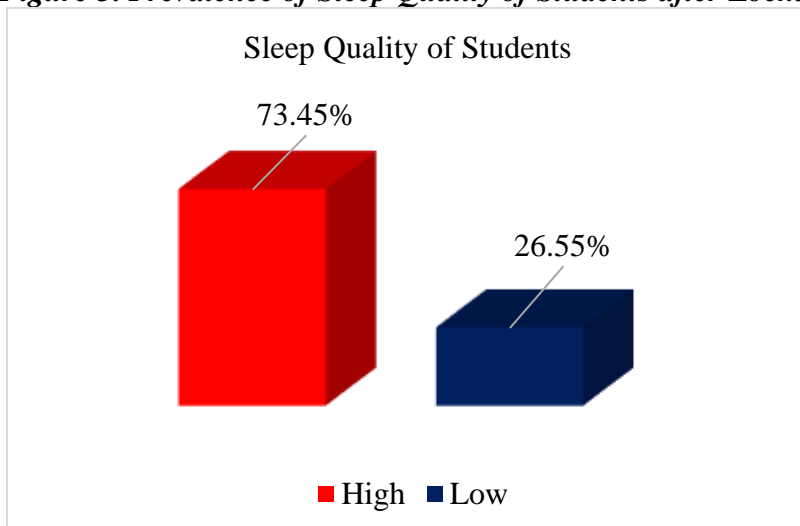
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Figure 2. Number of students like online mode of education or prefer offline classes



From demographic details it was found that among the total participants (N=113), 53.09% of students like online classes whereas, 46.91% of students like direct face-to-face offline classes as their choice of preference.

Figure 3. Prevalence of Sleep Quality of Students after Lockdown

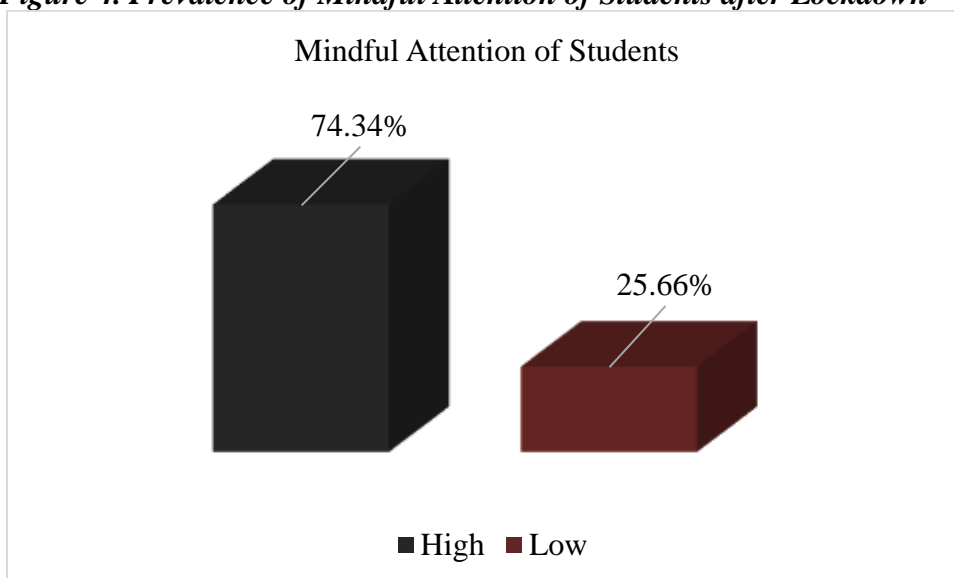


Sleep quality is defined as an individual's self-satisfaction with all aspects of the sleep experience. Sleep quality has four attributes: sleep efficiency, sleep latency, sleep duration, and wake after sleep onset (Nelson, Davis & Corbet, 2022). From figure 3, it can be seen that the prevalence of high sleep quality among students is 73.45% and 26.55% of students have poor quality sleep.

Mindfulness is a receptive state of mind in which attention, informed by a sensitive awareness of what is occurring in the present, simply observes what is taking place (Brown & Ryan, 2003).

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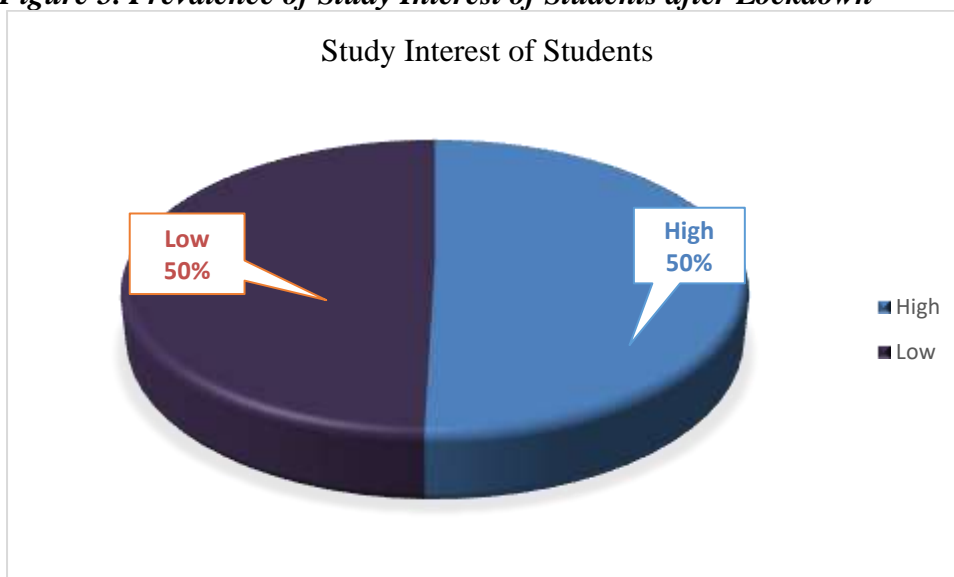
Figure 4. Prevalence of Mindful Attention of Students after Lockdown



The concept of mindfulness is an ability to discern between the mind's activity and the totality of the individual. Discernment is thus a dis-identification from the activity of the mind (Siegel, 2007). Considering the mindful attention, it can be seen that in figure 4, 74.34% of students have the ability to mindfully attend to their studies rather than the low percentage is 25.66% among high school students.

Study Interest is a powerful motivational process that energizes learning, guides academic and career trajectories, and is essential to academic success (Harackiewicz, Smith & Priniski, 2016).

Figure 5. Prevalence of Study Interest of Students after Lockdown



From the figure 5 pie chart, it can be understood that half of the students (are interested in studies and half of them are not much interested in academics. Evaluating study interest, it can be implied that the percentage has equal in students which means 50% in study interest. This result indicates that 50.44% of students have interested and 49.56% of students have not interested in the academic level.

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Some studies state that high sleep quality can influence the student's academic performance and refreshment. And also mindfulness attention can improve the sleep quality that leads to the student's cognitive functions and behavioural such as memory, learning, thinking and academic performance, etc.

The study reveals that sleep quality and mindful attention have connected to the study interest. But, this study found that the study interest is not positively affected their academic level and sleep quality and mindfulness attention is high compared to study interest.

To find out the significant difference between students who are spending more than five hours on screen and less than five hours on screen with their sleep quality, mindful attention and study interest, t-tests were conducted in Microsoft Excel.

Table 2. Obtained p-values of more and less screen time spenders on their sleep quality, mindful attention and study interest

Variables	p-value
Sleep Quality	0.693452
Mindful Attention	0.192405
Study interest	0.707619

As the p-values obtained shown in table 2 are above 0.05, the mean difference between high and low-level time (above and below 5 hours per day) spent on-screen by adolescents was found no significant difference in their sleep quality, mindful attention and study interest. Thus, the first hypothesis 'there will be a significant difference among high and low-level screen time users on quality sleep, mindful attention and Study interests' were not accepted. There were t-tests done to check the significant difference among male and female students in their sleep quality, attention and study interest.

Table 3. Obtained p-values of male and female students on their sleep quality, mindful attention and study interest

Variables	p-value
Sleep Quality	0.500384
Mindful Attention	0.921031
Study Interest	0.860725

From table 3, it can be seen that there is no gender difference in sleep quality, attention and study interest among participants. Thus, the second hypothesis, there will be a significant difference between male and female students on quality sleep, mindful attention and Study interests was also not accepted.

CONCLUSION

Prevalence of quality sleep was found at 73%, the prevalence of mindful attention among students was found at 74% and the prevalence of study interest was found to equal levels of 50% and 50% among school students. This study revealed that there is no gender difference or students do not differ in their sleep quality, mindful attention and study interest based on the time they spent on gadgets.

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Even though the prevalence of sleep quality and mindful attention among students was found to be high, the reasons behind the lack of study interest among students need to be studied more descriptive ways.

Implication

This study will help teachers and educational psychologists to understand how sleep quality, mindful attention, study interest and screen time exist among students in the current hybrid learning environment and thereby can provide students with needed support in their academics.

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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: Suhana, S. & Bayana, B.O.M.S (2022). Screen Time, Sleep Quality, Mindful Attention and Study Interest of Students in Hybrid Education Mode After Covid Lockdown. *International Journal of Indian Psychology*, 10(4), 1725-1734. DIP:18.01.164.20221004, DOI:10.25215/1004.164