Madison Billingsly

Green Ridge, MO

<div align="right">Senior
Biological Sciences</div>

Discrepancy in Self-Report and Actigraphic Measures of Sleep among Heavy-Drinking Young Adults

Madison R. Billingsley, Nicole A. Hall, and Mary Beth Miller

Objective: Studies have shown a discrepancy between objective and subjective sleep measures in a variety of populations. This study examined the relationship between objective and subjective sleep measures to determine (a) if this discrepancy exists for heavy drinkers with insomnia and (b) if heavier drinking was associated with greater discrepancy.

Method: Sixty heavy drinking participants with insomnia (15% Veteran, 35% male) filled out daily sleep diaries and also wore an actigraphy watch in order to obtain both objective and subjective measures of sleep. Average sleep efficiency (SE), wake-after-sleep-onset (WASO), and sleep onset latency (SOL) were determined for each participant over a 7-day period using both objective and subjective measures.

Results: Paired samples t-tests showed a significant difference between dairy (M=22.40, SD=18.78) and actigraphy (M=47.50, SD=17.44) WASO scores, $t(59)=-7.10$, $p<.001$. A significant difference was also present between diary (M=88.45, SD=6.33) and actigraphy (M=77.44, SD=6.45) SE scores, $t(59)=9.22$, $p<.001$. A non-significant difference was found between diary (M=40.51, SD=25.23) and actigraphy (M=48.14, SD=29.03) SOL scores, $t(59)=-1.627$, $p=.11$. Given the discrepancy between objective and subjective measures of sleep disturbance, linear regression was utilized to determine if level of alcohol consumption was associated with discrepancy in sleep efficiency, controlling for Veteran status and participant sex. The overall regression model was not a significant, $F(3,56)=0.70$, $p=.56$; and alcohol consumption was not a significant predictor within the model, B=0.10, SE=0.92, $p=.92$.

Conclusion: Heavy-drinking young adults with insomnia tend to underestimate the amount of time that they are awake in the middle of the night and overestimate the efficiency of their sleep. However, these discrepancies are not explained by the amount of alcohol that they consume. Given the restricted range of drinking in this sample, future studies may determine if alcohol use predicts sleep discrepancy in samples that also include non-drinking and lighter-drinking participants.