

Self-reported anxiety as a predictor of pre-sleep cognitive arousal and insomnia.

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Introduction

It is estimated that over half of US adults experience insomnia at least a few nights a week and it is a problem reported more frequently by women than men. Additionally, Americans report fewer hours of sleep than individuals in the neighboring countries of Mexico and Canada. Given the deleterious mental and physical effects of inadequate sleep, it is important to examine factors that might contribute to insomnia. The purpose of our study was to examine whether self-reported anxiety is associated with pre-sleep cognitive arousal (racing thoughts) and insomnia.

Methods

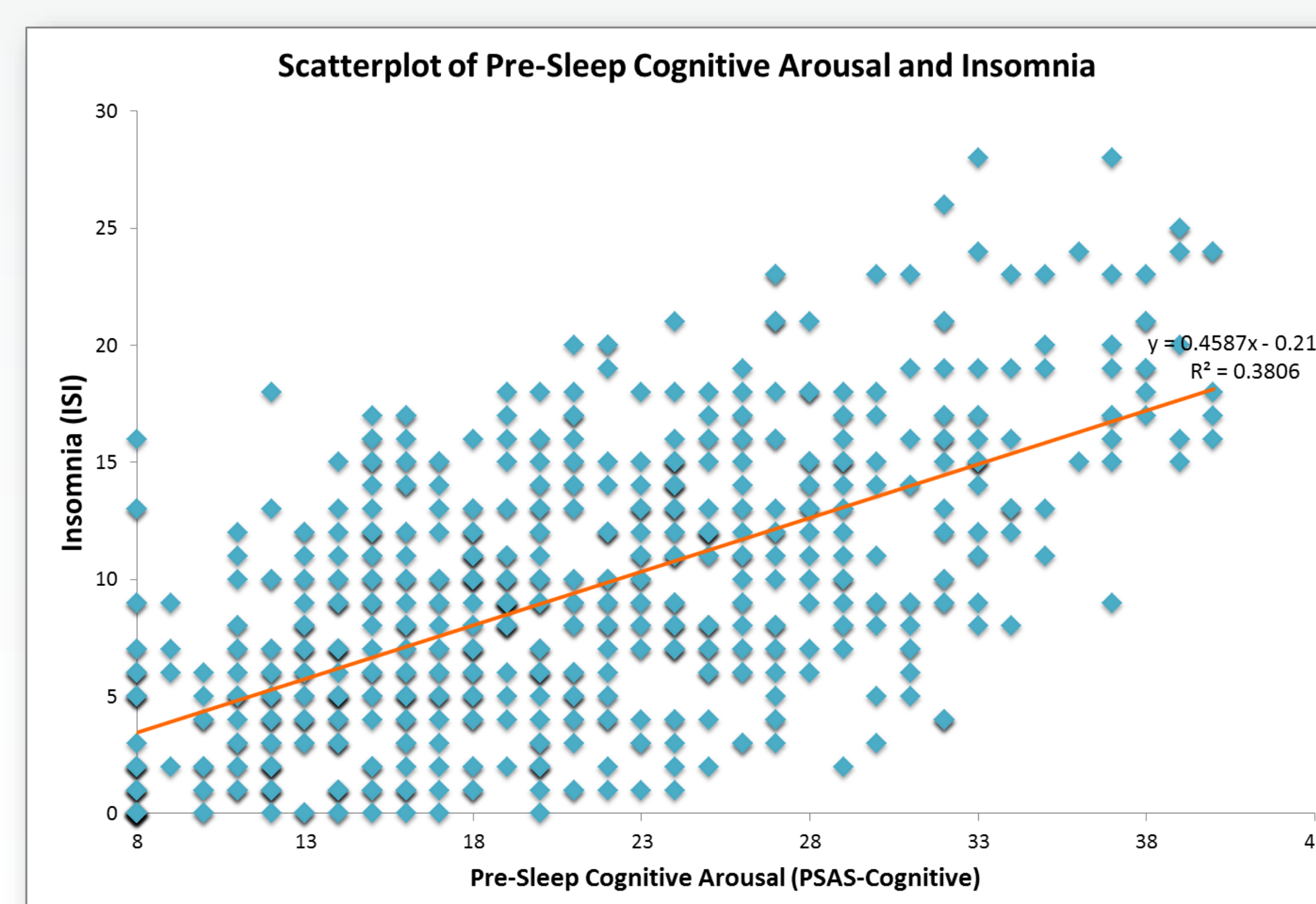
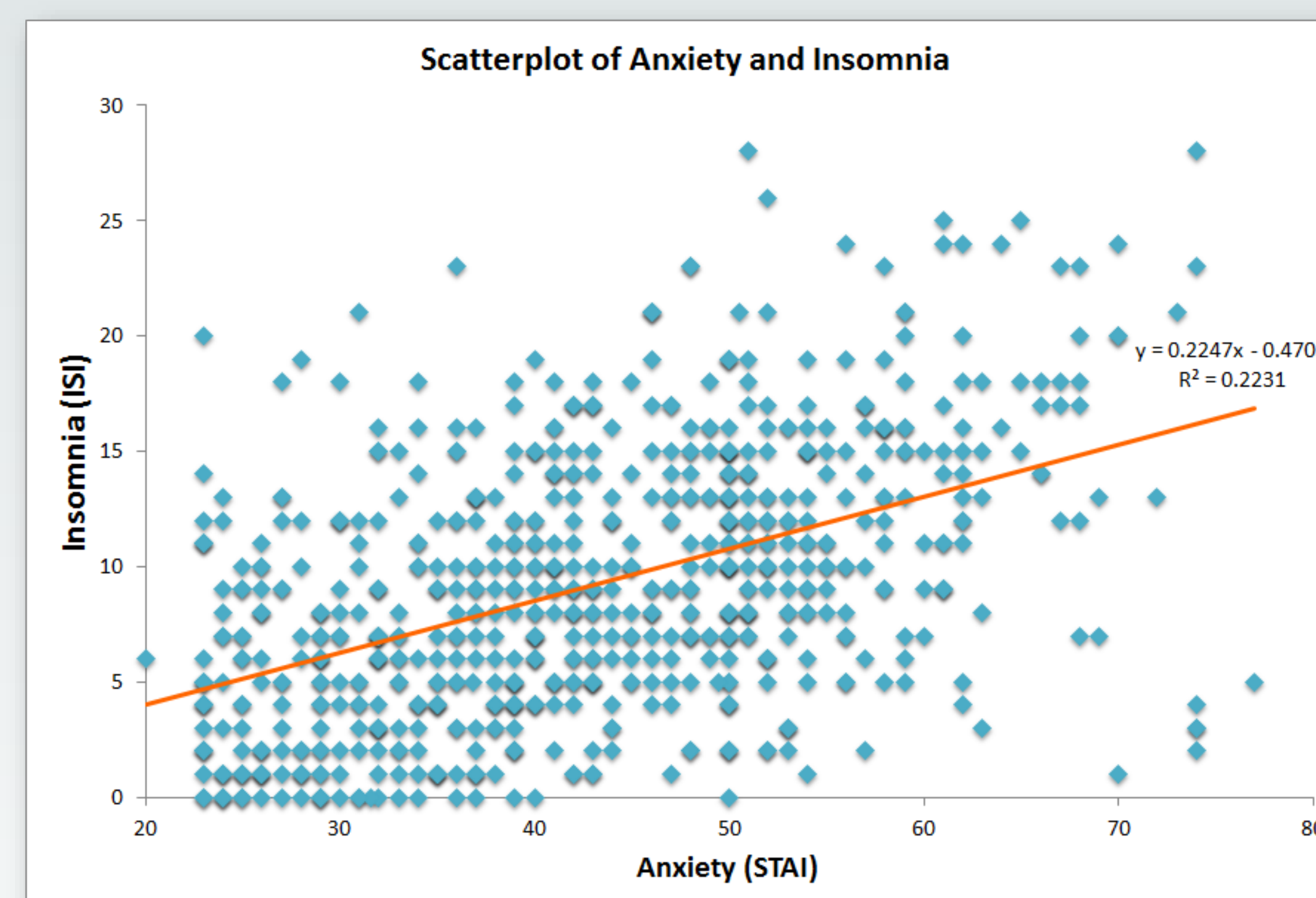
Seven hundred and forty-seven undergraduates completed an online survey that included demographic questions as well as self-reported anxiety, pre-sleep cognitive arousal, and insomnia measures. The participants were recruited on a voluntary basis through class announcements and social media.

Anxiety was assessed using the twenty-item State-Trait Anxiety Inventory (STAI), insomnia was measured with the seven-item Insomnia Severity Index (ISI), and pre-sleep arousal was evaluated using the eight-item cognitive sub-scale of the Pre-Sleep Arousal Scale (PSAS-cognitive).

The majority of participants classified themselves as Hispanic (92%) and seventy-five percent of the participants were female. The age range of the undergraduates that participated was 18-56 years old ($M=23.2$).

Results

Associations were examined using the Pearson Product-Moment Correlation Coefficient (Pearson's R.). We specified directional hypotheses, predicting that anxiety would be associated with greater pre-sleep cognitive arousal (racing thoughts) and greater insomnia. and therefore used one-tailed analysis. Our results demonstrated a statistically significant positive correlation between self-reported anxiety and both pre-sleep cognitive arousal ($r=.42, p <.001$) and insomnia ($r=.47, p <.001$). Anxiety accounted for 18% of the variance in pre-sleep cognitive arousal scores and 22% of the variance in insomnia scores. Additionally, pre-sleep cognitive arousal was strongly associated with insomnia ($r=.62, p <.001$).



Conclusion

Consistent with our hypotheses, our data demonstrated that students with high levels of anxiety are more likely to suffer from racing thoughts at bedtime and from insomnia. Though the correlational nature of our study does not allow cause-and-effect relationships to be determined, these findings support the notion that attempts to address insomnia may benefit from a focus on anxiety-reduction techniques. Additionally, the significant association between anxiety and pre-sleep cognitive arousal and the strong association between pre-sleep cognitive arousal and insomnia suggests that anxiety might exert its effect on insomnia by increasing racing thoughts at bedtime.

