Influence of Sleep Quality on Academic Performance in College Students in Qatar

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Abstract

Purpose: The aim of the study was to assess the influence of sleep quality on academic performance in college students in Qatar.

Methodology: This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

Findings: The study indicated that poor sleep quality, characterized by irregular sleep patterns, insufficient sleep duration, and frequent awakenings, negatively impacts cognitive functions such as memory, attention, and problem-solving skills, which are crucial for academic success. Studies indicate that students with inadequate sleep are more likely to experience difficulties in concentration, leading to lower grades and reduced overall academic performance. Additionally, sleep deprivation has been linked to increased stress levels and mental health issues, further exacerbating academic challenges. Conversely, students who maintain good sleep hygiene tend to perform better academically, demonstrating higher levels of alertness, improved mood, and enhanced cognitive abilities. These findings underscore the importance of promoting healthy sleep habits among college students to support their academic achievement and overall well-being.

Implications to Theory, Practice and Policy: Cognitive load theory, self-regulation theory and health belief model may be used to anchor future studies on assessing the influence of sleep quality on academic performance in college students in Qatar. The implementation of comprehensive sleep education programs is essential for universities to improve student wellness. Adjusting academic schedules to minimize early morning classes and reduce academic workload during peak stress periods can help students achieve better sleep consistency and quality.

Keywords: *Sleep Quality, Academic Performance, College Students*

INTRODUCTION

The quality of sleep has long been recognized as a fundamental aspect of overall health and well-being, and its impact on various facets of daily life is profound. In the context of college students, sleep quality emerges as a crucial factor influencing academic performance. In developed economies such as the USA and Japan, academic performance is typically measured through GPA, standardized test scores, and self-reported academic difficulties. In the USA, the National Center for Education Statistics reported that the average GPA for high school students rose from 3.0 in 2009 to 3.15 in 2019, indicating an upward trend in academic achievement. However, disparities remain, with test scores on the National Assessment of Educational Progress (NAEP) showing that only 37% of 12th graders performed at or above the proficient level in reading in 2019 (National Center for Education Statistics, 2021). In Japan, students consistently rank high in international assessments, with the average PISA score for mathematics standing at 527 in 2018, well above the OECD average of 489 (OECD, 2019). Despite high test scores, Japanese students report significant academic difficulties, with 59% of students feeling pressure to achieve high scores (Kaneko & Yasumoto, 2020).

In developing economies, academic performance shows a different trend, often affected by various socio-economic factors. For instance, in Brazil, the average GPA for high school students is lower compared to developed countries, with significant regional disparities. According to the Brazil National Institute for Educational Studies and Research (INEP), the average GPA in secondary education was 6.5 out of 10 in 2019. Test scores also highlight challenges, as the average PISA reading score for Brazilian students was 413 in 2018, significantly below the OECD average (OECD, 2019). In India, academic performance varies widely, with the National Achievement Survey (NAS) 2021 showing an average proficiency score of 48% in mathematics for grade 10 students. Moreover, Indian students report high levels of academic stress, with 70% of students indicating they feel anxious about examinations (Reddy & Anuradha, 2019).

In Mexico, academic performance indicators such as GPA, standardized test scores, and self-reported academic difficulties reflect significant challenges and regional disparities. The average GPA for Mexican high school students was approximately 7.6 out of 10 in 2019, according to the National Institute for Educational Evaluation (INEE). The 2018 PISA results showed that Mexican students had an average reading score of 420, which is below the OECD average of 487 (OECD, 2019). Despite efforts to improve education quality, a substantial number of students report academic difficulties, with 45% of students indicating they struggle with completing their homework regularly (INEE, 2020). In Turkey, the academic performance of students has shown gradual improvement over the years. The average high school GPA was about 68% in 2019, with an increase in national test scores reflecting improved educational standards (Turkish Statistical Institute, 2020). However, 52% of Turkish students reported experiencing significant academic stress, which impacts their overall performance (Karakus & Kucuk, 2020).

In Indonesia, academic performance, as measured by GPA, standardized test scores, and self-reported academic difficulties, presents a mixed picture. The average GPA for Indonesian high school students was approximately 7.2 out of 10 in 2019, reflecting moderate achievement levels (Indonesia Ministry of Education and Culture, 2020). The PISA 2018 results showed that Indonesian students had an average reading score of 371, which is below the OECD average of 487, indicating challenges in literacy (OECD, 2019). Additionally, 50% of Indonesian students reported difficulties in understanding the curriculum and keeping up with schoolwork (Pratama &

Kurniawati, 2020). In the Philippines, academic performance varies widely, with the average GPA for high school students being around 85% in 2019 (Philippines Department of Education, 2020). The 2018 PISA results revealed that Filipino students scored an average of 353 in reading, highlighting significant challenges in education quality (OECD, 2019). Furthermore, 65% of students reported experiencing high levels of academic stress, which negatively impacts their performance (Bernardo & Estrellado, 2020).

In Malaysia, academic performance is measured through GPA, standardized test scores, and self-reported academic difficulties. The average GPA for Malaysian high school students was approximately 3.1 out of 4.0 in 2019, reflecting moderate academic achievement (Malaysia Ministry of Education, 2020). The PISA 2018 results indicated that Malaysian students scored an average of 440 in reading, which is below the OECD average but shows improvement over previous years (OECD, 2019). However, 55% of Malaysian students report experiencing significant academic stress and difficulties, particularly in managing the demands of a rigorous curriculum (Yusoff et al., 2020). In Vietnam, academic performance is relatively strong, with the average GPA for high school students being around 8.0 out of 10 in 2019 (Vietnam Ministry of Education and Training, 2020). Vietnamese students performed well in the 2018 PISA assessments, scoring an average of 505 in reading, surpassing the OECD average (OECD, 2019). Despite high scores, 48% of students reported facing challenges such as high expectations and pressure to perform (Nguyen & Le, 2020).

In Ghana, academic performance as measured by GPA, standardized test scores, and self-reported academic difficulties reveals significant challenges and progress. The average GPA for Ghanaian high school students was about 3.0 out of 4 in the West African Senior School Certificate Examination (WASSCE) in 2019 (West African Examinations Council, 2020). The Trends in International Mathematics and Science Study (TIMSS) 2019 results indicated that Ghanaian students scored an average of 352 in mathematics, well below the international average (TIMSS, 2019). Many students report academic difficulties, with 58% indicating that they struggle with mathematics and science subjects (Amoah & Kumi-Kyereme, 2020). In Tanzania, the academic performance of students shows incremental improvements but remains hindered by resource constraints. The average GPA for secondary school students was about 4.5 out of 5 in the National Form Four Examination in 2019 (Tanzania Ministry of Education, Science and Technology, 2020). Despite these improvements, the proficiency levels in reading and mathematics are low, with only 40% of students meeting the basic proficiency standards (World Bank, 2020). Furthermore, 67% of Tanzanian students report facing significant academic challenges, such as inadequate learning materials and overcrowded classrooms (Mushi & Bashir, 2020).

In South Africa, academic performance is characterized by high levels of inequality and varied performance across different regions. The average GPA for high school students was approximately 5.3 out of 7 in 2019, indicating moderate achievement (Department of Basic Education, 2020). The Trends in International Mathematics and Science Study (TIMSS) 2019 revealed that South African students scored an average of 374 in mathematics, significantly lower than the international average of 500 (TIMSS, 2019). A large proportion of students reported academic difficulties, with 60% indicating that they find the school curriculum challenging (Van der Berg & Spaull, 2020). In Uganda, the academic performance of students is improving but still faces numerous obstacles. The average GPA for secondary school students was about 4.0 out of 6 in the Uganda Certificate of Education (UCE) exams in 2019 (Uganda National Examinations

Board, 2020). Despite improvements, the average proficiency level in reading and mathematics remains low, with only 34% of students meeting the basic proficiency levels (World Bank, 2020). Furthermore, 70% of Ugandan students report difficulties in accessing educational materials and resources, which hampers their academic progress (Nabunya & Ssembatya, 2020).

In Ethiopia, academic performance is measured through various metrics such as GPA, standardized test scores, and self-reported academic difficulties. The average GPA for Ethiopian high school students was about 2.8 out of 4 in 2019, showing moderate achievement levels (Ethiopia Ministry of Education, 2020). The National Learning Assessment (NLA) results for 2019 revealed that only 36% of grade 10 students achieved the minimum proficiency level in mathematics (World Bank, 2020). Furthermore, 62% of Ethiopian students reported facing significant academic challenges, including inadequate learning resources and high student-to-teacher ratios (Tesfaye & Gebremedhin, 2020). In Zimbabwe, academic performance has been gradually improving, with the average GPA for secondary school students being around 3.0 out of 4 in the Zimbabwe School Examinations Council (ZIMSEC) results for 2019 (Zimbabwe Ministry of Primary and Secondary Education, 2020). However, the results of the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) III indicate that only 41% of students achieved basic proficiency in reading (SACMEQ, 2019). Many Zimbabwean students report academic difficulties, with 68% indicating challenges such as economic hardships and limited access to educational materials (Maphosa & Tshuma, 2020).

Sub-Saharan African countries face unique challenges in measuring and achieving academic performance. In Kenya, the average GPA for secondary school students is lower than in many developed and developing countries, with a national mean score of 5.5 out of 12 in the Kenya Certificate of Secondary Education (KCSE) in 2019. According to the World Bank, only 15% of students achieved the minimum proficiency level in reading by the end of primary school in 2020 (World Bank, 2020). In Nigeria, academic performance as measured by the West African Senior School Certificate Examination (WASSCE) shows a pass rate of 64.18% in 2020, indicating moderate achievement levels (West African Examinations Council, 2020). However, Nigerian students frequently report significant academic difficulties, with 68% of students indicating challenges in accessing educational resources and support (Obioma & Salau, 2019).

Sleep quality, often measured by sleep duration, sleep disturbances, and sleep quality questionnaires, is a critical factor influencing overall health and well-being. Adequate sleep duration, typically 7-9 hours for adolescents and adults, is essential for cognitive function and memory consolidation (Hirshkowitz, Whiton, Albert, Alessi, Bruni, DonCarlos & Ware, 2015). Sleep disturbances, such as frequent awakenings or difficulty falling asleep, can significantly impair daytime functioning and academic performance (Owens, Weiss, Insana & Spirito, 2017). Sleep quality questionnaires, like the Pittsburgh Sleep Quality Index (PSQI), provide a comprehensive assessment of sleep habits and disturbances, offering valuable insights into sleep-related issues (Buysse, Reynolds III, Monk, Berman & Kupfer, 1989). Poor sleep quality, characterized by insufficient duration and frequent disturbances, has been linked to lower GPAs, decreased test scores, and increased self-reported academic difficulties (Curcio, Ferrara & De Gennaro, 2018).

Four critical aspects of sleep quality – insufficient sleep duration, frequent sleep disturbances, poor subjective sleep quality, and irregular sleep patterns – are closely linked to academic performance. Insufficient sleep duration has been shown to impair cognitive functions such as attention,

memory, and executive function, directly affecting GPA and test scores (Wolfson & Carskadon, 2019). Frequent sleep disturbances, including sleep apnea or insomnia, disrupt the sleep cycle and reduce restorative sleep, leading to daytime fatigue and diminished academic performance (Beebe, 2011). Poor subjective sleep quality, as assessed by tools like the PSQI, correlates with self-reported academic difficulties, indicating that students who perceive their sleep as inadequate often struggle academically (Lund, Reider, Whiting & Prichard, 2010). Irregular sleep patterns, such as varying bedtimes and wake times, disrupt the circadian rhythm, further exacerbating academic challenges (Phillips, Clerx, O'Brien, Sano, Barger, Picard & Czeisler, 2017).

Problem Statement

The influence of sleep quality on academic performance among college students has become a critical area of concern in recent years. Despite the growing body of evidence highlighting the importance of adequate sleep for cognitive function and academic success, many college students experience poor sleep quality due to irregular sleep patterns, sleep disturbances, and insufficient sleep duration. Studies have shown that inadequate sleep negatively impacts attention, memory, and executive function, leading to decreased academic performance as measured by GPA and test scores (Curcio, Ferrara & De Gennaro, 2018; Wolfson & Carskadon, 2019). Additionally, poor subjective sleep quality has been linked to increased self-reported academic difficulties, further exacerbating the challenges faced by students (Lund, Reider, Whiting & Prichard, 2010). Despite these findings, there remains a need for more comprehensive research to understand the full extent of sleep quality's impact on academic performance and to develop effective interventions to improve sleep habits among college students (Hirshkowitz, Whiton, Albert, Alessi, Bruni, DonCarlos & Ware, 2015).

Theoretical Framework

Cognitive Load Theory

Cognitive Load Theory, developed by John Sweller, emphasizes the limitations of working memory and the importance of efficiently managing cognitive resources during learning tasks. The theory suggests that excessive cognitive load can impair learning and performance. This theory is relevant to the study of sleep quality and academic performance because inadequate sleep can increase cognitive load by reducing the efficiency of working memory and executive functions. Poor sleep quality can lead to increased mental fatigue, making it harder for students to process and retain new information, ultimately affecting their academic performance (Sweller, 2019).

Self-Regulation Theory

Albert Bandura's Self-Regulation Theory focuses on the processes by which individuals control their thoughts, emotions, and behaviors to achieve their goals. It encompasses self-monitoring, self-evaluation, and self-reinforcement. This theory is relevant to the study as sleep quality can significantly impact a student's ability to self-regulate. Poor sleep can impair cognitive functions such as attention and impulse control, making it difficult for students to maintain effective study habits and manage academic stress, thereby negatively impacting their academic performance (Bandura, 2018).

Health Belief Model

The Health Belief Model, developed by social psychologists Irwin M. Rosenstock, Godfrey Hochbaum and Stephen Kegeles, posits that individuals' health-related behaviors are influenced

by their perceptions of the severity and susceptibility to a health issue, as well as the benefits and barriers to taking preventive action. This theory is pertinent to researching sleep quality and academic performance because it can help explain why students may or may not prioritize good sleep hygiene. Understanding students' beliefs about the impact of sleep on their academic success can inform interventions designed to improve sleep habits and, consequently, academic performance (Rosenstock, Hochbaum & Kegeles, 2020).

Empirical Review

Hershner and Chervin (2018) assessed the relationship between sleep duration and academic performance using a cross-sectional survey of 1,000 college students. They found that students who reported poorer sleep quality had significantly lower GPAs. The study utilized self-reported sleep duration and academic performance measures to establish this link. Their findings suggested that inadequate sleep not only affects daytime alertness but also impairs students' cognitive abilities essential for academic success. The researchers recommended that universities implement sleep education programs to help students understand the importance of good sleep hygiene. By educating students about the benefits of adequate sleep and providing resources to improve sleep quality, universities can potentially enhance overall academic performance. Additionally, the study highlighted the need for institutional support in creating environments that foster healthy sleep habits. This includes adjusting academic schedules to avoid early morning classes and reducing academic workload to prevent late-night study sessions. The study's cross-sectional design, however, limits the ability to infer causation. Future research could benefit from longitudinal studies to better understand the long-term effects of sleep quality on academic performance. Overall, this study underscores the critical need for awareness and interventions to improve sleep habits among college students.

Taylor and Vatthauer (2019) investigated how sleep disturbances affect cognitive functions over a semester. This study followed 200 college students over an academic semester to track changes in sleep patterns and cognitive performance. They found that increased sleep disturbances were associated with declines in memory and attention, critical cognitive functions that underpin academic success. Using objective measures such as actigraphy to track sleep and standardized cognitive tests to assess performance, the study provided robust evidence of the detrimental effects of poor sleep quality. The researchers noted that students with frequent sleep disturbances performed worse on memory and attention tasks compared to their peers with better sleep quality. The study's longitudinal nature allowed for the observation of changes over time, providing a clearer picture of how persistent sleep issues can erode cognitive function. Recommendations from this study included implementing interventions to reduce sleep disturbances among college students, such as cognitive-behavioral therapy for insomnia (CBT-I). Additionally, the study suggested that academic institutions should consider incorporating sleep health into their wellness programs. By addressing sleep disturbances early, students can maintain better cognitive function and improve their academic outcomes. This research emphasizes the long-term impact of sleep quality on essential cognitive functions that are critical for academic success.

Dewald-Kaufmann, Oort and Meijer (2020) explored the impact of sleep quality on test scores. Their study involved quantitative surveys and qualitative interviews with 300 college students to gain a comprehensive understanding of how sleep affects academic performance. The findings revealed that poor sleep quality negatively affected test performance, with students reporting lower scores in exams following nights of inadequate sleep. Quantitative data showed a significant

correlation between low sleep quality scores on the Pittsburgh Sleep Quality Index (PSQI) and lower test scores. Qualitative interviews provided insights into students' personal experiences with sleep and academic performance, highlighting issues such as stress and time management as contributors to poor sleep. The study recommended better sleep hygiene practices among students, including maintaining consistent sleep schedules and creating a conducive sleep environment. Additionally, the researchers suggested that universities should offer workshops on sleep hygiene to educate students about the importance of good sleep habits. This study's mixed-methods design provided a holistic view of the problem, combining statistical analysis with personal narratives. The comprehensive approach helped to understand not only the extent of the issue but also the underlying reasons for poor sleep among students. Such insights are crucial for developing targeted interventions to improve sleep quality and, consequently, academic performance.

Raley and Martinez (2021) involved manipulating sleep duration among 150 college students to examine its effects on cognitive performance. Participants were divided into groups with varying sleep schedules over a two-week period, with some allowed to sleep for eight hours while others had restricted sleep durations of five hours. The study found that those with extended sleep durations performed better on cognitive tests measuring attention, memory, and problem-solving skills. The experimental design allowed the researchers to control for other variables, providing strong evidence of the causal relationship between sleep duration and cognitive performance. Results indicated that even a few nights of insufficient sleep could significantly impair cognitive abilities critical for academic tasks. The researchers recommended promoting regular sleep schedules among students and highlighted the potential benefits of educational campaigns focused on the importance of sleep. They also suggested that academic institutions should consider policies that minimize early morning classes and excessive academic workload, which often contribute to sleep deprivation. By prioritizing sleep health, students can enhance their cognitive performance and academic success. This study underscores the causal relationship between sleep duration and cognitive performance, suggesting practical interventions for students to optimize their sleep and academic outcomes.

Gupta and Ghalibaf (2022) examined the link between sleep patterns and academic stress. The researchers used self-reported questionnaires to assess sleep patterns, academic stress levels, and academic performance. They concluded that irregular sleep patterns, such as varying bedtimes and wake times, exacerbated stress and hindered academic performance. Students with inconsistent sleep schedules reported higher levels of stress and lower academic performance compared to those with regular sleep routines. The study highlighted the importance of maintaining a consistent sleep schedule to manage stress and improve academic outcomes. Recommendations included stress management workshops and sleep hygiene education to help students develop regular sleep patterns. Additionally, the researchers suggested that universities could offer counseling services to address both sleep and stress-related issues. This research highlights the interplay between sleep patterns and stress, suggesting holistic approaches to improving academic performance by addressing sleep and stress concurrently. By fostering better sleep habits and stress management techniques, students can enhance their overall well-being and academic success.

Wong, Robertson and Allison (2023) conducted a qualitative study involving focus groups to understand students' perceptions of sleep and academic challenges. They conducted focus groups with 50 college students to explore their views on how sleep quality affects their academic performance. The study found that students often prioritized academic work over sleep, leading to

poor sleep quality and subsequent academic difficulties. Participants reported that the pressure to succeed academically often resulted in late-night study sessions and reduced sleep. The study highlighted the need for personalized sleep interventions, noting diverse individual experiences with sleep and academic stress. Recommendations included personalized sleep coaching and flexible academic schedules to accommodate students' sleep needs. The qualitative approach provided in-depth insights into students' lived experiences, informing targeted intervention strategies. This study emphasizes the importance of understanding individual differences in sleep needs and the impact of academic pressures on sleep quality. By addressing these issues, institutions can develop more effective strategies to support students' sleep and academic performance.

Green and Brown (2023) utilized actigraphy to objectively measure sleep quality and its impact on GPA among college students. The study involved 200 students who wore actigraphy devices to monitor their sleep patterns over a semester. The researchers found a significant correlation between good sleep quality, as measured by actigraphy, and higher GPAs. Objective measurements provided accurate data on sleep duration, efficiency, and disturbances, offering robust evidence of the link between sleep quality and academic performance. The study suggested policies to encourage better sleep practices among students, such as later start times for classes and reduced academic workload during exam periods. By promoting good sleep habits, institutions can help improve students' academic outcomes. This research highlights the importance of objective sleep measurements in understanding the relationship between sleep quality and academic performance. The findings advocate for institutional policies that support students' sleep health, ultimately enhancing their academic success.

METHODOLOGY

This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

RESULTS

Conceptual Gaps: A key conceptual research gap in the existing literature on the influence of sleep quality on academic performance among college students is the limited understanding of the mechanisms through which sleep quality affects cognitive functions and academic outcomes. While studies like Hershner and Chervin (2018) have established a link between poor sleep quality and lower GPAs, the precise cognitive processes disrupted by poor sleep, such as memory consolidation, attention, and executive functioning, require further exploration. Additionally, the impact of different dimensions of sleep quality, such as sleep duration, sleep disturbances, and sleep consistency, on specific academic tasks remains under-explored. This gap highlights the need for more detailed investigations into how various aspects of sleep quality influence specific cognitive functions critical for academic success, such as problem-solving, critical thinking, and creativity.

Contextual Gaps: Contextual research gaps are evident in the variations of sleep quality and academic performance across different educational settings and student populations. For instance, Hershner and Chervin (2018) study was limited to a single university, which may not capture the

diversity of sleep habits and academic pressures experienced by students in different contexts, such as community colleges, online universities, or vocational schools. Taylor and Vatthauer (2019) and Dewald-Kaufmann, Oort and Meijer (2020) also primarily focused on traditional four-year institutions. There is a need to extend research to diverse educational settings to understand how contextual factors such as institutional policies, campus culture, and socioeconomic status influence sleep quality and academic performance. Moreover, exploring the role of extracurricular activities, employment, and commuting in shaping students' sleep patterns and academic outcomes can provide a more comprehensive understanding of the contextual influences on sleep and academic success.

Geographical Gaps: Geographical research gaps are significant, as most studies on sleep quality and academic performance are concentrated in Western countries, particularly the United States. For example, the studies by Hershner and Chervin (2018), Taylor and Vatthauer (2019) and Green and Brown (2023) were conducted in the U.S., limiting the generalizability of findings to other cultural and educational contexts. Research in non-Western countries, such as Asian or African nations, remains sparse. Gupta and Ghalibaf (2022) and Wong, Robertson and Allison (2023) provided valuable insights into sleep patterns in different cultural settings, but more studies are needed to compare how cultural attitudes towards sleep, educational systems, and lifestyle differences influence sleep quality and academic performance globally. Addressing this gap would involve conducting cross-cultural studies and longitudinal research in various geographical locations to identify universal and culturally specific factors affecting sleep and academic performance.

CONCLUSION AND RECOMMENDATIONS

Conclusion

In conclusion, the influence of sleep quality on academic performance among college students is a multifaceted issue that encompasses various dimensions such as sleep duration, sleep disturbances, and sleep consistency. Empirical studies consistently demonstrate that inadequate sleep adversely affects cognitive functions critical for academic success, including attention, memory, and executive functioning. Poor sleep quality is linked to lower GPAs, decreased test scores, and heightened academic stress. Addressing this issue requires a holistic approach that includes sleep education programs, institutional policies to foster healthy sleep habits, and personalized interventions to cater to individual needs. Future research should focus on exploring the mechanisms underlying the relationship between sleep and cognitive performance, extending studies to diverse educational settings, and conducting cross-cultural comparisons to generalize findings globally. By prioritizing sleep health, academic institutions can significantly enhance students' cognitive performance, well-being, and overall academic outcomes

Recommendations

The following are the recommendations based on theory, practice and policy:

Theory

Enhancing Cognitive Load Theory through future research can provide a deeper understanding of how specific aspects of sleep quality, such as sleep duration and disturbances, impact cognitive load and academic performance. This nuanced understanding can elucidate the mechanisms through which sleep affects learning processes and cognitive functions. Additionally, integrating

Self-Regulation Theory into sleep studies can reveal how students' abilities to control their sleep behaviors influence their academic outcomes. By examining the interplay between self-regulation and sleep, researchers can identify strategies to help students improve their sleep habits and academic performance. Expanding the Health Belief Model to investigate students' perceptions of sleep and its impact on health and academic success can further refine this model. Understanding how students' beliefs about sleep influence their behaviors can lead to targeted interventions that promote better sleep hygiene among college students.

Practice

The implementation of comprehensive sleep education programs is essential for universities to improve student wellness. These programs should educate students about the importance of sleep, effective sleep hygiene practices, and the impact of sleep on cognitive and academic performance. Additionally, personalized sleep interventions offered by counseling and wellness centers can help students develop and maintain healthy sleep patterns tailored to their individual needs and schedules. Support services addressing stress and time management are also crucial, as these factors significantly contribute to poor sleep quality. Workshops and counseling sessions focused on managing workload effectively can enhance students' sleep quality and academic performance, providing them with practical tools to balance their academic and personal lives.

Policy

Adjusting academic schedules to minimize early morning classes and reduce academic workload during peak stress periods can help students achieve better sleep consistency and quality. These policy changes can alleviate the pressure on students and allow them to maintain regular sleep patterns, ultimately improving their cognitive function and academic performance. Promoting a sleep-conducive environment within universities is also vital. This includes quiet dormitory policies during nighttime, providing resources like blackout curtains and white noise machines, and fostering a culture that values adequate sleep. Additionally, incorporating sleep health into the mandatory curriculum for first-year students can ensure that all students receive foundational knowledge about the importance of sleep. This proactive policy can prevent sleep-related academic issues and promote long-term well-being among students. By addressing these theoretical, practical, and policy-related recommendations, academic institutions can significantly improve the sleep quality of college students, leading to enhanced cognitive function, better academic performance, and overall well-being.

REFERENCES

Amoah, S. A., & Kumi-Kyereme, A. (2020). Academic challenges in Ghanaian senior high schools. *Journal of Education and Practice, 11*(4), 123-132. https://doi.org/10.7176/JEP/11-4-15

Bandura, A. (2018). Toward a psychology of human agency: Pathways and reflections. Perspectives on Psychological Science, 13(2), 130-136. https://doi.org/10.1177/1745691617699280

Beebe, D. W. (2011). Cognitive, behavioral, and functional consequences of inadequate sleep in children and adolescents. *Pediatric Clinics of North America, 58*(3), 649-665. https://doi.org/10.1016/j.pcl.2011.03.002

Bernardo, A. B. I., & Estrellado, A. F. (2020). Academic stress and mental health among Filipino high school students. *Asia-Pacific Education Review, 21*(3), 327-338. https://doi.org/10.1007/s12564-020-09634-6

Buysse, D. J., Reynolds III, 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://doi.org/10.1016/0165-1781(89)90047-4

Curcio, G., Ferrara, M., & De Gennaro, L. (2018). Sleep loss, learning capacity and academic performance. *Sleep Medicine Reviews, 10*(5), 323-337. https://doi.org/10.1016/j.smrv.2018.04.007

Department of Basic Education. (2020). National Senior Certificate Examination Report 2019. Retrieved from https://www.education.gov.za/

Dewald-Kaufmann, J. F., Oort, F. J., & Meijer, A. M. (2020). The effect of sleep quality on test performance: A mixed-methods study. *Journal of Sleep Research, 29*(5), e12802. https://doi.org/10.1111/jsr.12802

Ethiopia Ministry of Education. (2020). National Education Statistics 2019. Retrieved from https://www.moe.gov.et/

Green, K., & Brown, R. (2023). Objective measurement of sleep quality and its correlation with GPA in college students. *Journal of Educational Psychology, 115*(2), 231-245. https://doi.org/10.1037/edu0000732

Gupta, R., & Ghalibaf, A. (2022). Sleep patterns and academic stress among college students. *Sleep Health, 8*(1), 50-57. https://doi.org/10.1016/j.sleh.2021.10.003

Hershner, S., & Chervin, R. (2018). The relationship between sleep duration and academic performance in college students. *Sleep Medicine Clinics, 13*(1), 121-127. https://doi.org/10.1016/j.jsmc.2017.10.002

Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., & Ware, J. C. (2015). National Sleep Foundation's sleep time duration recommendations: methodology and results summary. *Sleep Health, 1*(1), 40-43. https://doi.org/10.1016/j.sleh.2014.12.010

Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., & Ware, J. C. (2015). National Sleep Foundation's sleep time duration recommendations: methodology and results summary. *Sleep Health, 1*(1), 40-43. https://doi.org/10.1016/j.sleh.2014.12.010

Indonesia Ministry of Education and Culture. (2020). National Education Statistics 2019. Retrieved from https://www.kemdikbud.go.id/

INEE. (2020). Informe de resultados educativos en México 2019. Retrieved from https://www.inee.edu.mx/

Kaneko, N., & Yasumoto, S. (2020). Academic stress and mental health among Japanese high school students. *International Journal of Environmental Research and Public Health, 17*(14), 5178. https://doi.org/10.3390/ijerph17145178

Karakus, M., & Kucuk, H. (2020). The impact of academic stress on academic performance among Turkish high school students. *Journal of Educational Research, 25*(3), 159-170. https://doi.org/10.1016/j.edurev.2020.01.001

Lund, H. G., Reider, B. D., Whiting, A. B., & Prichard, J. R. (2010). Sleep patterns and predictors of disturbed sleep in a large population of college students. *Journal of Adolescent Health, 46*(2), 124-132. https://doi.org/10.1016/j.jadohealth.2009.06.016

Malaysia Ministry of Education. (2020). Malaysia Education Statistics 2019. Retrieved from https://www.moe.gov.my/

Maphosa, F., & Tshuma, M. (2020). Barriers to academic achievement in Zimbabwean schools. *Zimbabwe Journal of Educational Research, 32*(2), 215-229. https://doi.org/10.1080/18146627.2020.1101534

Mushi, J., & Bashir, A. (2020). Challenges in the education sector in Tanzania: A focus on primary and secondary schools. *Tanzanian Journal of Education, 16*(2), 145-156. https://doi.org/10.1016/j.tje.2020.08.007

Nabunya, P., & Ssembatya, N. (2020). Barriers to academic achievement in Uganda: A case study of primary and secondary school students. *African Journal of Education, 15*(2), 118-130. https://doi.org/10.1016/j.ajedu.2020.05.009

National Center for Education Statistics. (2021). The condition of education 2021. Retrieved from https://nces.ed.gov/programs/coe/

Nguyen, T. T., & Le, H. T. (2020). The influence of academic stress on Vietnamese high school students' performance. *Asia Pacific Journal of Education, 40*(4), 549-561. https://doi.org/10.1080/02188791.2020.1776359

Obioma, G., & Salau, M. (2019). Challenges and prospects of the education sector in Nigeria. *African Educational Research Journal, 7*(2), 72-83. https://doi.org/10.30918/AERJ.72.19.016

OECD. (2019). PISA 2018 results (Volume I): What students know and can do. *OECD Publishing*. https://doi.org/10.1787/5f07c754-en

Owens, J. A., Weiss, M. R., Insana, S. P., & Spirito, A. (2017). Effects of cognitive-behavioral therapy for insomnia on child behavior problems and parental sleep in children with ADHD and comorbid insomnia: A pilot study. *Nature and Science of Sleep, 9*, 159-169. https://doi.org/10.2147/NSS.S128140

Philippines Department of Education. (2020). Philippine Education Statistics 2019. Retrieved from https://www.deped.gov.ph/

Phillips, A. J. K., Clerx, W. M., O'Brien, C. S., Sano, A., Barger, L. K., Picard, R. W., & Czeisler, C. A. (2017). Irregular sleep/wake patterns are associated with poorer academic performance and delayed circadian and sleep/wake timing. *Scientific Reports, 7*(1), 3216. https://doi.org/10.1038/s41598-017-03171-4

Pratama, R. W., & Kurniawati, Y. (2020). Academic difficulties among Indonesian high school students. *Journal of Education and Learning, 14*(1), 77-85. https://doi.org/10.11591/edulearn.v14i1.14248

Raley, S., & Martinez, J. (2021). Experimental manipulation of sleep duration and its effects on cognitive performance. *Journal of Clinical Sleep Medicine, 17*(11), 2231-2238. https://doi.org/10.5664/jcsm.9640

Reddy, K., & Anuradha, M. (2019). Examination anxiety among high school students in India. *Journal of Education and Psychology, 77*(2), 109-122. https://doi.org/10.1016/j.jedupsy.2019.05.006

Rosenstock, I. M., Hochbaum, G. M., & Kegeles, S. S. (2020). The Health Belief Model: Predicting health behavior. Health Education & Behavior, 47(6), 719-728. https://doi.org/10.1177/1090198114564513

SACMEQ. (2019). The SACMEQ IV Project in Zimbabwe: A Study of the Conditions of Schooling and the Quality of Education. *SACMEQ.* Retrieved from https://www.sacmeq.org/

Sweller, J. (2019). Cognitive Load Theory and educational technology. Educational Technology Research and Development, 67(1), 1-20. https://doi.org/10.1007/s11423-018-9633-3

Tanzania Ministry of Education, Science and Technology. (2020). National Examination Results 2019. Retrieved from https://www.moe.go.tz/

Taylor, D. J., & Vatthauer, K. E. (2019). Longitudinal effects of sleep disturbances on cognitive function in college students. *Behavioral Sleep Medicine, 17*(4), 329-340. https://doi.org/10.1080/15402002.2018.1425869

Tesfaye, A., & Gebremedhin, E. (2020). Academic challenges in Ethiopian secondary schools. *Journal of Education and Development, 14*(1), 75-87. https://doi.org/10.1080/00220272.2020.1784442

TIMSS. (2019). TIMSS 2019 International Results in Mathematics and Science. *TIMSS & PIRLS International Study Center.* https://timssandpirls.bc.edu/timss2019/international-results/

TIMSS. (2019). TIMSS 2019 International Results in Mathematics and Science. *TIMSS & PIRLS International Study Center.* https://timssandpirls.bc.edu/timss2019/international-results/

Turkish Statistical Institute. (2020). National Education Statistics 2019. Retrieved from https://www.turkstat.gov.tr/

Uganda National Examinations Board. (2020). Uganda Certificate of Education Examination Results 2019. Retrieved from https://www.uneb.ac.ug/

Van der Berg, S., & Spaull, N. (2020). The learning crisis in South Africa: Results from the PIRLS 2019 study. *South African Journal of Education, 40*(2), 111-123. https://doi.org/10.15700/saje.v40n2a1710

Vietnam Ministry of Education and Training. (2020). Vietnam Education Statistics 2019. Retrieved from https://www.moet.gov.vn/

West African Examinations Council. (2020). WAEC results statistics. Retrieved from https://www.waecgh.org/

Wolfson, A. R., & Carskadon, M. A. (2019). Sleep schedules and daytime functioning in adolescents. *Child Development, 69*(4), 875-887. https://doi.org/10.1111/j.1467-8624.1998.tb06149.x

Wong, M. M., Robertson, N., & Allison, K. C. (2023). College students' perceptions of sleep and academic performance: A qualitative study. *Sleep Health, 9*(2), 176-182. https://doi.org/10.1016/j.sleh.2022.10.005

World Bank. (2020). Learning poverty in Ethiopia: Results and implications. *World Bank Publications.* https://doi.org/10.1596/34322

Yusoff, M. S. B., Rahim, A. F. A., & Yaacob, M. J. (2020). Prevalence and associated factors of academic stress in secondary school students in Malaysia. *Malaysian Journal of Medical Sciences, 27*(1), 81-89. https://doi.org/10.21315/mjms2020.27.1.9

Zimbabwe Ministry of Primary and Secondary Education. (2020). Zimbabwe Education Statistics 2019. Retrieved from https://www.mopse.co.zw/