**SLEEP HYGIENE MEDIATES THE RELATIONSHIP BETWEEN DEPRESSION AND SLEEP QUALITY IN COLLEGE FRESHMAN**

**Introduction:** A variety of attitudes, behaviors, and health attributes can influence sleep quality. Depression and sleep quality interact bidirectionally, with depressed individuals often sleeping worse. College freshman may be prone to worse sleep and depression due to significant lifestyle changes, including sleep hygiene (a set of behaviors and conditions promoting sleep). This study sought to examine the relationship between sleep hygiene and depression in predicting sleep quality in first-year college students.

**Methods:** 165 participants were recruited to investigate sleep behaviors associated with stress, mental health, physical activity, and eating as they entered college. Data were recorded using the Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989), the Sleep Hygiene Practice Scale (SHPS; Lin et al., 2007; Yang et al., 2010) and the Center for Epidemiological Studies-Depression (CESD; Radloff, 1977). A simple mediation analysis was run using the PROCESS macro for SPSS (Model 4; Hayes, 2018) with age and gender as covariates to examine direct and indirect associations of depression on sleep quality via sleep hygiene practices.

**Results:** In the model predicting sleep hygiene (R² = .33, p < .001), depression had a significant effect (b = 1.90, p < .001), suggesting individuals scoring higher for depression engaged in more unhealthy sleep hygiene behaviors. The model predicting sleep quality (R² = .47, p < .001) had significant effects from depression (b = .11, p = .005) and sleep hygiene (b = .09, p < .001) suggesting both higher depression scores and poor sleep hygiene behaviors associate with worse sleep quality. The indirect pathway was also significant (b = .17, CI: .11 - .24), suggesting depression’s impact on sleep hygiene behaviors also contributes to sleep quality.

**Conclusion:** One connection between depression and reduced sleep quality may be indirect via maladaptive sleep hygiene. Future research should look at addressing mental health with incoming students and promoting healthy lifestyle behaviors.

**Support (If Any):** NIMH R21 MH102412.

**SLEEP DISTURBANCE IS ASSOCIATED WITH DYSREGULATION OF POSITIVE AND NEGATIVE AFFECT SYSTEMS**

**Introduction:** Sleep disturbance is a risk factor for the development of mood disorders and up to 90% of mood disorder patients report sleep problems. However, the neural mechanisms by which poor sleep contributes to mood disorders are not well understood. We investigated whether sleep disturbance was associated with dysregulation of positive and negative affect systems, including passive reactivity and active emotion regulation.

**Methods:** Participants (n=55, Mage=24.4 years, 53% female) selected for high, medium, and low scores on the PROMIS Sleep Disturbance scale completed a cognitive reappraisal task in an fMRI scanner. Participants were presented with International Affective Picture Stimuli (30 positive, 30 negative, 15 neutral) and were instructed to either passively view or actively up- or down-regulate their emotional experience. We tested five conditions: view-positive, upregulate-positive, view-negative, downregulate-negative, view-neutral. Participants also completed objective (i.e., 7-day actigraphy) and self-report (i.e., Insomnia Severity Index [ISI]) measures of sleep prior to the scan. Analyses in AFNI were constrained within an emotion regulation network, identified using a Neurosynth mask, and treated as a single region of interest. Voxelwise (puncorr<.005) and clusterwise thresholds (p<.05) were used to correct for multiple comparisons.

**Results:** Actigraphy-assessed sleep duration was associated with supplementary motor area (SMA) activity when upregulating positive affect relative to passively viewing positive images (k=44 voxels, clusterwise p=.04); participants who slept less showed greater SMA activity. ISI score was marginally associated with dorsolateral prefrontal cortex (dlPFC) activity when downregulating negative affect relative to an implicit baseline (k=30 voxels, clusterwise p=.10); individuals with greater insomnia severity showed more dlPFC activity. PROMIS Sleep Disturbance showed no significant associations.

**Conclusion:** Markers of poor sleep (i.e., lower sleep duration, greater insomnia severity) were associated with heightened SMA and dlPFC activity during cognitive reappraisal. This may suggest inefficiency in modulating positive affect via verbal and motor processes (i.e., SMA) and negative affect via cognitive control (i.e., dlPFC). Alternatively, individuals with poor sleep may have greater emotional reactivity to modulate. Mood disorders are commonly associated with increased negative affect and blunted positive affect. Our findings suggest a plausible neural substrate for how sleep disturbance contributes to dysregulation of these systems.

**Support (If Any):** NA