



**CALIFORNIA STATE SCIENCE FAIR  
2012 PROJECT SUMMARY**

<b>Name(s)</b> <b>Sharona A. Silverstein</b>	<b>Project Number</b> <b>S0427</b>
<b>Project Title</b> <b>Sleep Patterns and Psychological Health in Pre-Dental and Dental Students, Year 2</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective is to examine binge sleeping # the practice of sleeping shorter durations on week nights and longer durations on weekends, in pre-dental and dental students. It was hypothesized that (1)binge sleeping would be associated with poorer psychological health as shown by higher scores on negative moods and lower scores on positive moods; (2)exercise would mitigate these associations; (3)sleep patterns would be stable over time; and (4)changes in binge sleeping over time would be associated with changes in moods. <b>Methods/Materials</b> 214 students were surveyed for sleep patterns, exercise, negative moods (negative affect, hostility, sadness, fatigue, stress), positive moods (positive affect, joviality, attentiveness, life satisfaction, optimism, happiness, empathy); 60 were re-surveyed an average of 7 months later. <b>Results</b> Hours binge sleeping (=hrs slept on weekends#hrs slept on week nights) ranged from 0-8 (mean=1.6, SD=1.4, prevalence=77%). Binge sleeping was associated with higher scores on negative moods and lower scores on positive moods (p's<.05). ANOVAs showed those with 3 or more hours binge sleeping had the highest scores on negative moods and lowest scores on positive moods; the reverse was found for those who did not binge sleep. Comparisons after grouping by binge and exercise behaviors showed that within high bingers, high exercisers had less negative moods and more positive moods than low exercisers. There were no differences (p's>.10) in sleep characteristics over time, but changes in binge sleeping were positively associated with changes in negative moods and inversely associated with changes in positive moods. <b>Conclusions/Discussion</b> Binge sleeping is a common pattern of inconsistent sleep durations and is associated with poorer psychological health as evidenced in a variety of moods. Effects of binge sleeping are similar to those reported for sleep deprivation and may be somewhat mitigated by exercise. Results of this scientific study confirms the hypotheses, augments the existing anecdotal literature, and suggests that dental schools and pre-dental programs at undergraduate colleges should counsel students about the importance of maintaining consistent amounts sleep.	
<b>Summary Statement</b> This project is about the cross-sectional and longitudinal associations of binge sleeping, a common pattern of inconsistent sleep durations, with psychological health as shown by moods.	
<b>Help Received</b> Student Directors of the Pre-Dental Society and two former pre-dental students now in dental school helped distribute surveys; parents gave helpful comments and paid for the supplies used.	