

WHY DO STUDENTS FEEL TIRED EVEN AFTER SLEEPING? PSYCHOLOGICAL CAUSES OF MENTAL FATIGUE IN ADOLESCENTS

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Abstract. This study explores why students feel tired even after getting enough sleep. The research was conducted with 20 students using a questionnaire and one-week screen time observation. The results show that phone use, stress, and overthinking are the main causes of fatigue rather than lack of sleep. These findings suggest that improving sleep habits and reducing screen time can help increase students' energy and academic performance.

Keywords: student fatigue, sleep quality, screen time, academic stress, adolescents, mental fatigue, smartphone use, concentration, learning performance.

ПОЧЕМУ СТУДЕНТЫ ЧУВСТВУЮТ УСТАЛОСТЬ ДАЖЕ ПОСЛЕ СНА? ПСИХОЛОГИЧЕСКИЕ ПРИЧИНЫ УМСТВЕННОЙ УСТАЛОСТИ У ПОДРОСТКОВ

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Аннотация. Данное исследование изучает причины, по которым студенты чувствуют усталость даже после достаточного сна. Исследование было проведено среди 20 студентов с использованием анкеты и недельного наблюдения за временем использования экранов. Результаты показали, что основными причинами усталости являются использование телефона, стресс и чрезмерные размышления, а не недостаток сна. Полученные данные свидетельствуют о том, что улучшение привычек сна и сокращение времени использования экранов могут помочь повысить уровень энергии студентов и их академическую успеваемость.

Ключевые слова: усталость студентов, качество сна, экранное время, академический стресс, подростки, умственная усталость, использование смартфонов, концентрация, эффективность обучения.

NIMA UCHUN TALABALAR UYQUDAN KEYIN HAM CHARCHOQ HIS QILADILAR? O'SMIRLARDAGI RUHIY CHARCHOQNING PSIXOLOGIK SABABLARI

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Annotatsiya. Ushbu tadqiqot talabalar nima sababdan yetarli uyqu olganidan keyin ham charchoq his qilishini o'rganadi. Tadqiqot 20 nafar talaba ishtirokida so'rovnomma hamda bir haftalik ekran vaqti kuzatuvini orqali olib borildi. Natijalar shuni ko'rsatdiki, charchoqning asosiy sabablari uyqu yetishmasligidan ko'ra telefon ishlatish, stress va ortiqcha o'ylash bilan bog'liqdir. Ushbu natijalar uyqu odatlarini yaxshilash va ekran vaqtini kamaytirish talabalarning energiya darajasi hamda akademik samaradorligini oshirishga yordam berishini ko'rsatadi.

Kalit so'zlar: talaba charchoqligi, uyqu sifati, ekran vaqti, akademik stress, o'smirlar, ruhiy charchoq, smartfonlardan foydalanish, diqqatni jamlash, o'qish samaradorligi.

INTRODUCTION

In today's education system, students are expected to concentrate for long hours, complete assignments, prepare for exams, and constantly process new information. However, many adolescents feel tired even after sleeping enough hours. This suggests that fatigue is not always physical, but often psychological. Academic pressure, stress, and continuous mental activity can reduce students' focus, motivation, and learning effectiveness. Therefore, understanding mental fatigue is important for improving both student well-being and academic performance.

THE MAIN PART

According to the American College Health Association (2025), more than 75% of college students report inadequate sleep, over 61% experience daytime sleepiness three or more days per week, and more than 20% state that sleep problems negatively affect their academic performance. Similarly, other studies show that 60% of students do not get enough sleep, 75% report periodic sleep problems, and 15% describe their sleep quality as poor. These findings confirm that sleep-related difficulties are widespread among young people.¹ Academic pressure, technological use, and biological changes are commonly identified as major causes of poor sleep in adolescents and young adults. Research consistently demonstrates a strong relationship between sleep habits and academic performance. Students who sleep longer, maintain higher sleep quality, and follow more consistent sleep routines tend to achieve better academic results. Moreover, studies show that both procedural and declarative memory processes are influenced by sleep quality, meaning that learning and information retention depend heavily on effective rest.² However, sleep duration alone does not fully explain students' persistent tiredness. Research comparing first-year and fourth-year university students found that senior students showed higher activation of the sympathetic nervous system, which is associated with stress. Stress stimulates sympathetic activity while inhibiting the parasympathetic nervous system, which is responsible for relaxation and recovery. This imbalance can increase feelings of fatigue even when students sleep. Importantly, sleep itself helps reduce sympathetic nerve activity (Hasegawa et al., 2015), highlighting the complex interaction between stress and physiological recovery.³ Sleep disorders also contribute to fatigue. Based on criteria from the Diagnostic and Statistical Manual of Mental Disorders, one study (Schlarb et al., 2017) found that 51.9% of participants met the criteria for insomnia, while 27% reported insomnia-related problems. Although some

¹ Mbous, Y.P.V.; Nili, M.; Mohamed, R.; Dwibedi, N. Psychosocial Correlates of Insomnia among College Students. *Prev. Chronic Dis.* 2022, 19, 60. <https://www.mdpi.com/1660-4601/22/11/1728>

² Okano, K.; Kaczmarzyk, J.R.; Dave, N.; Gabrieli, J.D.; Grossman, J.C. Sleep Quality, Duration, and Consistency Are Associated with Better Academic Performance in College Students. *npj Sci. Learn.* 2019, 4, 16. <https://www.mdpi.com/1660-4601/22/11/1728>

³ Hasegawa et al., 2015/ sleep deprivation and Psychological health <https://share.google/YhE52gEJ2M4f9bhne>

improvements in subjective sleep quality were observed, the study had limitations, including a small sample size, absence of a control group, and lack of long-term follow-up measurement. Therefore, conclusions about long-term effects remain limited.⁴ According to the Bocsem and his colleagues, fatigue impairs young people's attention, leading slowed thinking and poor perception and lack of sleeping impairs adolescents' academic ability, social-emotional and behavioral functioning and academic performance adversely affecting college students' learning efficiency and academic outcomes. These negative consequences has prompted researchers to explore effective interventions to reduce the effects of fatigue and improve sleep quality in young people.⁵

The main aim of this study is to explore the psychological causes of mental fatigue in adolescents who feel tired despite getting enough sleep. In particular, the study aims to examine how academic pressure, stress, emotional overload, and constant cognitive engagement contribute to persistent tiredness. Additionally, the research seeks to analyze how mental fatigue affects students' concentration, memory, motivation, and overall academic performance. It also aims to highlight the importance of recognizing psychological fatigue in educational settings and to emphasize the need for supportive strategies that promote both effective learning and student well-being.

- To identify the key psychological factors (such as academic stress, emotional pressure, and cognitive overload) that contribute to mental fatigue in adolescents who feel tired despite adequate sleep;
- To examine how mental fatigue affects students' concentration, motivation, and academic performance in educational settings;
- To explore students' personal experiences of persistent tiredness and suggest practical strategies that schools can use to reduce psychological fatigue and improve learning effectiveness;

Picture 1. Research objectives

This research used in this study is based on approaches commonly applied in previous educational and psychological studies investigating students' fatigue and stress. Similar procedures using self-report questionnaires have been widely used to examine students' psychological well-being and learning conditions (e.g., Schlarb et al., 2017; Hasegawa et al., 2015). Traditionally, mental fatigue among students has been assessed by measuring perceived tiredness, concentration difficulties, and emotional stress through questionnaires and reflective responses. Such methods help researchers understand how psychological factors influence students' learning processes and academic engagement. To explore the psychological causes of mental fatigue in adolescents who feel tired despite getting enough sleep, this study collected data

⁴ Schlarb et al. (2017), in "Sleep Problems in University Students - an intervention," <https://share.google/YhE52gEJ2M4f9bhne>

⁵ Boksem, M. A. S., Meijman, T. F., and Lorist, M. M. (2005). Effects of mental fatigue on attention: An ERP study. *Cogn. Brain Res.*, 25, 107-116. doi: 10.1016/j.cogbrainres.2005.04.011 Castilhos Beauvalet, J., Luísa Quiles, C., Alves Braga De Oliveira, M., Vieira Ilgenfritz, C. A., Hidalgo, M. P., and Comiran Tonon, A. (2017). Social jetlag in health and behavioral research: a systematic review. *Chrono Physiology and Therapy* 7, 19–31. doi: 10.2147/CPT.S108750
fpsyg-13-1025280.pdf <https://share.google/U6ryJLWSAoRASv75y>

on students' perceptions of stress, academic pressure, and emotional exhaustion during their daily learning activities. The design was a mixed-method study, combining quantitative data from a short questionnaire with qualitative insights from students' reflective responses. The research was conducted in a school environment at School No. 2 in Uychi district, Namangan region, where observations and data collection took place during regular school activities. The participants of the study were 20 students from grade 8 whose English language proficiency level ranged approximately from A2 to B1. The criteria for selecting the subjects were as follows: participants had to be enrolled in the eighth grade, regularly attend school lessons, and voluntarily agree to participate in the study. A major advantage of this approach is that it allows researchers to directly explore students' personal perceptions of tiredness and psychological pressure in their natural educational environment, providing both numerical data and descriptive insights into the causes of mental fatigue.

METHODOLOGY

In this study, both a questionnaire and screen time data were used to examine students' fatigue levels and their phone usage habits. The participants were 8 grade students aged between 13 and 14. First, a questionnaire consisting of 12 questions was distributed to the students. The questions focused on their sleep duration, phone usage before bedtime, emotional state, and levels of tiredness during school hours. In addition to the survey, students were asked to share their weekly screen time reports from their mobile devices. The collected data showed how much time students spent on their phones and which applications they used most frequently. The researcher then compared students' responses with their actual screen time in order to identify possible connections between phone usage, sleep quality, and feelings of fatigue.

QUESTIONNAIRE FOR STUDENTS

- 1 How many hours do you usually sleep at night?
- 2 What time do you usually go to bed?
- 3 Do you use your phone before going to sleep?
- 4 How often do you feel tired in the morning?
- 5 Do you feel tired even after sleeping enough hours?
- 6 How is your energy level during school lessons?
- 7 Do you think about school problems before going to sleep?
- 8 Do homework and exams cause you stress?
- 9 Do you find it difficult to relax your mind before sleep?
- 10 Do you have difficulty concentrating in class?
- 11 Does tiredness affect your academic performance?
- 12 In your opinion, what is the main reason students feel tired even after sleeping?

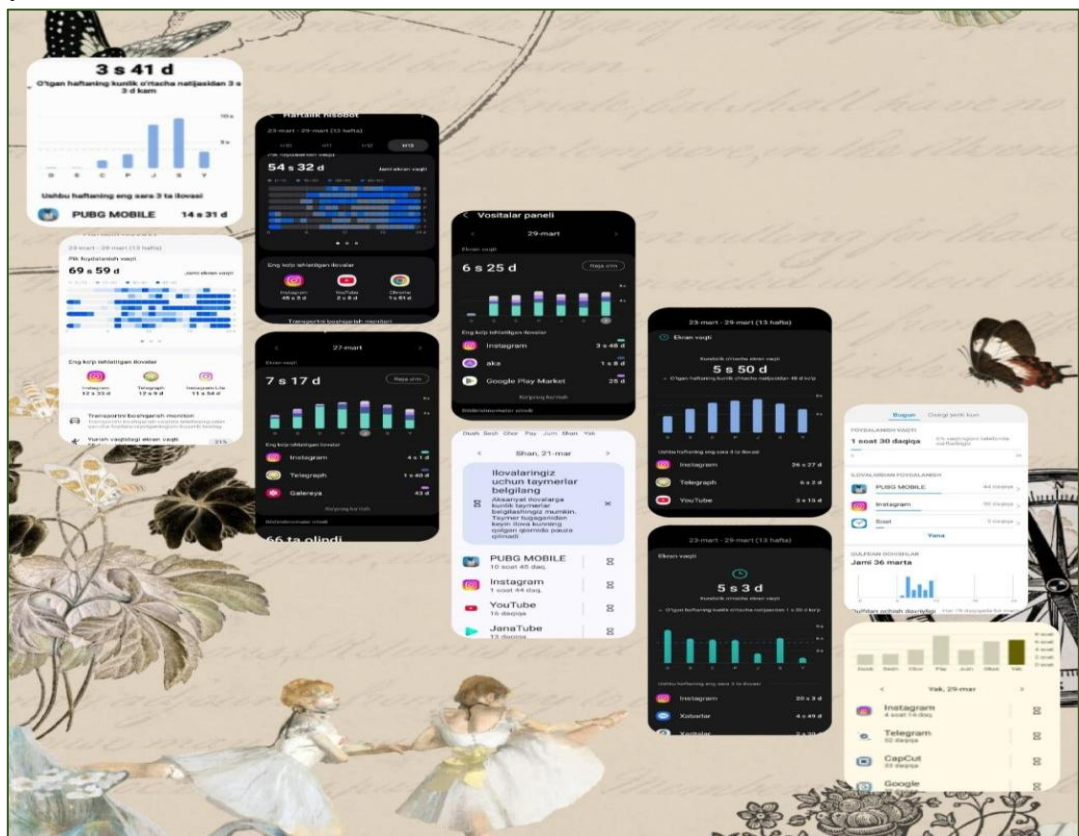
Picture 2. Questionnaire

This study used a mixed-method approach, combining a questionnaire and real-life screen time observation to investigate students' fatigue and its possible causes. The participants of the study were students from grades 8 aged between 13 and 14. A total of 20 students took part in the research. Before collecting data, students were informed about the purpose of the study, and their responses were kept confidential. First, a questionnaire consisting of 12 questions was distributed

to the participants. The survey included both multiple-choice and one open-ended question. It focused on several key areas: sleep duration, bedtime habits, phone usage before sleep, emotional state, and levels of tiredness during school hours. Students completed the questionnaire in class, and they were given enough time to answer all questions honestly and independently. In addition to the survey, a one-week screen time monitoring was conducted. Students were asked to check their phone's built-in screen time feature and record their daily usage. They were also requested to take screenshots of their weekly screen time reports, which included total screen time, daily usage patterns, and most frequently used applications. During this one-week period, students continued their normal daily routines without any restrictions. This allowed to collect natural and realistic data. The collected screen time data showed how much time students spent on their phones, especially on social media platforms such as Instagram and YouTube. Finally, the questionnaire results were compared with the screen time data to identify patterns and relationships between phone usage, sleep habits, and feelings of fatigue. This combination of self-reported and real behavioral data increased the reliability of the study.

RESULT

The analysis of the students' digital activity indicates a very high level of smartphone dependency.



Picture 3. Students' weekly screen time

The total weekly screen time for some students reaches as high as 69 hours and 59 minutes, meaning they are spending nearly three full days per week on their devices. The average daily usage consistently ranges between 7 and 10 hours, a level that poses significant risks to academic performance and overall well-being. The majority of this time is consumed by social media (Instagram, Telegram) and mobile gaming (PUBG Mobile). Specifically, students spend between 20 and 45 hours weekly on social media, while gaming takes up an additional 10 to 15 hours. Instagram remains the most dominant platform for time consumption. Furthermore, 21% of the

total screen time occurs while walking, which highlights a high degree of distraction and a failure to observe safety protocols while moving in public. Data clusters showing significant activity during late-night hours (00:00 – 03:00) suggest that students are frequently sacrificing sleep, which inevitably impacts their focus and productivity during the day. On a positive note, there is evidence that some students have begun using "app timers" to self-regulate their usage. In conclusion, the current digital habits of these students are unsustainable and negatively impact their physical safety and educational focus, necessitating an immediate shift toward better digital hygiene. The results of the questionnaire revealed several important patterns related to students' fatigue and daily habits.

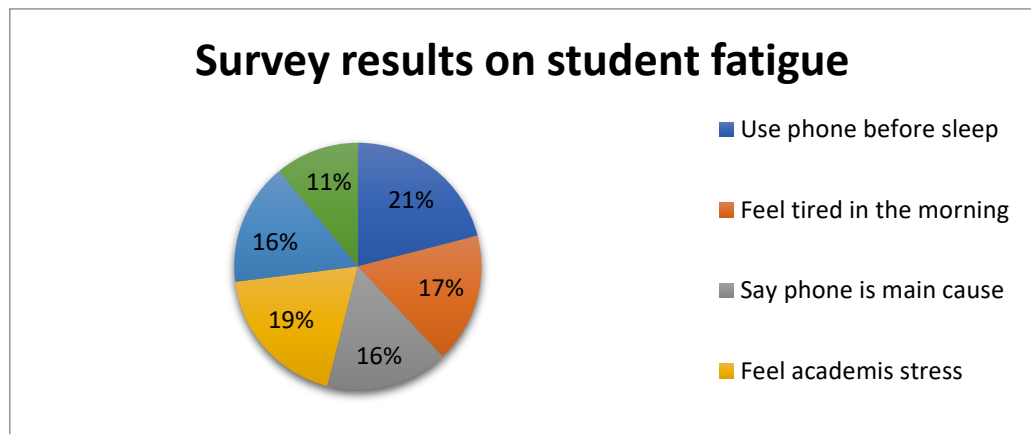


Diagram 1. The results of survey

First, most students reported that they sleep between 7–8 hours per night. However, despite having what is considered sufficient sleep, a large number of participants stated that they still feel tired in the morning. More than half of the students indicated that they “often” or “always” experience fatigue at the beginning of the day. In terms of phone usage, the majority of students admitted that they use their phones before going to sleep. Many of them selected “often” or “always,” which suggests that screen exposure before bedtime is a common habit among students. The data also showed that a significant number of students experience difficulty concentrating in class. Those who reported higher levels of tiredness also tended to report lower energy levels during lessons, which may affect their academic performance. Regarding psychological factors, many students stated that they think about school-related problems before sleep and feel stress due to homework or exams. This indicates that emotional pressure may play an important role in students' fatigue. The open-ended question provided additional insights. Most students believed that phone usage is the main reason for feeling tired even after sleeping. Some students mentioned low energy levels as a cause, while one student explained that irregular sleep patterns affect their condition. Interestingly, one participant stated that they do not experience such fatigue at all, showing that this issue may not affect all students equally. Overall, the results suggest that student fatigue is influenced by a combination of screen time, emotional stress, and sleep habits, rather than sleep duration alone.

DISCUSSION

The results of the study show that many students feel tired even after getting enough sleep. One of the main reasons appears to be excessive phone usage, especially before going to bed. The screen time data revealed that students spend a significant amount of time on social media applications such as Instagram and YouTube. This high level of screen exposure may prevent the

brain from relaxing before sleep, leading to poor sleep quality. In addition, the questionnaire results indicate that many students experience stress related to schoolwork and often think about academic problems before sleeping. This mental activity keeps the brain active even during rest, which may explain why students wake up feeling tired. Another important finding is that students who reported higher screen time also showed lower concentration levels in class. This suggests that mental fatigue is not only related to sleep but also to cognitive overload and emotional pressure. Overall, the findings support the idea that fatigue among students is mainly psychological rather than purely physical.

CONCLUSION

The aim of this research was to explore why students feel tired even after sleeping. The results show that student fatigue is strongly connected to phone usage, stress, and continuous mental activity. Students who use their phones frequently, especially at night, are more likely to experience low energy and poor concentration during the day. In addition, academic pressure and overthinking contribute to mental exhaustion. This study highlights the importance of reducing screen time before sleep and helping students manage stress more effectively. Teachers and parents should be aware that tiredness in students is not always caused by lack of sleep, but also by psychological factors. Creating a balanced routine, limiting phone use, and encouraging mental relaxation can improve both students' well-being and academic performance.

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