

Sleep Habits and Academic Performance of Grade 3 Learners

Alona G. Betio¹ (Researcher); Remigilda Gallardo²

Abstract:- This study explores the critical relationship between sleep habits and academic performance among Grade 3 learners. With a sample of 100 students, a descriptive correlational research design was employed to investigate various dimensions of sleep habits, including sleep duration, quality, onset latency, efficiency, and continuity. The results revealed that Grade 3 learners exhibited very extensive sleep habits, particularly in terms of sleep duration and quality. Moreover, the study identified specific sleep habit indicators, such as sleep efficiency and continuity, which significantly influenced academic performance. Notably, a significant positive correlation ($R = 0.709$) between sleep habits and academic performance was observed, underscoring the pivotal role of sleep in students' educational achievements. This study underscores the critical influence of specific sleep habit indicators, particularly sleep efficiency and continuity, on academic performance, highlighting the undeniable significance of sleep in the educational achievements of students. These findings provide valuable insights for educators, parents, and policymakers, emphasizing the need to prioritize strategies that promote healthy sleep habits among young learners. By integrating sleep education into the curriculum and fostering a conducive sleep environment, stakeholders can contribute to enhancing both the well-being and academic success of Grade 3 learners.

Keywords:- Sleep Habits, Academic Performance, Grade 3 Learners, Educational Outcomes, Sleep Duration, Sleep Quality, Sleep Efficiency, Sleep Continuity.

I. INTRODUCTION

The relationship between sleep habits and academic performance in children have been a topic of interest in recent years, with studies exploring the impact of sleep duration, quality, and hygiene interventions on academic outcomes. However, there is a need for more research specifically focused on Grade 3 learners, who are at a critical stage in their academic development.

Sleep is a fundamental aspect of children's cognitive and behavioral functioning and understanding the relationship between sleep habits and academic performance in Grade 3 learners can help inform interventions and policies aimed at promoting healthy sleep habits and improving academic outcomes. Therefore, this study aimed to investigate the relationship between sleep habits and academic performance in Grade 3 learners, with the goal of identifying factors that contribute to academic success and promoting healthy sleep habits in children.

The study titled, " Sleep Habits And Academic Performance Of Grade 3 Learners" was conducted to investigate the relationship between the sleep habits of Grade 3 learners and their academic performance. Specifically, it aimed to explore how various factors related to sleep, such as duration, quality, and consistency, impact the students' ability to perform academically. By examining these aspects, the study sought to identify patterns and correlations that could provide valuable insights into how sleep habits affect learning outcomes.

The literature reviewed in this study have highlighted the importance of investigating the relationship between sleep habits and academic performance in Grade 3 learners. While numerous studies have explored this relationship, there was a need for more research focused specifically on Grade 3 learners, as this is a critical stage in their academic development.

The findings of this study have significant implications to DepEd officials by study by gaining a better understanding of the factors that influence academic performance in young learners. School Heads *teachers* may benefit from the study by gaining insights into effective strategies for promoting healthy sleep habits in young learners. Students themselves stand to benefit from the study by gaining a better understanding of the importance of sleep for academic success and overall well-being. Future researchers may benefit from the study by building on the insights and findings presented here to further develop the field of sleep research in young learners.

In conclusion, the relationship between sleep habits and academic performance in children has garnered significant interest in recent years, with numerous studies examining the effects of sleep duration, quality, and hygiene interventions on academic outcomes. This study aimed to delve into how various factors related to sleep, such as duration, quality, and consistency, influence students' academic performance.

II. METHOD

The research design for this study was a descriptive correlational research design using survey method. This design was best suited for the study as it allowed the exploration of the relationship between sleep habits and academic performance in Grade 3 learners. Descriptive correlational research design is a type of research design that involves describing the relationship between two or more variables without manipulating them. This type of research design is often used in studies that seek to explore the relationship between variables that cannot be manipulated for

ethical or practical reasons. In a descriptive correlational research design, the researcher collects data on the variables of interest without attempting to influence or manipulate them.

The survey for this study was administered to 100 Grade 3 learners, from Cadaatan Elementary School School, Cadaatan Sta. Maria, Davao Occidental. The Grade 3 learners from the said school were selected through a simple random sampling procedure. This sampling method is well-suited for this study as it ensured that each Grade 3 learner in the population had an equal chance of being selected for inclusion in the sample, thereby reducing the risk of bias and increasing the generalizability of the findings.

The sampling procedure for this study involves simple random sampling to ensure that each Grade 3 learner has an equal chance of being included in the study. The researcher sought ethical approval and informed consent from relevant authorities, including the School District Superintendent and the school principal. Once permission was granted, the survey was administered to the selected Grade 3 students.

Statistical tools, including mean, Pearson correlation (r), and regression analysis were employed to analyze the collected data. These statistical techniques helped the researcher explore the relationships between sleep habits and academic performance, determine the extent of influence each sleep habit indicator has on academic performance, and provide a comprehensive understanding of the factors at play.

The research instrument for gathering data on sleep habits in this study was an adapted version of the National Sleep Foundation Sleep Diary (NSFSD) (National Sleep Foundation, 2015). The NSFSD is a well-validated tool for assessing sleep habits in children and adolescents and has been widely used in sleep research (Wolfson, Carskadon, Acebo, & Seifer, 2003). The adapted version of the NSFSD used in this study included questions on sleep duration, sleep quality, sleep onset latency sleep efficiency, sleep continuity.

In conclusion, this study utilized a descriptive correlational research design, employing a survey method to investigate the relationship between sleep habits and academic performance in Grade 3 learners. This design was ideally suited for the study as it enabled an in-depth exploration of how various aspects of sleep, such as duration, quality, and consistency, correlate with academic outcomes without manipulating the variables.

III. RESULTS AND DISCUSSIONS

The results of the statistical analysis are presented in detail, followed by an in-depth discussion and connection to relevant literature. This section meticulously outlines the key findings derived from the data, highlighting significant correlations and patterns observed between sleep habits and academic performance among the surveyed Grade 3 learners.

The first theme explores the extent of sleep habits among Grade 3 learners, specifically focusing on sleep

duration. The overall mean for all the statements combined is 4.23, with a standard deviation of 0.36. This indicates a very extensive overall extent of sleep habits among Grade 3 learners in terms of sleep duration. This means that the sleep habits of Grade 3 learners are excellent. The students, on average, reported positive sleep habits and a high level of sleep satisfaction.

The second presents the extent of sleep habits of Grade 3 learners, specifically focusing on sleep quality. The overall mean for all the sleep quality statements combined is 4.20, with a standard deviation of 0.36, signifying a very extensive overall extent of good sleep quality among Grade 3 learners. This means that the sleep habits of Grade 3 learners are excellent. This suggests that the majority of the students in the study enjoy positive sleep quality on a regular basis.

The third theme explains the extent of sleep habits of Grade 3 learners in terms of sleep onset latency. The overall mean for all the sleep onset latency statements combined is 4.18, with a standard deviation of 0.46, indicating an extensive overall extent of positive sleep onset latency habits among Grade 3 learners. This means that the sleep habits of Grade 3 learners are very good. This suggests that most of the students in the study experience minimal difficulties when it comes to falling asleep, both in terms of speed and adaptability to environmental conditions.

The fourth theme presents the extent of sleep habits of Grade 3 learners in terms of sleep efficiency. The overall mean for all the sleep efficiency statements combined is 4.19, with a standard deviation of 0.46, signifying an extensive overall extent of positive sleep efficiency habits among Grade 3 learners. This means that the sleep habits of Grade 3 learners are very good. This suggests that most of the students in the study have effective sleep efficiency practices, contributing to better overall sleep quality.

The fifth theme presents 5 presents the extent of sleep habits of Grade 3 learners in terms of sleep continuity. The overall mean for all the sleep continuity statements combined is 4.28, with a standard deviation of 0.54, signifying a very extensive overall extent of positive sleep continuity habits among Grade 3 learners. This means that the sleep habits of Grade 3 learners are excellent. This suggests that most of the students in the study exhibit strong sleep continuity practices, contributing to better overall sleep quality and uninterrupted rest.

The results of the study indicated that young learners exhibit very extensive sleep habits, particularly in terms of sleep duration and sleep quality, where they score significantly higher. Sleep efficiency also ranks as an extensive habit. Overall, the Grade 3 learners in this study seem to maintain highly favorable sleep habits, which align with previous research highlighting the importance of sleep in child development.

Results also indicate that, on average, these learners achieved satisfactory academic results during the initial quarter of the academic year. While the table provides a

snapshot of their performance, further analysis is needed to understand how sleep habits may have contributed to these grades.

Notably, sleep duration, sleep efficiency, and sleep continuity emerge as statistically significant predictors of academic performance, as indicated by their respective beta coefficients and low p-values. These findings reinforce the critical role of sleep quality and continuity in students' educational achievements and resonate with prior research. It suggests that educators and caregivers should prioritize strategies to improve these sleep habits, potentially leading to more favorable academic performances among Grade 3 learners.

Grade 3 learners in this study exhibit very extensive sleep habits, particularly in terms of sleep duration, quality, and efficiency. This suggests that these young students are generally practicing healthy sleep habits, which align with the importance of adequate and restorative sleep in child development and well-being. These favorable sleep habits may contribute positively to their overall health and potentially their academic performance.

Grade 3 learners, on average, achieved a satisfactory mean grade during the first quarter of the academic year. While this provides an initial snapshot of their academic performance, further analysis is required to understand the factors influencing their grades, including their sleep habits. It emphasizes the need to explore the relationship between sleep and academic performance more deeply.

The recommendation of this study implies that the Department of Education officials should consider integrating sleep education and awareness programs into the curriculum for Grade 3 students and beyond. School heads and teachers play a vital role in shaping students' daily routines. Students themselves can take an active role in improving their sleep habits. They should be educated about the importance of sleep and encouraged to establish consistent sleep routines. Future researchers should delve deeper into the specific mechanisms through which sleep habits impact academic performance. Longitudinal studies could provide valuable insights into the long-term effects of sleep on educational outcomes.

REFERENCES

- [1]. Alfano, C. A., Gamble, A. L., & Lewin, D. S. (2019). Sleep problems and their relation to cognitive factors, anxiety, and depressive symptoms in children and adolescents. *Depression and Anxiety*, 36(1), 48-65.
- [2]. Armstrong, L., MacDonald, M., & Campbell, K. (2020). School-based sleep hygiene program improves sleep quality and daytime functioning in adolescent girls. *Sleep Health*, 6(1), 72-80.
- [3]. Baum, K. T., Desai, A., Field, J., Miller, L. E., Rausch, J., Beebe, D. W., & Chervin, R. D. (2014). Sleep restriction worsens mood and emotion regulation in adolescents. *Journal of Child Psychology and Psychiatry*, 55(2), 180-190.
- [4]. Buxton, O. M., & Marcelli, E. (2010). Short and long sleep are positively associated with obesity, diabetes, hypertension, and cardiovascular disease among adults in the United States. *Social Science & Medicine*, 71(5), 1027-1036.
- [5]. Carskadon, M. A., & Dement, W. C. (2011). Normal human sleep: An overview. *Principles and Practice of Sleep Medicine*, 5, 13-23.
- [6]. Chen, L., Liu, Q., Zhang, Y., Chen, R., He, Q., & Yuan, Z. (2018). Sleep duration and academic performance among Chinese adolescents: A cross-sectional study. *Journal of Clinical Sleep Medicine*, 14(4), 515-522.
- [7]. Dewald, J. F., Meijer, A. M., Oort, F. J., Kerkhof, G. A., & Bogels, S. M. (2010). The influence of sleep quality, sleep duration and sleepiness on school performance in children and adolescents: A meta-analytic review. *Sleep Medicine Reviews*, 14(3), 179-189.
- [8]. Eckerberg, B., Lowden, A., Nagai, R., Akerstedt, T., & Kecklund, G. (2014). The diurnal cortisol slope and sleep quality in relation to working memory performance in older adults. *Neurobiology of Aging*, 35(12), 2270-2274.
- [9]. El-Sheikh, M., Tu, K. M., Erath, S. A., & Buckhalt, J. A. (2016). Family stress and adolescents' sleep quality and length: A daily diary approach. *Sleep Health*, 2(3), 198-205.
- [10]. Gao, Z., Xu, F., Xu, Y., Xiong, Y., & Wang, Y. (2018). Sleep duration and academic performance among Chinese adolescents: A cross-sectional study. *Journal of Huazhong University of Science and Technology [Medical Sciences]*, 38(5), 645-651.
- [11]. Gomes, A. A., Tavares, J., de Azevedo, M. H., & de Sousa-Mast, F. (2018). Associations between sleep quality and academic achievement among elementary school children. *International Journal of Environmental Research and Public Health*, 15(5), 879.
- [12]. Gruber, R., Cassoff, J., Frenette, S., Wiebe, S., & Carrier, J. (2014). Impact of sleep extension and restriction on children's emotional lability and impulsivity. *Pediatrics*, 130(5), e1155-e1161.
- [13]. Gruber, R., Cassoff, J., Knäuper, B., & Wiebe, S. (2014). Sleep health education in Canadian schools. *Journal of School Health*, 84(6), 334-341.
- [14]. Gruber, R., Laviolette, R., Deluca, P., Monson, E., Cornish, K., Carrier, J., & Short, M. A. (2011). Short sleep duration is associated with poor performance on IQ measures in healthy school-age children. *Sleep Medicine*, 12(10), 964-970.
- [15]. Gruber, R., Laviolette, R., Deluca, P., Monson, E., Cornish, K., Carrier, J., & Short, M. A. (2013). Sleep hygiene practices and sleep duration in Canadian children. *Pediatrics*, 131(2), e276-e283.
- [16]. Han, H., Kwon, H. J., Lee, M. J., Kim, Y. H., Kim, K. E., & Kim, Y. K. (2021). Association between sleep-disordered breathing and academic performance and cognitive function in Korean elementary school children. *Sleep and Breathing*, 25(2), 595-604.

- [17]. Harvey, A. G. (2002). A cognitive model of insomnia. *Behaviour Research and Therapy*, 40(8), 869-893.
- [18]. Jalali, F. S., Solhi, M., & Hashemi, S. J. (2021). Association between sleep quality and academic performance in primary school students: The moderating role of absenteeism. *Sleep and Breathing*, 25(2), 637-644.
- [19]. Jalali, R., Khazaie, H., Shokouhi, N., & Salehpour, S. (2021). Poor sleep quality and academic performance: The mediating role of absenteeism. *Sleep Health*, 7(1), 55-59.
- [20]. Kim, H. Y., So, W. Y., & Kim, S. J. (2016). Association between sleep duration and academic performance in Korean adolescents. *Sleep Medicine*, 21, 218-223.
- [21]. Kim, S., Park, S., Lee, J. H., Kim, H. B., Kim, J. H., & Hong, S. (2016). The association between sleep duration and academic performance in Korean adolescents. *Sleep Medicine*, 20, 149-154.
- [22]. Krause, A. J., Simon, E. B., Mander, B. A., Greer, S. M., Saletin, J. M., & Walker, M. P. (2017). The sleep-deprived human brain. *Nature Reviews Neuroscience*, 18(7), 404-418.
- [23]. Kwon, J. Y., Chang, S. J., & Lee, C. U. (2020). The relationship between school start time and sleep duration in elementary school children: An analysis of Korean cohort data. *Sleep Medicine*, 73, 25-31.
- [24]. Lack, L. C., Bailey, M. P., & Lovato, N. (2014). The cognitive benefits of sleep in children. *International Journal of Behavioral Development*, 38(6), 442-449.
- [25]. Landhuis, C. E., Agrawal, A., & Kirchner, H. L. (2018). Longitudinal associations between sleep and college academic performance. *Sleep Health*, 4(4), 322-329.
- [26]. LeBourgeois, M. K., Giannotti, F., Cortesi, F., Wolfson, A. R., & Harsh, J. (2013). The relationship between reported sleep quality and sleep hygiene in Italian and American adolescents. *Pediatrics*, 131(5), e1651-e1659.
- [27]. Lei, X., Sun, X., & Zhou, X. (2015). Effects of sleep on the academic performance of children and adolescents in primary and secondary schools: A systematic review. *Sleep Medicine Reviews*, 21, 71-85.
- [28]. Li, Y., Zeng, Y., Li, H., Sun, Y., Wei, F., Yang, X., & Zhang, J. (2021). Factors associated with sleep efficiency among primary school children in China: A cross-sectional study. *BMC Pediatrics*, 21(1), 1-7.
- [29]. Li, Y., Zeng, Y., Li, H., Sun, Y., Wei, F., Yang, X., & Zhang, J. (2020). Factors associated with sleep duration among primary school children in China: A cross-sectional study. *BMC Pediatrics*, 20(1), 1-7.
- [30]. Li, Y., Zhang, X., & Ren, Q. (2020). Association of screen time with sleep duration and academic performance in Chinese school-aged children. *Sleep Medicine*, 74, 8-13.
- [31]. Liu, X., Liu, J., Wang, Z., Li, Y., Li, J., & Zhang, Q. (2021). The impact of COVID-19 pandemic on sleep quality in elementary school children: A prospective, longitudinal study. *Journal of Clinical Sleep Medicine*, 17(1), 97-104.
- [32]. Lopez, N. L. C., Macalintal-Canlas, R. M., & Gatchalian, E. G. (2018). Sleep, academic achievement, and school-related behavior of Filipino elementary students. *Sleep and Biological Rhythms*, 16(3), 317-323.
- [33]. Luceño, N. V., Pachó, J. O., & Labadan, R. A. (2019). Sleep quality and academic performance among college students in Davao City, Philippines. *Philippine Journal of Psychology*, 52(2), 105-121.
- [34]. Magee, C. A., Gordon, R., Caputi, P., & Iverson, D. C. (2016). Sleep habits of Australian children in middle childhood and the relationship with electronic media use during the evening. *Sleep Medicine*, 19, 109-114.
- [35]. Magee, C. A., Gordon, R., Caputi, P., & Iverson, D. C. (2016). Sleep duration and academic performance among senior high school students in Australia and New Zealand. *Sleep Medicine*, 19, 51-56.
- [36]. Maski, K., Owens, J. A., & Kim, J. (2015). Sleep problems in children with attention-deficit/hyperactivity disorder: Impact of subtype, comorbidity, and stimulant medication. *Journal of Child Neurology*, 30(8), 963-969.
- [37]. Mindell, J. A., Sadeh, A., Kohyama, J., How, T. H., & Goh, D. Y. T. (2015). Parental behaviors and sleep outcomes in infants and toddlers: A cross-cultural comparison. *Sleep Medicine*, 16(1), 84-89.
- [38]. National Sleep Foundation. (2015). National Sleep Foundation sleep diary. Retrieved from <https://www.sleepfoundation.org/sites/default/files/in-line-files/SleepDiaryv6.pdf>
- [39]. Nierengarten, M. B., Delorme, R., & Carotenuto, M. (2020). A family-based sleep hygiene intervention for improved sleep quality and academic performance in elementary school children: An exploratory study. *Sleep and Breathing*, 24(2), 839-846.
- [40]. Polit, D. F., & Beck, C. T. (2017). *Nursing research: Generating and assessing evidence for nursing practice*. Philadelphia, PA: Wolters Kluwer.
- [41]. Reyes, J. A. S., Balbago, L. P., Barrion, M. L. T., & Tongol, M. L. P. (2016). Sleep problems and academic performance among elementary school children in the Philippines. *Philippine Journal of Psychology*, 49(2), 105-122.
- [42]. Sadeh, A., Gruber, R., & Raviv, A. (2015). Sleep, neurobehavioral functioning, and behavior problems in school-age children. *Child Development*, 86(6), 1631-1646.
- [43]. Schumacher, M. M., Holzapfel, S. D., & LaBounty, T. M. (2016). Associations between sleep and academic achievement: A meta-analytic review. *Journal of Educational Psychology*, 108(4), 482-499.
- [44]. Shochat, T., Cohen-Zion, M., Tzischinsky, O., & Bonne, O. (2014). The effects of sleep loss on medical residents' emotional reactions to work events: A cognitive-energy model. *Sleep*, 37(10), 1719-1725.
- [45]. Shochat, T., Cohen-Zion, M., Tzischinsky, O., & Bonne, O. (2017). Cognitive and behavioral impact of sleep disturbances in children. *Journal of Pediatric Psychology*, 42(4), 385-397.

- [46]. Short, M. A., & Gradisar, M. (2012). Lack of sleep leads to increased use of media in adolescents. *Sleep Medicine*, 13(7), 852-858.
- [47]. Short, M. A., Louca, M., & Coussens, S. (2021). Impact of household noise on sleep onset latency in Australian primary school-aged children: A pilot study. *Sleep Health*, 7(2), 151-155.
- [48]. Taras, H., Potts-Datema, W., & Sleep, D. (2017). School start times for elementary school students. *Pediatrics*, 139(3), e20164244.
- [49]. Van den Heuvel, M., & Van Assen, M. A. (2016). A systematic review on the use of secondary data sources for empirical research in management accounting. *Journal of Management Accounting Research*, 28(2), 53-85.
- [50]. Vgontzas, A. N., Zoumakis, E., Bixler, E. O., Lin, H. M., Follett, H., Kales, A., & Chrousos, G. P. (2004). Adverse effects of modest sleep restriction on sleepiness, performance, and inflammatory cytokines. *The Journal of Clinical Endocrinology & Metabolism*, 89(5), 2119-2126.
- [51]. Wang, Y., Li, M., Li, N., Li, J., Li, Y., & Xu, X. (2021). The association between academic stress and sleep quality among Chinese primary school students: A cross-sectional study. *BMC Pediatrics*, 21(1), 1-9.
- [52]. Wolfson, A. R., Carskadon, M. A., Acebo, C., & Seifer, R. (2003). Fall asleep breathing room air: Effects of oximetry and X-ray on sleep. *Sleep*, 26(4), 426-431.
- [53]. Wong, M. L., Lau, E. Y. Y., Wan, J. H. Y., Cheung, S. F., Hui, C. H., & Chan, C. C. H. (2020). The association between digital media use and sleep disturbance among Chinese adolescents during the COVID-19 pandemic. *Journal of Adolescent Health*, 67(4), 514-522.
- [54]. Yeo, S. C., Tan, C. C., & Tan, E. K. (2020). Parental involvement, sleep, and academic performance in Singaporean primary school children. *Sleep and Biological Rhythms*, 18(3), 309-315.
- [55]. Yuan, J., Xin, R., Jiang, W., Wang, Y., Gao, J., & Shang, Y. (2020). Association between sleep behavior and academic performance in primary school students: A cross-sectional study in China. *BMC Pediatrics*, 20(1), 1-7.
- [56]. Zhang, J., Shi, L., Chen, Y., Wang, J., Wang, L., & Liu, G. (2019). The effects of classroom noise on the sleep quality of Chinese elementary school students: A prospective study. *Noise and Health*, 21(99), 79-85.