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Degree objective when research was completed: Bachelor's  
Major: Foods and Nutrition  
College: AG  
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Session 6: University Library - W.K. Kellogg Arabian Horse Library  
Time of Presentation: 2:15 PM  
Presentation Type: Oral presentation  
Project Title: Effect of Fructose Consumption on Memory  
Synopsis: We were interested in conducting an observational study which analyzed any possible correlation between the amount of fructose consumed and short term memory.  
Abstract: Following a diet high in fructose and fructose corn syrup has been recently suggested to affect the memory of mice (Agrawal, R., Gomez-Pinilla 2012). For this reason, we decided to investigate potential correlation between fructose intake, including high fructose corn syrup, and short-term memory in humans. This was a casual observational study conducted by recruiting eighteen undergraduate men and women, age 18-29, at Cal Poly. Their meal patterns and computer game-based performance scores were followed for a period of 7-8 weeks. They were required to submit 2-day food logs per week and take the short memory test twice a week. The food logs were used to estimate, per person, the amount of soda (its fructose amount), and fructose being consumed through daily foods. The game was a “Simon Says” random, light sequence game.  
From the group of 8 participants who claimed no soda intake on a regular basis, there was no clear correlation between the fructose intake level and their performance scores, although a general trend of slight decrease effect of fructose on memory was noted.  
Using the soda intake data from the group of 8 participants who claimed soda intake on a regular basis, a negative correlation between soda intake and the memory performance was obtained, although the correlation coefficient r value is rather weak (r² = 0.1288). The results for a group of 4 participants indicated a rather clear negative correlation between fructose intake and memory performance scores, with correlation coefficient r = 0.656 or r² = 0.4304.