Encouraging Ideal Behavior By Imagining Luxury Consumption

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This research demonstrates that imagining the consumption of luxury products increases the perception that the actual self is aligned with the ideal self. This leads people to subsequently engage in behaviors that are consistent with the ideal self (e.g., making healthier food choices).

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Counterintuitive Effects of Mood, Environmental Cues, and Lay-Beliefs in Food Consumption Contexts

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Paper #1: How Sadness Signals Danger of Over-indulgence
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Paper #2: Reducing Eating Motivation by Intensiﬁng Prior Temptations
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Paper #3: Encouraging Ideal Behavior by Imagining Luxury Consumption
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Paper #4: The Unhealthy = Filling Intuition
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SESSION OVERVIEW
Explorations into the various influences that promote or mitigate consumption of unhealthy food has yielded important, and sometimes counter-intuitive, theoretical insights. For instance, we now know that consumers often “eat with their eyes” rather than with their stomachs; that is, they stop eating when their plate is empty rather than when they feel full (Wansink 2007). We also know that obesity can be an epidemic and spread like a disease (Christakis and Fowler 2007).

For those interested in regulating their food consumption, at least three major lessons have emerged. The first lesson is that we should watch out for moments in which we are vulnerable to overconsumption of unhealthy food. Findings reveal that we have a predilection for such food when we are feeling sad or when our ego is depleted. The second lesson is that we should stay away from tempting stimuli whenever possible: avoidance is the best policy (Hoch and Loewenstein 1991). The third lesson is that we should watch out for sub-conscious inﬂuences that steer us toward unhealthy food. Raghunathan et al. (2006) show that most of us aren’t even aware of the influence of the unhealthy = tasty intuition—which steers us toward unhealthy food when we want something tasty—on our food choices.

The set of four papers in this special session report findings that challenge each of these three themes from past research. The first paper, by Salerno, Laran and Janiszewski, suggests that, although sadness or the presence of indulgent environmental cues may individually promote unhealthy eating, together, they steer people toward healthy choices. In their first study, the authors show that the tendency to consume healthy food is higher when an indulgence prime is combined with sadness, but not when it is combined with anger. The next two studies provide evidence for the proposed underlying mechanism: sadness cues increase vigilance against danger of over-indulgence.

The second paper, by Boer and Dewitte, suggests that people are sometimes more likely to choose healthy food when temptation levels are more (vs. less) intense. In study 1, the authors use construal level to manipulate intensity of temptations. In studies 2 and 3, they use hot vs. cold imagination to do the same. Across all three studies and across various measures of temptations (including amount of saliva secreted), the authors find evidence for their thesis: that the greater the temptation, the greater the tendency to resist consumption of tempting food.

The third paper, by Wilcox, Hagtvedt, and Kocher, explores the influence of luxury primes on eating. At first blush, one may expect the influence of luxury primes to be similar to that of the presence of indulgent environmental cues. However, these authors find that luxury primes actually have the opposite effect: they steer people toward healthy (vs. unhealthy) choices. Studies 1 and 2 establish the basic effect, while studies 3 and 4 document evidence for the proposed mediating mechanism. Specifically, these studies document evidence that exposure to luxury primes results in lower indulgence of food because of a reduction in discrepancy between the actual and ideal selves.

The final paper, by Raghunathan and Suher, explores the influence of the unhealthy = filling intuition. They find that people infer unhealthy food to be more filling and, therefore, feel that they can go longer without eating if they have just consumed less (vs. more) healthy food. The first study uses the IAT procedure to document that people implicitly subscribe to the unhealthy = filling intuition. Study 2 provides evidence that subscription to the intuition leads people to rate a food item portrayed as less (vs. more) healthy as more filling. The study also shows that people feel that they would need to consume less of an unhealthy (vs. healthy) item to stay away from getting hungry for the same period of time. A study in progress aims to show that actual consumption of unhealthy (vs. healthy) food lowers hunger levels to a greater extent.

Together, these papers make a compelling case for how the lessons we appear to have learned from past research must be applied with caution. Specifically, although it may generally be a good idea to watch out for the effect of sadness on the tendency to indulge, it turns out that this may not always be the case. Those feeling sad may actually be quite “safe” when surrounded by indulgent cues. Similarly, although it may generally be a good idea to avoid being tempted, it turns out that intense temptations can actually stimulate an even stronger self-control mechanism such that we are more capable of avoiding temptations when we are more (vs. less) intensely tempted. There is another reason why indulgent cues may lead to lower consumption of indulgent food: they lower the discrepancy between actual and ideal selves. Finally, while many lay-beliefs may have a detrimental effect on food consumption, it turns out that the unhealthy = filling intuition may actually have a beneficial effect. Those who subscribe to this intuition feel that they can go for longer without consuming food when they have just consumed less (vs. more) healthy food.

Researchers interested in the topic of food and obesity, as well as those interested in the topic of self-control are our primary audience. However, we expect the session to be of general interest as well, given the breadth of theoretical constructs covered.

The proposal contributes to the theme of diversity by bringing together various theoretical perspectives—from motivational and cognitive to perceptual—together to shed light on a topic (food consumption) of universal interest and appeal.
How Sadness Signals Danger of Over-indulgence

EXTENDED ABSTRACT

The act of indulging can be a precarious experience for many consumers. Often times, the margin for error is small in terms of exercising self-control and indulging in moderation versus experiencing self-control failure and over-indulging. This balancing act is complicated by the fact that consumers can be led to indulge by factors such as indulgent environmental cues (Geyskens et al. 2008; Laran and Janiszewski 2009) and the experience of negative emotion (Garg, Wansink, and Inman 2007; Gross 1998). Because indulgent food consumption represents a self-control dilemma, even an initial indulgent act by consumers can be perceived as a complete self-control failure, resulting in excessive indulgence (Cochrane and Tesser 1996; Polivy and Herman 1985). This risk of over-indulgence is a concern for many consumers, as it can lead to maladaptive consequences such as weight gain and obesity (Wang and Beydoun 2007).

Our current research investigates how this potential risk of over-indulgence is ironically what causes indulgent environmental cues and sadness, two factors that have been shown to increase indulgent consumption in isolation, to result in increased healthy consumption when experienced concurrently. We find that this effect occurs because sadness exerts an informational function on consumers’ goal-directed behaviors. Where an indulgent cue would normally signal to indulge, we find that sadness increases the sensitivity for harm to occur and signals the risk of over-indulgence. This perceived risk of over-indulgence leads consumers to the seeking of protection in the form of virtuous consumption. As a result, this protective function of sadness, in the presence of an indulgence goal, allows consumers to better regulate their behavior and ultimately aid in consumers’ pursuit of wellbeing.

In study 1, we tested our proposed effect and found that virtuous consumption only occurs when an indulgence prime is combined with sadness and not other negative emotions such as anger. Participants were randomly assigned into either an indulgence or neutral prime in combination with the induction of either anger or sadness. The priming task had participants unscramble sentences, where each sentence contained one word that was related to either indulgence or a neutral construct. Then participants read and responded to a hypothesetical scenario that either evoked anger or sadness. Lastly, participants completed a purportedly unrelated food preference task. In this task, participants rated the desirability of 20 equally liked foods, half of which were perceived as healthy and the other half as indulgent but unhealthy. In the neutral prime groups, angry and sad participants were both significantly more likely to prefer tasty food to healthy food, a finding consistent with emotion regulation research (Andrade and Cohen 2007). More importantly, within the indulgence prime, we found that only participants experiencing sadness were significantly more likely to prefer healthy over tasty foods, showing that other emotions do not trigger the same sense of danger towards over-indulgence that sadness does.

In study 2, we established process evidence and found that virtuous consumption observed within the indulgence and sadness combination is driven by an increased sense of danger towards over-indulgence. We also tested whether this sense of danger is specific to cues that signal to indulge or if it applies to other environmental cues such as exercising self-control. If the threat of over-indulgence is also present with cues signaling self-control, this should lead to increased danger-related cognitions and decreased indulgent consumption. Study 2 used the same sentence unscrambling task as study 1 to create indulgence, self-control, or neutral priming groups in combination with the induction of no emotion or sadness. Mediation was assessed using a scrambled word task previously shown to be an implicit measure of mental construct accessibility (Arndt et al. 2007). Participants solved 25 incomplete words in total (e.g., “w_r_,” for which the solution is “word”), where six words had the potential to be either neutral or danger-related constructs (e.g., “_anger” for which the solution is “ranger” or “danger”). Participants completed the same food preference task from study 1. While both self-control and indulgence priming groups experiencing sadness displayed an increased desirability for healthy foods, only the indulgence and sadness condition constructed a significantly greater number of danger-related words and indicated a significantly lower preference for tasty foods.

In study 3, we investigated whether the sense of danger observed within the indulgence and sadness combination becomes stronger as the initial cues to indulge strengthen. Research in the area of priming and goal pursuit has shown that stronger priming effects can lead to stronger motivated behavior (Dijksterhuis and van Knippenberg 1998). Using the same manipulations from study 2, participants were assigned to either a neutral, indulgence, or strong indulgence prime and then induced to feel sadness or no emotion. The strong indulgence prime required that participants completed an additional task of viewing pictures of indulgent foods and clicking on the foods they liked most (Geyskens et al. 2008). Participants were then asked to choose between two gift card options, one being a virtuous “grocery store gift card” and the other being an indulgent “trendy restaurant gift card.” We found evidence of an amplified indulgence prime, where participants in the no emotion groups were more likely to select the trendy restaurant as the indulgence prime became stronger. More importantly, we found that the people experiencing sadness in these same indulgence primes were significantly more likely to choose the virtuous grocery store as the indulgence cues became stronger.

Reducing Eating Motivation by Intensifying Prior Temptations

EXTENDED ABSTRACT

Nowadays, a common practice at schools or at home is to restrict physical access to temptations, such as candies, potato chips and soft drinks. But the short term success that this protective, but artificial, environment entails may not lead to long-term success (e.g. Fisher & Birch, 1999). When children leave home or school, they enter an environment of easily accessible temptations. In this research, we explore how exposure to temptations can in some circumstances reduce consumption in a durable way (e.g. Fischbach et al. 2003, Geyskens et al 2008, Kroese et al 2009).

Past research has shown that behavioral conflict is associated with self-control failure (e.g. Boon et al. 1998; Meltcalf & Mischel 1999). However, other research has illustrated the involvement of behavioral conflict in the activation of brain areas associated with enhanced self-regulation (Bush, 2001), which, in turn, might induce behavioral change (e.g. Miller and Cohen, 2001). In line with this, it has been shown that exposure to temptations in situations where the consumer cannot succumb, reduces free consumption of similar temptations in subsequent situations (Geyskens, Dewitte, Pandelaere, & Warlop 2008; Dewitte, Bruyneel, & Geyskens 2009). Based on cognitive control theory, we suggest that the process underlying this behavioral change is the spontaneous and durable change in incentive value of the temptation (see Russo et al 1996). Thus, the primary contribution of this paper is to explore if alterations in the incentive value to consume (e.g. Russo, Medvec and Meloy 1996)
are a plausible process underlying behavioral change. We also test our underlying assumption that the exposure-induced behavioral change (Geyskens et al. 2008) replicates in pre-adolescent children (aged 8-11).

We build on Michel’s (1970) delay of gratification paradigm to create a situation where children are exposed to temptation but simultaneously autonomously decide not to consume, with a view to obtaining a larger reward. In study 1, we look at the effects of this exposure on behavior. In study 2, we demonstrate the importance of behavioral conflict during exposure for the effect to occur and the role of changes in the incentive value to consume, as measured by saliva and self-reported attitudes. The secondary contribution of this paper is to shed some light on the emergence of the substantial gender differences in eating behavior and the processes governing it (e.g. Cooke & Wardle 2005; Wansink, Cheney and Chan 2003). For that reason, we include boys and explore to what extent their behavior and the underlying processes can be distinguished from that of girls.

In study 1, we designed an earning game where pre-adolescents were repeatedly asked to choose between having one candy marble now, or earn three candies/marbles later. We boosted the manipulation power by repeating the exposure on four consecutive days based on cognitive literature suggesting that high frequencies of behavioral conflicts enhances people’s ability to deal with behavioral conflict (Logan and Zbrodoff, 1979). By tripling the reward, we made sure children would choose to delay. On the fifth day, we measured self-regulation through consumption of candies (Schachter, Goldman and Gordon 1986). We expected that those who had been in the candy condition would consume less than in the marble condition. Indeed, girls consumed less in the candy condition relative to the control condition. For boys, consumption did not differ between the candy and the control condition. Across gender, there was no difference between girls and boys in the candy condition. In the control condition, girls consumed more relative to boys.

Our first aim for Study 2 was to assess changes in the incentive value to consume in response to behavioral conflict. For this, we used an explicit, self-report measure and, to reduce possible demand effects, a saliva measure. Salivary response is a preconsummatory, physiological and uncontrollable response to food palatability and related to the motivation to acquire food. Second, to demonstrate the importance of behavioral conflict in the pre-exposure effect, we added a condition, where we exposed participants to temptation but suppressed behavioral conflict. Specifically, we created two instruction sets for the delay of gratification procedure. In the hot imaginary condition, we intensified the appetitive aspects of the candy and thereby boosted behavioral conflict by directing participants’ attention to the hot features of the candy. In the cool imaginary condition in contrast, we reduced the intensity of the temptation, and thereby the behavioral conflict, by emphasizing the non-tempting, cool aspects of the candy. For the control condition, we used two different experimental versions. Both were designed to let participants do a similar task without exposure to actionable food temptations and without ideation instructions. As none of the analyses yielded differences between these two versions of the control condition, they were merged into one condition in the remainder of the paper. Findings suggest that for girls, salivary flow after delay decreases in the hot imagination condition relative to the cool imagination condition. A similar pattern can be observed between the hot imagination condition and the control condition, but this difference did not reach statistically significance. Likewise, no differences in salivation were found between the cool imagination condition and the control condition. A different pattern emerged for boys: they salivate more in the hot imagination condition and the cool imagination condition (the two condition with exposure to temptation) than in the control condition (no exposure to temptation). The two exposure conditions did not differ. Viewed from a different angle, boys salivate more relative to girls in the hot imagination condition, but not in the cool imagination or control condition, illustrating a profound gender difference when temptation intensity is increased during pre-exposure. For the self-report measure the pattern was consistent with that of saliva for girls: They considered the candy to be less tasty in the hot imagination condition relative to the cool imagination condition and the no imagination condition. Boys did not evaluate the tastiness differently between the hot imagination, the cool imagination and the control condition. Again in line with the results on saliva, girls found the chosen candy less tasty than boys in the hot imagination condition. No other gender differences were found in the cool imagination condition and the control condition.

In line with our expectations, we show that a boost of behavioral conflict during past exposure without consumption reduces pre-adolescents consumption over a time span. In addition, our findings suggest that this is driven by a reduced physical and psychological incentive to consume. Moreover, we show that it is not necessarily exposure to temptations in itself, but behavioral conflict that triggers behavioral adaptation processes. However, we find this only for girls. Further research needs to investigate gender differences in food regulation and how this process might lead to hyperopic behavior in the food domain.

**REFERENCES**


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**Encouraging Ideal Behavior by Imagining Luxury Consumption**

**EXTENDED ABSTRACT**

People maintain a set of traits that they ideally would like to possess, such as wealth, good health and physical fitness. This idealized version of the self, representing people’s hopes and aspirations, serves as a key source of motivation (Higgins 1987). For example, many people ideally would like to maintain a thin physique. In order to achieve or maintain this ideal, they may eat lighter meals, choose healthier foods and avoid behaviors that would create a discrepancy between their actual state (i.e., the actual self) and ideal state (i.e., the ideal self).

Much of the previous research on the ideal self has focused on the negative effects of ideal self discrepancies on behavior. It is generally assumed that making people aware of ideal self discrepancies results in negative emotions, antisocial behavior and less motivation (Strauman and Higgins 1987). Ways to reduce ideal self discrepancies and encourage ideal behavior has been largely unexplored.

In this research, we explore the relationship between luxury consumption and the ideal self. We introduce luxury consumption as one mechanism for reducing ideal self discrepancies to encourage behavior consistent with the ideal self. Specifically, we show that, because luxury products are linked to people’s hopes and aspirations, imagining the consumption of luxury products increases the perception that the actual self is aligned with the ideal self. This leads people to subsequently engage in behaviors that are consistent with the ideal self (e.g., making healthier food choices). Additionally, we demonstrate that this effect is moderated by public self-consciousness. Public self-consciousness increases people’s attention to discrepancies between their actual and ideal self (Scheirer 1976). Thus, we show that making people publically self-conscious while imagining luxury consumption leads them to subsequently engage in behaviors that are more inconsistent with the ideal self.

In study 1, participants were randomly assigned to one of three conditions. In the luxury condition, participants chose their favorite brand from a list of ten luxury brands (e.g., Louis Vuitton, Gucci) before writing about the experience of consuming a product by the selected brand. In the everyday condition, participants were asked to choose their favorite everyday brand (e.g., American Eagle, The Gap) before writing about the experience of consuming a product by the selected brand. In the control condition, participants were asked to choose their favorite luxury brand before writing about their typical day. Afterwards, all participants were given an unrelated study examining food choices. Participants in the luxury condition were more likely to make a healthier choice than those in the everyday and control conditions.

In study 2, participants were randomly assigned to the same consumption conditions as study 1. Afterwards, they were administered an unsolvable anagram task purportedly as a short-test of their verbal abilities. Consistent with the results of study 1, participants in the luxury condition persisted longer at the task than those in the everyday or control conditions.

In study 3, we investigated the moderating effect of public self-consciousness. In the low self-consciousness conditions, participants wrote about consuming a luxury or everyday brand using the same procedure as prior studies. In the high self-consciousness conditions, participants also wrote about the experience of consuming a luxury or everyday brand, but were encouraged to write about the experience of consuming the product in public. Participants were then given two unrelated studies on food consumption and charity involvement. Participants in the low self-consciousness conditions were more likely to make a healthy choice and more willing to donate their time to charity in the luxury condition than in the everyday condition. Additionally, participants in the high self-consciousness condition were less likely to make a healthy choice and less willing to donate their time to charity compared to those in the low self-consciousness luxury condition. These results were mediated by public self-consciousness.

In study 4, we examined the effect of luxury consumption on ideal self discrepancies. Participants were assigned to the same writing conditions from study 3. Afterwards, they were administrated the Integrated Self Discrepancy Index (Hardin and Lakin 2009), which is as a measure of ideal self discrepancies. As expected, in the low self-consciousness conditions, participants who wrote about luxury indicated that there was less of a discrepancy between their actual and ideal self in the luxury condition than in the everyday condition. Participants in the high self-consciousness luxury condition indicated that there was a greater ideal self discrepancy compared to those in the low self-consciousness luxury condition.

Although previous research has focused on the negative effects of ideal self discrepancies, this current research demonstrates the positive effects of reducing ideal self discrepancies on behavior. Specifically, we show that reducing ideal self discrepancies by imagining luxury consumption encourages healthier food choices, greater motivation and more altruistic behavior. Thus, an understanding of ways to tap into the ideal self of substantial importance for understanding consumer behaviour at the individual level, as well as broader issues like the U.S. obesity epidemic.

The Unhealthy = Filling Intuition” (Rajagopal Raghunathan and Jacob Suher)

**EXTENDED ABSTRACT**

An important theme to emerge from research on decision-making is that we are often unaware of the forces that shape our judgments and choices. In the context of food, for example, most of us are unaware of the influence of the unhealthy = tasty intuition on our enjoyment and choices of food. In the present research, we investigate the influence of a related intuition, the “Unhealthy = Filling” intuition on food choice. Interestingly, unlike the unhealthy = tasty intuition, which steers consumers toward unhealthy food, and therefore appears to have a detrimental influence, we report findings which suggest that the unhealthy = filling intuition may actually have a beneficial impact on food choices. Specifically, because people consider unhealthy food to be more filling, we find that people feel that they can go longer without consuming any additional food if they feel that they have consumed unhealthy (vs. healthy) food. Given that the primary cause for obesity is over-consumption of food, this suggests that people may be better off when they believe that they have just consumed unhealthy (vs. healthy) food.

We report results from two studies below. Our first study uses the implicit association test (IAT) to establish that people implicitly...
assume an inverse relationship between healthiness and fillingness. The second experiment confirms our prediction that less (vs. more) healthy food is: (1) inferred to be less filling and (2) participants feel they can go longer without feeling hungry if they have just consumed less (vs. more) healthy food. We obtained these patterns regardless of explicitly reported belief in the unhealthy = filling intuition, suggesting that, like the unhealthy = tasty intuition, the influence of the unhealthy = filling intuition is also implicit.

The objective of the first study was to assess whether people implicitly subscribe to the unhealthy = filling intuition. Using standard IAT procedure, participants were asked to categorize relevant stimuli into categories that were either congruent with the intuition, or incongruent with it. A second condition was created to show that unhealthy food is associated with filling rather than with nourishing or sustaining concepts. In this condition, participants categorized stimuli into categories that were congruent and incongruent with an unhealthy = nourishing intuition. Findings revealed support for implicit belief in the unhealthy = filling intuition, but not the unhealthy = nourishing intuition. Specifically, response latencies were smaller when participants categorized stimuli into categories that were congruent (vs. incongruent) with the unhealthy = filling intuition. In contrast, response latencies were larger when participants categorized stimuli that were congruent (vs. incongruent) with the unhealthy = nourishing intuition. These results show that people implicitly believe that unhealthy food is more filling; even as they implicitly believe that unhealthy food is less sustaining or nourishing.

The second study was a controlled lab experiment in which we asked participants to compare healthy and unhealthy versions of the same food item on dimension of healthiness, tastiness and fillingness. We also ask participants to tell us how much of the healthy and unhealthy versions of the food they would have to eat to feel full for a set period of time. Finally, we asked participants to report how strongly they believed in the unhealthy = filling intuition, using a 1 – 7 scale. Two main findings emerged from this study. First, we found that the healthier a food item is perceived to be, the lower its inferred fillingness. This relationship held regardless of explicitness of belief in the unhealthy = filling intuition, conceptually replicating the IAT results in suggesting that subscription to the intuition is implicit. Second, participants reported that they would need to consume a smaller quantity of the unhealthy (vs. healthy) item in order to not get hungry for a set period of time.

In a proposed third study, which is in progress, we will observe the influence of perceived unhealthiness on actual consumption levels. Participants will be given either a healthy snack or a less healthy version of the same snack in compensation for participating in the experiment. In reality, the snack will be the same across the two conditions. At the end of the experiment, we will measure the amount of the snack consumed, and the extent of hunger reported while leaving the experiment. We expect to find the following pattern of results: controlling for the actual amount of snack consumed, and other relevant variables (such as gender, how hungry they were when coming into the experiment, and BMI), those led to believe that the snack was healthy will report feeling hungrier and will also report a desire to eat sooner than those led to believe that the snack was unhealthy. We expect this pattern to be particularly pronounced among those who report stronger explicit belief in the unhealthy = filling intuition.

Taken together, these studies show that people implicitly subscribe to the unhealthy = filling intuition, and that, unlike the unhealthy = tasty intuition, this intuition has a beneficial impact on food consumption, at least from a caloric standpoint.