Project Title: Hunger and attentional distraction by high- and low-calorie foods

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Project Summary: The study objective was to examine the effects of hunger and gender on attention and arousal to food pictures. Forty-one participants (23 males, M = 23.2 years old) completed a task where they were required to identify targets (geometric shapes) flanked by pictures of food (high-calorie sweet, high-calorie salty, and low-calorie). Reaction times (RTs) to detect targets were used as an index of distraction/facilitation, while skin conductance (SCR) was used as an index of arousal. Self-report scales of eating behavior and subjective hunger were also completed. After each session, participants were offered a variety of snacks and caloric intake was recorded. Overall, hunger did not affect attentional capture or arousal by food distractors. Men consumed more calories after each session. Relative to RTs to targets with low-calorie distractors, men experienced more distraction to high-calorie salty pictures while women experienced facilitation. The finding may reflect a male preference to salty high-calorie foods. RTs while hungry were not predicted by SCR, hunger, calories consumed or personality/eating/dieting differences (a more general mechanism). In contrast, RTs while sated were related to SCR and calories consumed: faster RTs were predictive of more calories consumed; slower RTs were predictive of a greater SCR response. Together, these findings provide evidence that hunger does not affect attention or arousal to food pictures. Importantly, results indicate that attentional and arousal mechanisms may be most influential in eating behaviors when individuals are full, with important implications for weight loss and management programs.

Publications:

N/A

Presentations:
Graham, R., Hesselbrock, J., Cabeza, A., Ceballos, N., & Czyzewska, M. (2009). Hunger elicits gender differences in attentional responses to food-related images. Poster presented at the 30th Annual Meeting of the Society for Behavioral Medicine, Montreal, QUE, Canada.

External Grants Applied:
Pending - Further pilot studies are currently being conducted in preparation for the submission of an R03 or R01 NIH grant (parent mechanism), estimated for January 2010.

Student Number: 3