**PSY150 S125 Assessment 3: The Link Between Electronic Screen Use and Sleep Quality Among University Students**

Himanshu

Discipline of Psychology, Charles Darwin University

PSY150: Introduction to Psychology A

Dr. Ruth Wagstaff

12 May 2025

**Introduction**

This essay aims to have a critical examination to check for any connection between electronic screen use and sleep quality. This topic has been extremely relevant in today's digital era, where most students struggle with their sleep schedules. According to Jain et al. (2025), findings of such a study “have the potential to inform parents, educators, and policymakers about the importance of managing screen time to promote healthier sleep patterns and overall well-being in children”. One variable in this study is electronic screen use, which is time spent on digital devices like smartphones, tablets and computers. Another primary variable is the sleep quality, which, according to Nelson et al. (2021), is the self-satisfaction of an individual from their experience of sleeping. Other variable includes academic performance, which is assessed through grades obtained. The essay will include a basic introductory section, followed by a critical analysis report, where each three papers will be critically analysed in a paragraph. After this, a critical, systematic analysis will be carried out to find out similarities and contrasts among the three papers. Finally, a strong conclusion restating the main purpose and major findings will be provided.

**Reporting Critical Analysis**

**First Paper**

The authors looked at how following each guideline in the 24-hour movement pattern influenced the academic performance of undergraduates. The lifestyle habits with the biggest effect on students’ performance in school were investigated. It was suggested in the research that being physically active according to the guidelines, having limited screen time, enough sleep and less sitting would result in improved academic performance. It collected surveys from 411 participants (out of 507), and most students who participated were females, which amounted to 81.51% of the participants. Students enrolling in these colleges were found to be, on average, 22.08 years old. The youngest was 18, while the oldest was 42. Pellerine et al. (2023) conducted a cross-sectional survey with questions provided as options online. The survey was distributed to students using newsletters, emails, and mouth-to-mouth information exchanges. Participants reported their physical activities, screen time, sedentary behavior, and sleeping patterns by using reliable questionnaires such as the Physical Activity Sedentary Behaviour Questionnaire by Fowles et al. 2017 and the Pittsburgh Sleep Quality Index published by Buysse et al., 1989. SPSS Version 27.0 was the tool used for analysis. Results did not indicate that children with less than 3 hours of screen time each day had better grades than others. It was found that watching TV or using gadgets for entertainment in the evening harmed the ability to fall asleep. On average, spending one hour on leisure screen time drops academic achievement by 0.5%. However, Pellerine et al. noted that some limitations exist, such as individuals reporting screen time, no separation between various sedentary activities, missing socioeconomic factors, and a lack of information about the time spent recreationally versus non-recreationally on screens.

**Second Paper**

Rathakrishnan et al. (2021) examined how addiction to smartphones, the quality of sleep, and university achievement are connected among students. The research was carried out through surveys. There were 162 female participants and 161 male participants in the study, representing 50.20% and 49.84% respectively. Because simple random sampling was used during sampling, the findings can be applied to all members of the population. Among the foreigners, Chinese make up 26.01%, Indians 7.12%, Malay 21.67%, and the rest are 45.20%. A questionnaire that the students completed themselves was used. Two tools were used in the questionnaire: the Smartphone Addiction Scale-Short Version (SAS-SV) and the Pittsburgh Sleep Quality Index (PSQI). Khanal & Chhetri (2024) took data from 50 late university students to validate the scale. Smartphone addiction seemed to be strongly linked to academic performance, as well as to how well someone sleeps. The main conclusion was that the more someone was addicted to their smartphone, the lower their academic performance. The study concluded that higher rates of smartphone addiction and disturbances in adolescent sleep affected their performance in school. However, some flaws were found during my reading, such as bias in the self-reported data and the fact that the design was only cross-sectional, so it did not allow for inferring cause and effect. This approach does not offer a wide range of data for research participants.

**Third Paper (Paper of Choice)**

Qanash et al. (2021) investigated whether electronic device addiction affects the sleep and grades of Saudi healthcare students. Researchers carried out a cross-sectional study with 1000 undergraduate students in health care sciences. Only 608 people filled in the questionnaire. The researchers found that females represented the majority (437/608 or 71.87%), and males made up the rest. Most students attended the medicine (37.3%) or applied medicine (37.2%) colleges. The amount of smartphone addiction was evaluated using the SAS-SV, sleep quality with the PSQI, and academic performance with GPA. All data were analyzed and organized in SPSS 24.0. This study (Qanash et al., 2021) suggests that 50.68% of the students studied experienced bad sleep, and almost every respondent used electronics before going to sleep, which resulted in delayed bedtime and tiredness the following day. Poor sleep was found not to be a direct cause of students’ lower grades. On the other hand, not performing well academically was closely related to being a boy and having reached the age of 21 and above. Researchers found that using a smartphone was strongly connected to sleep quality in healthcare professionals. However, according to Qanash et al. (2021), incomplete information about the PSQI and GPA, along with the absence of exact device use duration and social desirability, were weaknesses of the research.

**Critical Synthesis of Three Papers**

There was not much difference across the three studies, as all of them focused on studying the links between screen use, sleep, and how well university students do in school. Pellerine et al. (2023) analyzed the impact of each of the recommended behaviors on students’ grades in college. Unlike the aforementioned studies, Qanash et al. (2021) examined smartphone addiction, which is not the same as just measuring screen time. Pellerine et al. (2023) were the only researchers to concentrate on students in Canada, and the group they surveyed was mainly female. As part of the research, Radhakrishnan et al. (2021) focused on 323 students enrolled in Malaysian universities, with equal numbers of men and women and a variety of ethnicities. In 2021, Qanash et al. looked at the experiences of 608 healthcare students, and the majority of them were female. All the researchers carried out cross-sectional surveys using self-reported tools, including the SAS-SV and the PSQI, to assess their topic. They did not use the Smartphone Addiction Scale in their research and only considered PSQI. The samples consisted of differing numbers and came from various parts of the world, as described above. Both groups of researchers noted that when children use screens more often, their sleep worsens, and their academic performance suffers. However, Qanash et al. (2021) showed that though electronic device addition increases the risks of bad sleep, both factors do not increase the risk of a lower GPA. More than their sleep quality, things like gender and age appeared to impact students’ test scores. Overall, the authors of all three papers have pointed out the negatives of highly using electronic devices for fun. Various papers have urged schools to take precautions to protect students from addiction problems.

**Conclusion**

This essay looked into the connection between using electronic screens and becoming sleepy. The authors of the three papers have suggested that too much exposure to electronic devices before bed can reduce student sleep quality and their grades. Qanash et al. (2021) argued that low quality of sleep was not directly connected to doing poorly in school, and it was being male and being older than 21 years that were most related to having lower school grades. It was noted that many students who use electronics at night have poor sleep quality. Therefore, university students should try physical exercises or spend time with people at social events to limit their screen time. If children are given no-screen bedtime routines, it could greatly improve how they sleep, perform in school, and feel overall.

.

**References**

Buysse, D. J., Reynolds, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The pittsburgh sleep quality index: A new instrument for psychiatric practice and research. *Psychiatry Research*, *28*(2), 193–213. <https://pubmed.ncbi.nlm.nih.gov/2748771/>

Fowles, J. R., O’Brien, M. W., Wojcik, W. R., d’Entremont, L., & Shields, C. A. (2017). A pilot study: Validity and reliability of the CSEP−PATH PASB-Q and a new leisure time physical activity questionnaire to assess physical activity and sedentary behaviours. *Applied Physiology, Nutrition, and Metabolism*, *42*(6), 677–680. <https://doi.org/10.1139/apnm-2016-0412>

Jain, V., Shruti, & Sharma, A. (2025). PROSPECTIVE ANALYSIS OF SCREEN TIME AND ITS IMPACT ON SLEEP PATTERNS AMONG SCHOOL-AGE CHILDREN. *International Journal of Academic Medicine and Pharmacy*, *7*(1), 533–537. <https://doi.org/:10.47009/jamp.2025.7.1.104>

Khanal, B., & Chhetri, D. B. (2024). A Pilot Study Approach to Assessing the Reliability and Validity of Relevancy and Efficacy Survey Scale. *Janabhawana Research Journal*, *3*(1), 35–49. <https://doi.org/10.3126/jrj.v3i1.68384>

Nelson, K. L., Davis, J. E., & Corbett, C. F. (2021). Sleep Quality: An Evolutionary Concept Analysis. *Nursing Forum*, *57*(1), 144–151. <https://doi.org/10.1111/nuf.12659>

Pellerine, L. P., Bray, N. W., Fowles, J. R., Furlano, J. A., Morava, A., Nagpal, T. S., & O’Brien, M. W. (2023). Increased recreational screen time and time to fall asleep are associated with worse academic performance in Canadian undergraduates. *International Journal of Health Promotion and Education*, 1–11. <https://doi.org/10.1080/14635240.2023.2248091>

Qanash, S., Al-Husayni, F., Falata, H., Halawani, O., Jahra, E., Murshed, B., Alhejaili, F., Ghabashi, A., & Alhashmi, H. (2021). Effect of Electronic Device Addiction on Sleep Quality and Academic Performance Among Health Care Students: Cross-sectional Study. *JMIR Medical Education*, *7*(4), e25662. <https://doi.org/10.2196/25662>

Rathakrishnan, B., Bikar Singh, S. S., Kamaluddin, M. R., Yahaya, A., Mohd Nasir, M. A., Ibrahim, F., & Ab Rahman, Z. (2021). Smartphone Addiction and Sleep Quality on Academic Performance of University Students: An Exploratory Research. *International Journal of Environmental Research and Public Health*, *18*(16), 8291. <https://doi.org/10.3390/ijerph18168291>