

0.42, $p = 0.04$ and $b = -0.46$, $p = 0.04$, respectively). There were other variables that were found to be significantly correlated; however, after adjusting for relevant demographic variables (age, education, sex), the hierarchical regression analyses revealed no association between the aforementioned variables.

Conclusions: While multiple aspects of sleep quality were expected to influence measures of attention and learning, only PSQI Component 6 was found to be statistically significantly associated with only two learning variables. Limitations of this study included a small sample size which was limited to cognitive and relatively physically healthy middle-aged adults. Further, sleep quality was measured with one subjective measure and no objective data was collected to support the hypotheses. Future analysis is needed to continue to explore the relation between subjective sleep quality and cognitive outcomes. As this is an ongoing study, we look forward to exploring this research question in more detail as the study progresses.

Categories: Sleep and Sleep Disorders

Keyword 1: sleep

Keyword 2: learning

Keyword 3: attention

Correspondence: Jennifer L Thompson, University of Maine, jennifer.l.thompson1@maine.edu

72 Somatization and Headaches in people with insomnia during the COVID-19 Pandemic: the benefit of exercise.

Kymberly Henderson-Arredondo, Samantha Jankowski, Emmett Suckow, Shivani Desai, Melissa Reich-Fuehrer, Lindsey Hildebrand, William D.S. Killgore
SCAN Lab, University of Arizona, Tucson, Az, USA

Objective: Stress is well known to increase the severity of somatization and insomnia. A recent major stressor that could have influenced the severity of these presentations was world-wide COVID-19 Pandemic. Somatization is the physical expression of stress and emotional distress that can manifest itself throughout various corporal domains and can be a comorbidity to insomnia. Headaches represent

some of the most common complaints associated with brain injuries and neurological disorders but are common in somatized disorders as well. In large survey study we examined whether exercise was associated with severity of somatization and headaches. We hypothesized that both healthy individuals and those with insomnia who exercised during the pandemic would report less severe somatic symptoms and headaches than those who did not.

Participants and Methods: A large survey was sent out to 4,073 individuals to measure their experience in numerous domains during the COVID-19 pandemic. This survey included a short symptom questionnaire used to measure somatization and the Insomnia Scale Index to measure insomnia. These questionnaires were administered along with a “yes or no” question on whether the participants exercised regularly in that period. A univariate ANOVA was performed to analyze the data to determine if exercise during the pandemic was beneficial in the reduction of somatic symptoms and headache severity. Furthermore, these tests were run to determine if the effect was greater on those with insomnia.

Results: The effect of insomnia and exercise on total somatic symptoms were significant at $F(1, 3445)=650.5$, $p<0.001$ and $F(1, 3445)=26.1$, $p<0.001$, respectively. For reported headache severity, there was a significant effect of exercise $F(1, 4073)=14.5$, $p<0.001$ and insomnia $F(1, 4073)=160.5$, $p<0.001$; therefore, those who exercised reported less severe headaches and those who suffered from insomnia reported more severe somatic symptoms. This meant that those who exercised reported less severe somatization and headaches than those who didn't and those with insomnia reported more severe somatization and headaches than healthy individuals. However, the interaction between exercise and insomnia on overall somatization severity was not significant at $F(1, 3445)=3.4$, $p=0.066$ nor for reported headache severity $F(1, 4073)=0.81$, $p=0.370$. Despite there not being a significant interaction, the benefit of exercise was slightly greater on healthy individuals than those with insomnia.

Conclusions: Those with insomnia reported more severe headaches and overall somatic symptoms than non-insomniacs regardless of whether they exercised or not. Exercise did make a difference on the reported severity of headaches and somatization in both groups; however, the benefit of exercise on headaches

and somatization was greater in individuals who do not suffer from insomnia. Thus, exercise was noted to be beneficial to those in the general population and those suffering from insomnia as it can potentially reduce the severity of somatization and headaches. Of course, this research was cross sectional and correlational, so the directionality of the effects cannot be inferred. For future research, it would be instrumental to use experimental methods to help determine the duration and type of exercise that may optimize its potential benefits on headaches and somatic symptoms.

Categories: Sleep and Sleep Disorders

Keyword 1: sleep disorders

Correspondence: Kymberly Henderson-Arredondo, University of Arizona SCAN Lab, kymhenderson@arizona.edu

73 Changes in Sleep Negatively Impacts Next Day Inhibition Performance Among College Females

Laura M Nicholson¹, Diana Ohanian², Amy Egbert³, Becky Silton⁴, Amy Bohnert⁴

¹NorthShore University HealthSystem, Evanston, IL, USA. ²University of Michigan: Physical Medicine and Rehabilitation, Ann Arbor, MI, USA. ³University of Connecticut, Mansfield, CT, USA. ⁴Loyola University, Chicago, IL, USA

Objective: Sleep is a restorative function that supports various aspects of well-being, including cognitive function. College students, especially females, report getting less sleep than recommended and report more irregular sleep patterns than their male counterparts. Inadequate and irregular sleep are associated with neuropsychological deficits including more impulsive responding in lab-based tasks. Although many lab-based experiments ask participants to report their sleep patterns, few studies have analyzed how potential changes in sleep affect their findings. Utilizing data from a previously collected study, this study aims to investigate relations between sleep (i.e., sleep duration and changes in sleep duration) and performance-based measures of inhibition among female college students.

Participants and Methods: Participants ($n = 39$) were majority first-year students ($M_{\text{age}} =$

19.27) and Caucasian (51%). Participants were recruited to participate in a larger study exploring how food commercials affect inhibitory control. Participants were randomized to each study condition (watching a food or non-food commercial) over two visits to the lab (T1 and T2). During both visits, they completed questionnaires asking about their 1) sleep duration the night before and 2) their “typical” sleep duration to capture *changes* in sleep duration. They also completed a computer-based stop signal task (SST) which required them to correctly identify healthy food images (stop signal accuracy [SSA] healthy) and unhealthy food images (SSA unhealthy) while inhibiting their response during a stop signal delay (SSD) which became increasingly more difficult (or delayed) as they successfully progressed. Since the main aim of the study was to explore the impact of sleep, analyses controlled for study condition. Analyses involving changes in sleep also accounted for sleep duration the night before the study visit.

Results: On average, students reported being under slept the night before the lab visit, reporting that they got 38 minutes less sleep than their “typical” sleep (7 hrs 3 min). Hierarchical regression analyses demonstrated that sleep duration the night before the lab visit was not associated with inhibition (i.e., SSA unhealthy, SSA healthy, SSD). In contrast, a greater change in sleep, or getting less sleep than “typical,” was associated with worsened inhibition across inhibition variables (SSA healthy, SSA unhealthy, SSD) above and beyond sleep duration at T1. At T2, only one analysis remained significant, such that getting less sleep than “typical” was associated with lower accuracy of appropriately identifying unhealthy images (SSA unhealthy) whereas other analyses only approached statistical significance.

Conclusions: These findings suggest that changes in sleep, or getting less sleep than typical, may impact inhibition performance measured in a lab, even when accounting for how much sleep they got the night before. Specifically, getting less sleep than typical was associated with reduced accuracy in selecting unhealthy images, a finding that was consistent across two visits to the lab. These preliminary findings offer opportunities for lab-based experiments to investigate the role of sleep when measuring inhibition performance. Further, clinicians conducting neuropsychological assessments in clinical settings may benefit