Are Visceral Factors Sensitive to Attentional Focus Manipulation? the Case of Hunger

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Are Visceral Factors Sensitive to Attentional Focus Manipulation? The Case of Hunger

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EXTENDED ABSTRACT

In the last decade, important efforts have been made to address the need to understand better the operation of “visceral factors” in accounting for behaviors that appear to be out of the strict control of reason. While the bulk of recent research efforts to tackle the effects of visceral factors on consumer behavior has focused exclusively on mood and emotions, visceral factors like drives (e.g. hunger, thirst, sexual desire) have been relatively neglected. The current paper has for object one of such drives namely, hunger.

As part of a complex of short-term feeding control mechanisms, feelings of hunger arise in response to a diversity of bodily signals, such as oral, stomach, gastrointestinal, metabolic, and neural factors. Feelings of hunger are also influenced by factors that have little to do with energy regulation, such as feelings of sickness, emotional and mood changes, variation in social, functional or environmental feeding contexts, as well as perception of sensory cues (Panksepp 1998). For instance, there is evidence showing that a focus of attention on appealing food sensory cues (by comparison to attention focused away from these cues) may impact the intensity of hunger feelings, with more intense pre-consumption hunger being experienced under sensory-focus than under distraction conditions. Research on the physiological responses to sensory stimulation by food (for a review, see Mattes 1997) suggests that the above findings may result from a complex interplay between perceptual/cognitive and bodily/physiological processes. It is indeed well established that, in preparation for eating, visual, olfactory, and gustatory cues stimulate a cascade of physiological processes at multiple sites in the body. Theses processes, collectively called cephalic responses, have been associated with both positive and negative feedback actions on control of eating (Smith 2000). The positive feedback action of sensory stimulation usually occurs at early stages of the meal and is related to the rewarding value of food (Yeomans 1993; 1996) and entices consumption. Negative feedback actions are usually the conditioned result of the association between orosensory and postingestive stimulation during feeding, which sends satiation signals to the brain, thereby creating a negative feedback on food intake (Smith 2000), that eventually overcomes the initial positive feedback.

We suggest that the aforementioned impact of attentional focus on pre-meal hunger most likely entailed an intensification of the early cephalic response and its positive feedback, translating into more intense feelings of pre-meal hunger and consequently into higher motivation to eat and/or increased consumption per se. Consistent with this expectation, heightened responsiveness to sensory qualities of food is thought to promote hunger and slow satiety (Hetherington and Macdiarmid 1995). Similarly, individuals with a high tendency to let eating be primarily guided by the sensory qualities (i.e., taste, smell, color, etc.) of food stimuli have stronger cephalic phase responses to food (Rodin 1985).

The positive feedback of the cephalic response arises prior to or very early in consumption and is believed to be small, transient, and fast in its operation. We argue that such responses can persist over time if attentional focus on sensory cues is maintained during consumption, therefore delaying the shift from positive to negative feedback mechanisms. Since cephalic responses are tied to intensity of hunger feelings, this would suggest that the decrease in hunger feelings that typically follows consumption and partly determines meal termination, is likely to be smaller under conditions in which the sensory experience during consumption is maintained, compared to when attentional focus is distracted away from the sensory experience.

One can argue that the above expectation is not necessarily tied to bodily/physiological processes, but rather strictly to perceptual/cognitive processes. In order to rule out this alternative account, we consider the moderating effect of external eating, an individual characteristic that defines one’s natural tendencies to rely more on perceptual/cognitive processes and less on bodily/physiological factors in guiding their eating behavior. According to a perceptual/cognitive account, we would assume a stronger effect of sensory-focus manipulation (i.e. slower change in hunger) for individuals who are more responsive to such sensory properties (i.e. high external eaters). Alternatively, if sensory-focus effects occur by interfering with natural bodily/physiological processes involved in the shift from positive to negative feedback as consumption unfolds, one can expect the effect to be stronger in individuals who are responsive to both bodily/physiological and perceptual/cognitive signals (i.e. low external eaters).

In the present study, participants are given to eat the same quantity of a pleasurable food (chocolate) according to a given temporal pattern in one of two consumption context conditions, namely, sensory-focus (asked to eat while paying attention to taste, color, texture, mouth-feeling, etc.) and distraction away from sensation (asked to eat while performing a concurrent task). Participants provided self-reports of body weight and height and completed the Dutch Eating Behavior Questionnaire, which includes a measure of the extent to which eating is externally-motivated by sensory cues (external eating).

Results from ANCOVA with repeated analysis measurements controlling for body mass index (weight/height²) were consistent with expectations that the decrease in the intensity of mealtime hunger feelings following consumption is smaller under sensory-focus, compared to task-focus conditions. Moreover, providing support for a role for bodily/physiological processes, the effect was stronger for individuals who showed a natural low tendency to rely on sensory cues in guiding their eating behavior (low external eaters).

The results of the present study suggest that the decrease in hunger occurring over the course of a meal and regulating meal termination is sensitive to contextual manipulations that are under marketers’ control. Moreover, the findings seem to indicate that this contextual effect occurs partly through the influence of bodily/physiological factors, rather than strictly through perceptual/cognitive processes. In light of the current findings suggesting that visceral factors can act as mediators between perceptual manipulations and behavioral tendencies, we argue that consumer researchers should pay more heed to visceral factors, such as hunger.

REFERENCES


