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SLEEP QUALITY AND ACADEMIC SELF-CONTROL OF CTE STUDENTS

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Abstract:
Sleep quality has been linked to mental and physical wellness, as well as the quality of life of an individual. Academic self-control pertains to a person's self-control behavior patterns in the academic setting. Thus, this study aims to see whether sleep quality can affect the academic self-control of CTE students. The data of this study came from randomly selected 330 CTE students from 1st-year to 4th-year level and was collected using a descriptive correlational design with a quota sampling method. Mean, standard deviation and Pearson's correlation were used as statistical techniques. A Cronbach Alpha was utilized to test the reliability of the data. The study found that the independent variable decreased and the dependent variable increased, which indicated that sleep quality and academic self-control are negatively correlated and have a significant relationship as sleep serves as a resource for recovering from self-control exertion. Having sufficient sleep is conducive to replenishing the individual's capacity for self-regulation, enabling one to manage emotions effectively. Improved quality of sleep has been proposed as a potential modulator for augmenting positive affect and mitigating failures of self-control, which can significantly affect the academic self-control of CTE students.

Keywords: sleep quality, academic self-control, CTE students, Davao City, Philippines

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1. Introduction

Millions of students have encountered the challenge of possessing academic self-control in their education system (UNESCO, 2020). Some students with high cognitive skills still cannot succeed at school and satisfy their responsibilities without using the necessary self-control abilities (Achtziger & Bayer, 2018). It verifies that students' academic life demands self-control (Ministry of National Education, 2017), learning to regulate their behaviors, thoughts, and emotions with maturity (Oriol *et al.*, 2017), and working toward long-term goals that affect different life zones of an individual such as addictions, health, academia, and even psychological well-being (Choi, Lim, Catapano, & Choi, 2018).

The implication of self-control in many life outcomes has triggered the researchers' interest in examining its essence. It is a more significant dependence on daily conventions and worthwhile habits (De Ridder & Gillebaart, 2017) that supports the effort of learners to attain effective and successful academic performance. Self-control determines the goal progress that involves one's life where it has potentially invested with coherence, structure, comprehensibility, and facilitating the perception as meaningful. Teachers control the classroom setting to execute education by explaining challenging courses affecting the student's behavior (Arnesen *et al.*, 2017). These individuals' experiences allow them to be more successful about the matter and delay the short-term pleasure of the desired action (Choi *et al.*, 2018) and pinpoint that the self-control functioning of an adult is somewhat refereed by making better decision-making during adolescence (Moffitt *et al.*, 2011).

Sleep quality is necessary for normal physiological functions and defines one's satisfaction with the sleep experience (Kline, 2013). People encounter several factors that might lead to different outcomes throughout a given period. Weiner's Attribution Theory further explains and agrees with this, stating that each individual perceives an event and connects it to their thinking methods and behavior (Jones *et al.*, 1972; Weiner, 1974). As stated in this theory, there exists causation and correlation between different factors in a college-level student. The result of trait self-control on sleep quality was constant, with direct and indirect impacts on health behavior in other domains (Hagger *et al.*, 2019). One part might increase the adverse effect and diminish self-control capability (Shen *et al.*, 2018). Another piece is that better sleep quality might enrich the positive effect and reduce self-control failure (Sin *et al.*, 2017). The connection between sleep quality and self-control is that it can be positive and opposing effects (Liu *et al.*, 2020) depending on the ability to manage or regulate the engagement and behavior of an individual (Alhola & Polo-Kantola, 2007).

A study identified sleep quality as a perceived threat to proper executive functioning. Student scholastic achievement and psychological functioning are both influenced by sleep quality (Becerra, 2018). The students carried the significance of sleep; according to them, they cannot function properly at school when they lack rest and feel tired (Merenheimo, 2018). People experience fatigue, are easily frustrated and hungry, and experience difficulties when they cannot get enough sleep (Pietrangelo & Watson, 2017). Furthermore, poor sleep quality occurs due to numerous factors, including peer

influence, medical issues, and social, environmental, and biological disturbance (Davis, 2016; Schlarb, 2022; Sue, 2017).

Teachers have long believed self-control is essential for academic success (Galla *et al.*, 2016) and used it to describe a classroom setting. The academic perseverance of students is the ability to carry an ideal goal, accountability, and perseverance upon becoming aware of the challenges and tolerating them. When the student is confronted with an academic problem requiring self-control, the dilemma directs academic attention, which requires self-awareness, concentration, delay satisfaction, and resisting temptations (Büyük *et al.*, 2020). Academic self-practices and sustaining self-control capacity are critical to understanding how this influences an individual and what proper sleep practices maintain replenishment (Pilcher *et al.*, 2015).

Previous studies have primarily focused on sleeping quality and self-control, but they have only sometimes adequately addressed other aspects of sleeping quality and students' academic self-control. This study will examine the context of CTE students' sleeping quality and academic self-control, and factors will be determined. This research would urge that students be adequately informed about what they should and should not do. Students who know what is expected will improve and feel more driven academically. As a result, it is enlightening that additional research would directly examine the relationships at the item and factor levels. Based on our research, people can provide more extensive and precise results on the given matter. Such research will enable any educational program to determine where to focus or what to do to their student's academic success.

The researcher created the study to provide critical information and knowledge to benefit the students, teachers, administrators, and future researchers determined to understand the students' sleep quality and academic self-control. The data could be a guide for the students to create strategies on how to manage themselves and develop skills that could maintain their temperance, self-restraint, and discipline of a person. It could be helpful for teachers, especially the College of Teacher Education Department, to become aware of their students when considering organizing tasks that could affect their sleep quality and academic self-control. To create programs and seminars that address the well-being of the students to make progress. This study may be a basis for forthcoming researchers, who may use it as a reference.

The study objectives are to ascertain the level of sleep quality during daytime dysfunction, restoration after sleep, difficulty falling asleep, difficulty getting up, satisfaction with sleep, and difficulty maintaining sleep. Academic self-control is ascertaining its indicators: academic perseverance and academic attention. Also, this study tests the null hypothesis that no significant relationship exists between sleep quality and academic self-control at a 0.05 significance level.

2. Method

2.1 Research Respondents

The respondents of this study were 330 CTE students currently enrolled in the first semester of s.y. 2022- 2023 at the University of Mindanao. Students not part of the CTE course, specifically those who cross-enrolled and those taking education courses from other branches of the University of Mindanao, Matina, are excluded from the study. The research respondents are free to withdraw at any moment. Participants must notify the research group if they choose to withdraw from the study. Though it is not mandatory, the participant can provide reasons for their decision to stop participating in the study.

The suggested sample size of 330 out of 2,325 CTE students was obtained through the Raosoft sample size calculator with a 5% margin error. The sample size is ideal because 300 is acceptable (Comrey & Lee, 1973). The researchers used the quota sampling method. Quota sampling is a potentially good method for Internet-based analysis (Im *et al.*, 2011). Data collection will continue until the targeted number is reached.

2.2 Research Instruments

The focal instrument is used to collect the data for the survey questionnaire. The research questionnaires were revised to suit the context of the target participants. The modified version of the questionnaire consists of two parts.

Part I describes the sleep quality of the respondents using the development of the sleep quality scale (SQS) (Yi *et al.*, 2006). There are 28 items divided into six factors-daytime dysfunction (12 items), restoration after sleep (4 items), difficulty in falling asleep (4 items), difficulty in getting up (3 items), satisfaction with sleep (3 items), and difficulty in maintaining sleep (2 items).

Part II measures the academic self-control of respondents using the academic self-control scale (ASCS) questionnaire (Büyük *et al.*, 2020). The questionnaire consists of 12 items categorized into academic perseverance (8 items) and academic attention (4 items). Responses are recorded on a five-point Likert-type scale from Strongly Agree to Disagree Strongly.

Sleep quality and academic self-control responses are interpreted based on a scale. The range of means of 1.0-1.79, which has a descriptive equivalent of very low, indicates that sleep quality and academic self-control are far below the expected level and never manifested, respectively. A range of means of 1.80-2.59 suggests that sleep quality and academic self-control are below the desired level and manifested over a long time. The scope of means of 2.60-3.39 has a moderate descriptive equivalent, indicating that sleep quality and academic self-control are demonstrated within the level and manifest occasionally. In the range of means of 3.40-4.19, it has a descriptive equivalent of high, which means that sleep quality and academic self-control are indicated most of the time and manifested to some extent. The means range of 4.20-5.00 shows that sleep quality and academic self-control are consistently demonstrated and displayed to a great extent.

Three professionals validated the questionnaire, with an average mean of 4.87. This category displays how appropriate the items related to the research objectives are.

The pilot testing verified the internal consistency reliability, resulting in a Cronbach alpha coefficient value of .935, which means the questionnaire is reliable.

2.3 Design and Procedure

The study uses a descriptive correlational design that examines the relationship between variables without allowing the researcher to control or manipulate anything. It measures the direction of the relationship between two or more variables, which can be either positive or negative, as claimed (Bandhari, 2021). In addition, descriptive correlational forecasts future events based on current knowledge. Furthermore, the design is appropriate as the researcher pursued to determine the association between two variables, the students' sleep quality and academic self-control.

In conducting this study, the researcher would seek permission to conduct the study by submitting a formal letter to the research adviser, research coordinator, the college dean, and the participants. The researchers administered the modified questionnaire to the respondents in both ways. First, via online Google forms, this was sent through direct and group chats in Messenger. Second, we proceed to distribute the questionnaire face-to-face inside the campus physically. As we do the room-to-room distribution, we humbly ask permission from the assigned professors. After completing the survey, the researchers retrieved the responses. The gathered data were tabulated and subjected to statistical analysis under the supervision of the school's statistician using Mean, SD, and Pearson's r. The researchers ensure the confidentiality of the respondents' information during the study. Ultimately, we analyzed the results and formulated conclusions and recommendations.

3. Results and Discussion

This study section consists of a report of the researcher's results and an examination of the data collected during the research process. The study adopted a quantitative approach to generate and analyze the sleep quality and academic self-control of CTE students.

3.1 Levels of Sleep Quality of CTE Students

Presented in Table 1 is the Level of Sleep Quality of the CTE students of the University of Mindanao. The results in Table 1 show that the overall mean for sleep quality of CTE students is 2.00 with a standard deviation of .54, which indicates that the level of the respondent's sleep quality is below the expected level. This table has corresponding indicators. Satisfaction with sleep had a value of m=2.11 and SD=.83, daytime dysfunction with a value of m=2.07 and SD=.76, and difficulty in falling asleep with a value of m=2.07 and SD=.68 gained a very high score. Meanwhile, restoration after sleep with a value of 1.82 and SD=.65, difficulty in getting up with a value of m=1.96 and SD=.76, and difficulty in maintaining sleep with a value of m=1.97 and SD=.81 gained the lowest score.

Table 1: Levels of Sleep Quality of CTE Students

Indicator	Mean	SD
Daytime dysfunction	2.07	.68
Restoration after sleep	1.82	.65
Difficulty in falling asleep	2.07	.76
Difficulty in getting up	1.96	.76
Satisfaction with sleep	2.11	.83
Difficulty in maintaining sleep	1.97	.81
Overall	**2.00**	**.54**

The results indicate that sleeping quality is only demonstrated at some times, which can affect the academic self-control of CTE students. This connection is closely intertwined with the efficacy and lack of self-control and its effect on an individual's physical and mental wellness where concerning the results unveiled by the investigation (Liu *et al.*, 2020). The influence of sleep quality on self-control can be delineated into two distinct pathways. The first pathway posits that sleep deprivation could negatively affect, diminishing an individual's self-control efficacy. The second pathway suggests that sleep quality may enhance self-control capabilities. The initial phase is consistent with the correlation between sleep quality and adverse effects. This elicits a strengthened prevalence of negative mood, while deteriorated sleep quality exacerbates adverse effects (Shen *et al.*, 2018).

The deprivation of sleep and the presence of poor sleep quality are known to have detrimental impacts on an individual's capacity to handle stressful situations, thus promoting the probability of a breakdown in self-regulation is not acceptable (Chester, Lynam, Milich, Powell, Andersen, & DeWall, 2016) since sleep quality in response to external stimuli relative to the walking state (Kaplan & Sadock, 1988) and sleep health is essential for overall well-being (Grandner, 2020).

3.2 Levels of Academic Self-Control of CTE Students

Presented in Table 2 is the Level of Academic Self-Control of the CTE students of the University of Mindanao. It shows two indicators: Academic Perseverance and Academic Attention. Academic self-control has an overall weighted mean score of 3.49 and (SD=1.64), which implies it manifested to some extent. For the indicators, Academic Perseverance has the highest mean of 4.21 (SD=3.02), which indicates that the academic perseverance of CTE students manifests all the time. Heeded by academic attention, it got the mean of 2.78 (SD=1.16), showing academic self-control students manifested occasionally.

Table 2: Levels of Academic Self-Control of CTE Students

Indicator	Mean	SD
Academic Perseverance	4.21	3.02
Academic Attention	2.78	1.16
Overall	**3.49**	**1.64**

These results portray that although there are hindrances and negativity in the academic performance of CTE students, most students control their actions, thoughts, and emotions, creating positive demand statements to manipulate tension and struggle against academic problems. These results were supported by the study of Ent, Baumeister, & Tice (2015), who state that self-control is not solely controlling one's desire and temptation, but one should also take action to follow one's goal. When students perform academic demands and targets, such as lessons, examinations, or group homework, they must be attentive, persistent, and conscious of distractions. This learned skill is a practice that makes itself effortful for self-control (Galla *et al.*, 2016).

When the student displays a distinct innate preference to persist, strive, and engage in a task that runs over time and in different situations in academic outcomes, particularly for students facing challenging problems, this mindset can promote academic resilience and achievement (Blackwell *et al.*, 2007; Yeager & Dweck, 2012) that begin to perform a learning task and capacity to self-control and prioritize attention to the study (Duckworth & Seligman, 2017).

3.3 Relationship between the Sleep Quality and Academic Self-Control of CTE Students

Table 3 shows the relationship between Sleep Quality and Academic Self-control using the reverse code. As it was interpreted, the results indicated that sleep quality and academic self-control are negatively correlated based on the r-value of -.144. It means that if one variable increases, the other variable decreases. The calculated p-value is .009, less than 0.05, implying that sufficient evidence is obtained to reject the null hypothesis. Thus, it means a significant relationship exists between the sleep quality and academic self-control of CTE students. It portrays that students can somehow possess self-control in their academic performances despite having poor sleep quality and being sleep deprived, guaranteeing them to pull themselves up and do better.

Table 3: Relationship between Sleep Quality and Academic Self-Control of CTE Students

Academic self-control	Daytime dysfunction	Restoration after sleep	Difficulty in falling asleep	Difficulty in getting up	Satisfaction with sleep	Difficulty in maintaining sleep	Overall
Academic perseverance	-.066	.036	-.087	-0.069	-.101	-.100	-.144**
Academic attention	-.045	-.021	-.123*	-0.030	-.155	-.168	-.144**

Generally, the result further supports the studies' consensus that the relationship between sleep quality and self-control hangs on a tight balance. Such studies stated that a higher level of negative effect is predicted by poorer sleep. Positive affect is predicted with adequate sleep (Shen *et al.*, 2018; Sin *et al.*, 2017). This is in contrast to the findings of this study, wherein it can be interpreted that if a student perceives his/her sleep quality to be poor, his/her academic self-control experiences an opposing effect. It is supported by the explanation of Liu (2020) in the attribution theory that the effect of sleep quality

and academic self-control can be either both positive or negative depending on how students manage and regulate themselves.

4. Conclusion and Recommendation

4.1 Conclusion

Upon mentioning the complex relationship between academic self-control and sleep quality above, it found a relationship between two variables. The study results showed that if a student has a high level of sleep quality, his or her academic self-control levels experience a decline, or if the student has poor sleep quality, it cannot affect the academic self-control of an individual since based on the Weiner's Attribution Theory and Liu study and its methods there is causation and correlation between two variables. It informed that sleep quality and academic self-control could be positive and negative. Hence, the effects were negatively correlated, indicating the sleep quality below the unexpected level while the academic self-control of CTE students manifested to some extent.

4.2 Recommendations

Based on the study and results, we recommend the following: for teachers, they have to provide consultation focusing on the students' sleep management or academic self-management. Students have a day-to-day schedule, interventions, or planner and set a bedtime that helps them gain 7-8 hours of sleep, as it is the most significant need according to the hierarchy of human needs. And lastly, for future researchers, adding external factors, such as different academic schedules and student subject loads, are added. Intrinsic factors such as sleep schedule, sleep-related disorders such as insomnia, caffeine intake, and daily exposure to gadgets should also be included. As well as to conduct a qualitative study to dig further and gain a broader range of perspectives and direct experiences of the students regarding their sleep and self-control, as each factor may be rooted in another.

Conflict of Interest Statement

The authors declare no conflicts of interest.

References

Achtziger, A., & Bayer, U. C. (2018). Self-control mediates the link between gender and academic achievement in sex-stereotyped school subjects in elementary and higher secondary schools. *Current Psychology, 37*, 1-13. https://doi.org/10.1007/s12144-018-9867-x

Alhola P. & Polo-Kantola P. (2007). Sleep deprivation: Impact on cognitive performance. 3(5): 553–567. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2656292/

Arnesen, T., Elstad, E., & Christophersen, T. A. (2017). How Finnish and Swedish learners' academic self-control relates to time spent online in class, perceptions of educator qualities, and school appreciation: A cross-sectional comparison. *Educational Science, 7*, 68. https://doi.org/10.3390/educsci7030068

Barber, L., Grawitch, M. J., & Munz, D. C. (2013). Are better sleepers more engaged workers? A self-regulatory approach to sleep hygiene and work engagement. *Stress and health: Journal of the International Society for the Investigation of Stress, 29*(4), 307–316. https://doi.org/10.1002/smi.2468

Bhandari, P. (2021). An Introduction to Correlational Research. Scribbr. Retrieved from https://www.scribbr.com/methodology/correlational-research/

Barber L. K., Munz D. C., Bagsby P. G., Powell E. D. (2010). Sleep consistency and sufficiency: are both necessary for less psychological strain? *Stress Health 26*, 186–193 https://doi.org/10.1002/smi.1292

Becerra, M. B., Bol, B. S., Granados, R., & Hassija, C. (2018). Sleepless in school: The role of social determinants of sleep Health among college students. *Journal of American College Health 68*(2):185-191 https://doi.org/10.1080/07448481.2018.1538148

Benitez, A., & Gunstad, J. (2012). Poor sleep quality diminishes cognitive functioning independent of depression and anxiety in healthy young adults. *The Clinical Neuropsychologist, 26*(2), 214-223. https://pubmed.ncbi.nlm.nih.gov/22335237/

Blackwell, L., Trzesniewski, K., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal research. Retrieved from https://research.avondale.edu.au/cgi/viewcontent.cgi?article=139&context=teach

Büyük, H., Öğülmüş, S., & Kapçı, E.G., (2020). Academic self-control scale for secondary school students: Validity and reliability study. *Turkish Journal of Education, 9*(4), 290-306. http://dx.doi.org/10.19128/turje.778117

Chester, D. S., Lynam, D. R., Milich, R., Powell, D. K., Andersen, A. H., and DeWall, C. N. (2016). How do negative emotions impair self-control? A neural model of negative urgency. *Neuroimage 132*, 43–50. https://doi.org/10.1016/j.neuroimage.2016.02.024

Choi, I., Lim, S., Catapano, R., and Choi, J. (2018). Comparing two roads to success: self-control predicts achievement and positive affect predicts relationships. *J. Res. Personal. 76*, 50–63. https://doi.org/10.1016/j.jrp.2018.07.001

Comrey, A.L., & Lee, H.B. (1973). A first course in factor analysis. Academic Press. Retrieved from https://www.taylorfrancis.com/books/mono/10.4324/9781315827506/first-course-factor-analysis-andrew-comrey-howard-lee

Davis, K. (2016). Sleep deprivation: Causes, symptoms, and treatment. Medical News Today. Accessed 21.8.2017. Retrieved from http://www.medicalnewstoday.com/articles/ 307334.php

De Ridder, D., & Gillebaart, M. (2017). Lessons learned from trait self-control in well-being: Making the case for routines and initiation as important components of trait

self-control. *Health Psychology Review*, 11, 8999 Retrieved from https://www.tandfonline.com/doi/full/10.1080/15298868.2018.1558107

de Ridder, D., Kroese, F., & Gillebaart, M. (2018). Whatever happened to self-control? A proposal for integrating notions from trait self-control studies into state self-control research. Motivation Science, 4(1), 39–49. https://doi.org/10.1037/mot0000062

Ent M. R., Baumeister R. F., Tice D. M. (2015). Trait self-control and the avoidance of temptation. Personal. *Individ. Differ. 74*:12–15. Retrieved from https://www.msrlab.pitt.edu/ wp-content/uploads/2018/07/Duckworth 2019-Self-control-andacademicachi e.pdf

Galla B. M, Baelen R. N., Duckworth A. L., Baime M. J. (2016). Mindfulness, meet self-regulation: boosting out-of-class meditation practice with brief action plans. *Motiv. Sci. 2*:220–37. Retrieved from https://www.msrlab.pitt.edu/wp-content/uploads/2018/07/Duckworth-2019-Self-control-and-academic-achie.pdf

Grandner, M.A. (2020). Sleep, Health, and Society. *Sleep Med. Clin.* 15(2):319- 340. doi:10.1016/j.jsmc.2020.02.017.

Hagger, M., Hankonen, N., Kangro, E.-M., Lintunen, T., Pagaduan, J., Polet, J.& Hamilton, K. (2019). Trait self-control, social cognition constructs, and intentions: Correlational Evidence for Mediation and Moderation Effects in Diverse Health Behaviours. *Applied Psychology: Health and Well, Being, 11*(3), 407-437. https://doi.org/10.1111/aphw.12153

Im, Eun-Ok; Chee, Wonshik (2011). Retrieved from https://www.science.gov/topicpages/f/face+quota+sampling

Morristown, NJ: General Learning Press. Retrieved from https://www.instructionaldesign.org/theories/attribution-theory/

Kaplan, H. I. and Sadock, B. J. Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry, 5th ed. Williams & Wilkins, Baltimore, (1988) https://doi.org/10.1111/j.1365-2869.2006.00544.x

Kennett, D. J., & Keefer, K. (2006). Impact of learned resourcefulness and Theories of Intelligence on academic achievement of university students: An integrated approach. *Educational Psychology, pp. 26,* 441–457. http://dx.doi.org/10.1080/01443410500342062

Kline, C. (2013). Sleep quality. In M. D. Gellman & J. R. Turner (Eds.), Encyclopedia of Behavioral Medicine (pp.1811–1813). Springer. https://doi.org/10.1007/978-1-4419-1005–9849

Marcotte, A. C., Thacher, P. V., Butters, M., Bortz, J., Acebo, C., & Carskadon, M. A. (1998). Parental Report of Sleep Problems in Children with Attentional and Learning Disorders. *Journal of Developmental & Behavioral Pediatrics, 19*(3), 178-186. https://doi.org/10.1097/00004703-199806000-00005

Merenheimo, H. (2018). A study about students' sleeping habits. Retrieved from https://www.theseus.fi/handle/10024/152508

Ministry of National Education (2017). Press briefing report of Council on Education and Training. Ankara: Author. Retrieved from

http://ttkb.meb.gov.tr/meb_iys_dosyalar/2017_07/18160003_basin_aciklamasi program.pdf

Moffitt T. E. *et al.* (2011). A gradient of childhood self-control predicts health, wealth, and public safety. ProcNatl Acad Sci USA 108:2693–2698. https://doi.org/10.1073/pnas.1010076108

Moffitt, T.E, Arseneault, L., Belsky, D., Dickson, N., Hancox, R.J., Harrington, H., Houts, R., Poulton, R., Roberts, B.W., Ross, S., Sears, M.R., Thomson, W.M. & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety, Proceedings of the National Academy of Sciences of the United States of America, vol. 108, no. 7, pp.2693-2698. https://doi.org/10.1073/pnas.1010076108

Oriol, X., Miranda, R., Oyanedel, J. C., & Torres, J. (2017). The role of self-control and grit in domains of school success in students of primary and secondary school. *Frontier Psychology, 8:*1716. https://doi.org/10.3389/fpsyg.2017.01716

Pietrangelo, A. & Watson, S. (2017). The effects of sleep deprivation on your body. *Healthline. 5.6.* 2017. Accessed 21.8.2017 http://www.healthline.com/health/ sleepdeprivation/effects-on-body

Pilcher, J. J., Morris, D. M., Donnelly, J., & Feigl, H. B. (2015). Interactions between sleep habits and self-control. *Frontiers in Human Neuroscience, 9.* https://doi.org/10.3389/fnhum.2015.00284

Schlarb, A., Friedrich, A., Claßen, M., (2022). Sleep problems in university students–an intervention. Retrieved from https://www.tandfonline.com/doi/full/10.2147/NDT. S142067

Shen, L., van Schie, J., Ditchburn, G., Brook, L., and Bei, B. (2018). Positive and negative emotions: differential associations with sleep duration and quality in adolescents. *J. Youth Adolesc. 47*, 2584–2595. https://link.springer.com/article/10.1007/s10964-018-0899-1

Sin, N. L., Almeida, D. M., Crain, T. L., Kossek, E. E., Berkman, L. F., and Buxton, O. M. (2017). Bidirectional, temporal associations of sleep with positive events, affect, and stressors in daily life across a week. *Ann. Behav. Med. 51,* 402–415. https://doi.org/10.1007/s12160-016-9864-y

Sue, K., Willfor, D., Vaccaro, A., *et al.* (2017). The young and the restless: Socializing trumps sleep, fear of missing out, and technological distractions in first-year college students. Retrieved from https://www.tandfonline.com/doi/full/10.1080/02673843.2016.1181557

UNESCO. (2020). COVID-19 educational disruption and response. Retrieved from https://en.unesco.org/covid19/educationresponse.

Weiner, B. (1974). Achievement motivation and attribution theory. Morristown, N.J.: General Learning Press. Retrieved from https://www.instructionaldesign.org/theories/ attribution-theory/

Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist, 47*(4), 302314. https://research.avondale.edu.au/ cgi/viewcontent.cgi?article=1396&context=teach

Yi H, Shin K, Shin C. (2006). Development of Sleep Quality Scale. J Sleep Res; 15:309–316. https://doi.org/10.1111/j.1365-2869.2006.00544.x