DOES SOCIAL RANK BUFFER THE NEGATIVE EFFECTS OF ANXIETY ON SLEEP QUALITY?
Jennifer H. Ellis, Jeremy L. Grove (Timothy W. Smith)
Department of Psychology

*This research was conducted from 9/2013 to 5/2014 while I was an undergraduate student at the University of Utah.

It is a well-known fact that anxiety is associated with poor sleep quality (SQ; Jansson-Fröjmark, & Lindblom, 2008). However, prior research has shown that psychosocial factors may influence this relationship (e.g., social support; Baglioni, Spiegelhalder, Lombardo & Riemann, 2010). One psychosocial variable that has not been investigated in this regard is social rank. Social rank has been linked with a variety of health outcomes (e.g., hypertension; Rivers & Joseph, 2010), and thus could also have an important association with SQ. Specifically, few if any studies have investigated whether social rank could moderate the effect of anxiety on sleep. As such, we examined dominance and prestige (two components of social rank; Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013) as potential moderators for the relationship between trait-level anxiety and poor SQ.

**Methods:** In a campus computer lab, undergraduate students (N=188, 63% Female) were administered a computer-based survey, which included measures of anxiety, SQ, dominance, and prestige. Trait-level anxiety was measured using the State-Trait Anxiety Inventory (STAI; Spielberger, 1989), SQ was measured using the Pittsburgh Sleep Quality Index (PSQI; Buysse, Reynolds, Monk, Berman, & Kupfer, 1989), and dominance and prestige were measured with the Dominance-Prestige Scale (Buttermore, 2006).

**Results:** Multiple linear regressions were performed, where SQ was the dependent variable. Results indicated a significant main effect for anxiety ($\beta = .384, p<.000$), such that higher levels of anxiety are independently associated with poor sleep quality. While there was no significant main effect for dominance, analyses revealed a significant interaction between anxiety and dominance in predicting sleep quality ($\beta = -.157, p = .023$). Simple slopes illustrated that at low levels of anxiety, those with low dominance reported better sleep quality. At high levels of anxiety, those with low dominance had the worst sleep quality. No significant effects were found for prestige.

**Discussion:** These results suggest that while one’s dominance level moderates the relationship between trait-level anxiety and SQ, one’s prestige level does not. Further, while low dominance levels were associated with the worst SQ when combined with high anxiety, low dominance levels were also associated with the best SQ when combined with low anxiety. This variance in sleep quality may be due, in part, to the high levels of stress experienced by people in subordinate positions, which may make them more vulnerable to the effects of anxiety (Rivers & Joseph, 2010). Overall, these findings provide preliminary evidence for low dominance as a potential risk factor for poor SQ in individuals with high levels of anxiety. Future research should examine this relationship further, using more objective measures that rely less heavily on self-report methods.