

The raw and the cooked: an oculomotor investigation of attention to food

Monday, September 23, 2024 1:10 PM (20 minutes)

In an eye tracking and pupillometry study, we investigated the factors influencing attentional capture when individuals see food items. We suggest that the two core motivational systems, namely Wanting (i.e., the desire for food and meal selection) and Liking (i.e., the subjective pleasure and arousal evoked by food), modulate attentional processes in different ways. Moreover, we hypothesized that two key factors influencing motivation and modulating attentional capture are the preparation of the food (e.g., raw vs. cooked) and its caloric content (e.g., high vs. low). To test these hypotheses, we presented 100 food images in two blocks: Multiple images block, where 4 different food items were shown together; and, Single image block, where each food item was presented alone. Importantly, we operationalized Wanting and Liking in terms of fixation durations and pupil dilation, respectively. Additionally, participants were asked to provide explicit ratings for each food image both in terms of Liking and Wanting. Finally, participants completed the Eating Disorder Inventory-3, allowing us to explore potential relationships between the EDRC scale and our motivational measurements. The findings revealed that both food preparation methods and caloric content significantly modulated fixation durations and pupil diameter changes. Moreover, we observed that dwell time on a food item emerged as a valid predictor of subjective ratings of 'Wanting' but not of 'Liking'. In addition, we observed an inverse relationship between the EDRC scale and fixation durations, suggesting a potential link between unhealthy eating habits and augmented concern about the body with attentional processing of food stimuli.

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