



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> Sarah T. Silverstein	<b>Project Number</b> <b>S0315</b>
<b>Project Title</b> <b>A Longitudinal Study of Stress in Dental Students: Year 2</b>	
<b>Abstract</b> <b>Objectives/Goals</b> Life changes and daily hassles lead to stress. This longitudinal study tests the hypotheses that stress in first year dental students will negatively affect performance and health, and that the amount and sources of stress will change over time. <b>Methods/Materials</b> 12 US dental schools were contacted; 4 participated. Students completed the Dental Environment Stress (DES) scale, Perceived Stress Scale (PSS), Stress Rating and demographic questions at the start of school (Time 1), 11.7 weeks later (Time 2), and 1 year later (Time 3) when first year GPA, illnesses, health ratings, and frequency of symptoms were also assessed. <b>Results</b> Of 407 first year students, 296 (186 men, 110 women) responded at Times 1 and 3; 205 responded at all three times. Stress scores were negatively correlated with GPA ( $p=.006$ for DES; $p=.042$ for PSS; $p=.002$ for stress rating) and with physical and emotional health ratings ( $p<.002$ ), but positively associated with numbers illnesses ( $p<.05$ ), symptoms ( $p<.0001$ ) and frequency of most symptoms ( $p<.05$ ). Stress scores were higher at Time3 than Time 1 ( $p<.0001$ for DES; $p=.0004$ for PSS), and varied between schools ( $p<.0001$ ). Women ( $p<.01$ ), younger ( $p<.003$ ) and single students ( $p<.03$ ) had higher stress scores at Time 1, but not at Time 3. Ratings for DES items related to school work were high at Time 1 and increased at Time 3 ( $p<.0001$ ). DES items related to school atmosphere had low ratings at Time 1 but had large increases over time ( $p<.0001$ ). Personal factors had low stress ratings both times. <b>Conclusions/Discussion</b> My hypotheses were supported. Stress had detrimental effects on performance and health. Stress increased over time; variation between schools may reflect different teaching methods. Sources of stress changed with the school atmosphere increasing in importance over time, possibly reflecting the different contributions of anticipatory and situational stress. First year dental students may benefit from stress reduction programs.	
<b>Summary Statement</b> My project examines how stress in first year dental students affects their performance and health, and how stress changes over time.	
<b>Help Received</b> Dr. Stephen Wotman, Dr. James Lalumandier, Mr. Philip Aftoora, Dr. Craig Yarborough, Dr. Richard Simonson, Mr. Wilson Leung, and Dr. Charles Shuler administered surveys.	