The Influence of Nutrition Information on Sequential Consumption Decisions For Indulgent Food

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This research examines the effect of nutrition information on initial choices and subsequent consumption decisions for indulgent food. We find that nutrition information has no effect on initial choices between unhealthy and healthy foods. However, it makes restrained eaters reduce subsequent consumption of indulgent food, after prior unhealthy choice.

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Indulgence in Context: Within-Episode Dynamics of Indulgent Consumption

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Paper #1: The Influence of Nutrition Information on Sequential Consumption Decisions for Indulgent Food
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Paper #2: Preference Reversal of Indulgent Rewards as A Dynamic Self-Control Mechanism
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Paper #3: What’s Next? Anticipated Consumption Variety: Borrowing Affect From the Future To Slow Satiation in the Present
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Paper #4: Too Busy to Lose Control: Impact of Busyness on Indulgent Consumption Behaviors
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SESSION OVERVIEW

Indulgent behaviors are tempting because of their instant hedonic benefits, but carry with them the potential for delayed costs (Hoch and Loewenstein 1991). Much recent research has studied the factors that determine consumers’ preferences for indulgent or hedonic consumption when they are conflicting long-term self-control goals and short-term desires (Laran 2010). The four papers in this session seek to extend the study of these problems from the one-off decisions which have been the focus of much of the literature, to the dynamics of indulgence within specific consumption episodes and goal-directed behaviors.

In the first paper, Oh, Huh, and Mukhopadhyay examine how the effect of nutrition information provided for entrées that consumers choose amongst can influence either their choice of entrée or their subsequent dessert consumption decision. Consistent with the emerging literature, when nutrition information is available (vs. not) for the initial entrée choice, it has no effect on whether consumers choose an indulgent (vs. healthy) option. However, there is a carry-over effect for restrained eaters, such that indulgent dessert consumption is indeed reduced.

In the second paper, Xu, Jin, and Zhang show that in order to manage motivation, consumers strategically exploit indulgent consumption opportunities over the course of goal pursuit. Before (after) attaining a focal goal, highly motivated consumers show higher (lower) preference for indulgent rewards that dampen their chronic goal. This result suggests that consumers’ preferences for indulgent consumption are affected systematically by their statuses during specific instances of goal-directed behavior.

In the third paper, Mead, Scott, and Hardesty then extend the discussion to the malleability of consumption episodes themselves, by asking how to reduce satiation from an ongoing experience (e.g., music) that can be either indulgent or virtuous. When consumers anticipate high (vs. low) variety in consumption, they satiate more slowly to a current consumption experience due to lowered negative affect. This effect is more pronounced for indulgent (vs. virtuous) experiences, and among consumers with high (vs. low) emotional intelligence.

Finally, Kim, Wadhwa, and Chattopadhyay then broaden the investigation across consumption episodes by introducing the construct of subjective busyness. Results of lab and field experiments demonstrate that when subjective busyness is made salient, people are less likely to choose indulgent options. This effect occurs because people perceive themselves as important when being exposed to busyness appeals.

Considering the importance of indulgent and hedonic consumption in consumer research, and the diverse perspectives taken by four papers, we believe this session will attract audiences from diverse backgrounds including, but not limited to, hedonic consumption, motivation and well-being. Together, the four papers shed light on consumers’ decision processes for indulgent consumption: these decisions depend upon stimulus-relevant information (papers 1 and 3) and self-relevant information (papers 2 and 4), whether consumption episodes are clearly-defined (papers 1 and 2) or not (papers 3 and 4). Together, this proposed session furthers the boundaries of a very much discussed in consumer research and raises a question of how researchers can broaden this area beyond conventional perspectives.

The Influence of Nutrition Information on Sequential Consumption Decisions for Indulgent Food

EXTENDED ABSTRACT

Prior research has shown mixed evidence regarding the effectiveness of providing calorie information to facilitate healthy food consumption (Bollinger et al. 2011; Downs et al. 2013). However, it is possible that consumers may change their subsequent consumption as a result of having nutrition information about what they just ate. In this research, we investigate whether the provision of nutrition information can have an influence either on an initial food choice (e.g., entrée), or a subsequent indulgent food consumption (i.e., dessert). We propose that restrained (vs. unrestrained) eaters tend to have smaller mental budgets for calories, and hence they should reduce subsequent consumption of indulgent food after having made a high-calorie unhealthy choice.

In a pretest, participants were categorized as either restrained or unrestrained eaters using the restrained eating scale (Herman and Polivy 1980; median-splitting is standard practice for this scale). We found that 58% of restrained eaters set calorie budgets but only 20% of unrestrained eaters did (p < .01). Moreover, restrained eaters set a smaller daily calorie budget (M = 1,580) than unrestrained eaters (M = 1,998; p = .01). These results suggest that restrained eaters have a tight budget that restricts themselves from further consumption if they had used up a large amount previously.

Study 1 examined how nutrition information provided for entrées influences either their choice of entrée or their subsequent dessert consumption. We used a 2 (nutrition information: absent vs. present) X 2 (restrained vs. unrestrained eaters) between-subjects design. Participants made a choice between a steak and a salad, with only half receiving nutrition information. All participants then rated the healthfulness and tastiness of both options, and estimated/re-calculated their caloric values. Then, they indicated how much ice cream they wanted to eat for dessert (0 – 100 scale). The choice of healthy food at time 1 (T1) was not affected by either nutrition information or restrained eating tendency. However, at time 2 (T2) there was a
significant three-way interaction between nutrition information, T1 choice and restrained eating on the consumption decision ($p < .05$). Only restrained eaters reduced T2 indulgent consumption after making an unhealthy choice at T1 as a result of nutrition information provision ($p < .01$). In contrast, making a healthy choice at T1 did not affect subsequent indulgence at T2.

Study 2 adopted the same design as study 1 to test whether the observed effect occurs when nutrition information is not salient at the T2 decision. The procedure was the same as in study 1 except that participants did not rate healthfulness, tastiness or calorie estimate/recall before the T2 decision. The T1 choice pattern remained the same as in study 1. However, unlike study 1, restrained eaters at T2 did not adjust consumption of indulgent food in the presence (vs. absence) of nutrition information ($ns$). The results of studies 1 and 2 together suggest that nutrition information can have a prolonged effect on subsequent indulgence among restrained eaters, but the salience of nutrition information is necessary.

Study 3 aimed to test restrained eaters’ use of small mental calorie budget in the presence of nutrition information. We employed the same design as Study 1 except that we added one more manipulated condition where participants were given a budget reference (e.g., average daily calorie intake of US population) along with nutrition information. Because the average calorie intake was higher (2,000 – 2,500) than their own range observed in our pretest ($M_{\text{LowerBound}} = 1,282, M_{\text{UpperBound}} = 1,899$), restrained eaters should not regulate themselves after having chosen a high-calorie option at T1. Consistent with study 1, the results replicated the interactive effect of nutrition information x T1 choice x eating restraint in that providing only nutrition information significantly reduced subsequent ice cream consumption among restrained eaters after an unhealthy food choice ($ps < .05$). However, providing average daily calorie intake information did not decrease subsequent consumption among restrained eaters compared to control after an unhealthy choice ($F < 1$).

The results so far showed that when consumers freely choose between unhealthy and healthy food (at T1), providing nutrition information does not influence on this choice but subsequent indulgence at T2 among restrained eaters. But what if the choice at T1 is imposed, rather than freely made? This is an important question as there have been increasing efforts to force healthier food consumption (e.g., Smart Snack provision of Hunger-Free Kids Act of 2010 in the US). Thus in study 4, we examined whether the prolonged effect of nutrition information still holds when the choice at T1 is imposed.

Study 4 employed a 2 (nutrition information: absent vs. present) X 2 (imposed food choice: unhealthy vs. healthy) X 2 (restrained vs. unrestrained eaters) between-subjects design. The study procedure and methods were identical to study 1 except that here we randomly assigned T1 choice to participants. Then, they indicated ice cream consumption as before. Surprisingly, regardless of eating restraint, there was an interaction only between nutrition information and prior food choice ($p = .01$). Participants who had been imposed with a healthy (vs. unhealthy) food increased subsequent consumption when no nutrition information had been provided for their imposed choice options ($p < .05$). However, when nutrition information for the imposed choice options had been provided (vs. not), those who had been imposed with a healthy food reduced subsequent indulgence ($p < .01$). The results suggest that although imposing a healthy choice backfires by increasing subsequent indulgent consumption regardless of eating restraint, providing nutrition information successfully undoes the backfire effect of imposing healthy choice.

To summarize, we demonstrate that although providing nutrition information has no effect on initial choice, it has positive prolonged effects on subsequent consumption decisions. Nutrition information provision helps restrained eaters to reduce indulgent food consumption at T2 after choosing an unhealthy option at T1 (studies 1 and 3). However, such effects are attenuated when nutrition information is not salient (study 2) and when an external reference for mental budget is provided (study 3). When a choice is imposed, providing nutrition information successfully eliminates backfire effects of imposing healthy food on subsequent indulgences.

**Preference Reversal of Indulgent Rewards as A Dynamic Self-Control Mechanism**

**EXTENDED ABSTRACT**

Consumers often set up an indulgent reward to motivate themselves to better pursue a goal. For example, researchers often think of luxurious trips to reward themselves for a semester’s tough work when schools get really busy, and students make plans to indulge on a nice dinner when pulling those drowsy all-nighters in the library for exams. These incentives, however, often end up not being realized once people successfully attain the goals. Researchers might prefer to rest and finish up the unfinished reviews when semester actually ends, and students might realize that a better use of the money is to save up for the school supplies for next semester.

A large body of research has documented how people use incentives to motivate their goal pursuit and the effectiveness of these incentives (e.g., Cameron and Pierce 1994). In these works, the incentives are often treated as an external reward that individuals spontaneously choose to help them achieve important life goals. What remains relatively unclear, however, is how people choose these incentives and, once they help people achieve their goals, whether and how these incentives are consumed. In the present research, we propose a dynamic self-control mechanism that specifically examines the choice of indulgent rewards when people try to resolve self-control conflicts, and role of these incentives once the conflicts are resolved.

Drawing from the literature in multiple goal pursuit (Dhar and Simonson 1999; Kruglanski 2006), we define focal goals as goals that people are actively pursuing at the moment, and chronic goals as goals that are temporally neglected during the focal pursuit. We propose that because the pursuit of focal goals temporarily suppresses chronic goals into the background, indulgent options that violate the chronic goals would appear particularly appealing as the incentive for the accomplishment of the focal goal. However, once the focal goal is attained, chronic goals become prominent and focal, the appeal of these chosen options, ironically, decreases quickly. Four studies in two self-regulatory domains (dieting and academic) demonstrated the preference of indulgent rewards that undermine chronic goals reverses as the goal priority shifts.

Study 1 used a focal goal status (active vs. completed) x dieting goal (weak vs. strong) mixed design. Participants were asked to choose a reward (ice cream vs. movie) either in the midway or in the end of a prolonged survey. When the focal task was ongoing, greater commitment to the goal of being slim, ironically, increased the likelihood that people chose ice cream as their reward for completing the more urgent goal in hand ($\beta = 0.31$, Wald $\chi^2 (1) = 4.09, p < .05$). However, once the focal goal was attained, the dieting goal negatively predicted the choice rate for the ice cream coupon ($\beta = -0.39$, Wald $\chi^2 (1) = 4.84, p < .05$), suggesting a clear self-control pattern.

Study 2 tested for the observed effect using a within-subject design. Participants were first asked to choose a reward (Karaoke or food) in the middle of a number reduction task, and offered another chance to revise their choice after completing the task. The
results replicated the previous findings. Interestingly, the more the participants concerned about academic pressure, the more likely they would choose a time-wasting Karaoke coupon first and then changed their minds in the end, $\beta = 0.91$, Wald $\chi^2 (1) = 8.48$, $p < .01$.

Study 3 tested the preference reversal for a Karaoke coupon either before the task began or when the task was ongoing. When the focal goal was not initiated, the greater one wanted to study the less likely he or she would choose a coupon for Karaoke ($\beta = -0.58$, Wald $\chi^2 (1) = 4.68$, $p < .05$). However, when the focal goal was ongoing, a strong academic goal, ironically, increased the likelihood that people chose Karaoke as their reward ($\beta = 0.64$, Wald $\chi^2 (1) = 4.05$, $p < .05$).

Study 4 explored whether the observed preference reversal was due to the suppression of chronic goals during the focal goal pursuit. Similar to study 1, participants encountered a choice between a coupon for a tempting cheesecake (indulgent option) and an entertainment voucher either during or after the task. We then reminded half of them of the dieting goal through presenting a health (vs. geography) magazine on the desk. In the control condition, the results replicated the previous findings. However, when the chronic goal was made salient via a health magazine, the observed preference reversal disappeared. People no longer preferred a cheesecake coupon even when the focal task was ongoing (NS).

In conclusion, during the focal goal pursuit, consumers prefer the reward that undermines the chronic goal to better motivate the pursuit of the focal goal; whereas, after the focal goal is attained, the chronic goal rebounds, consumers avoid the indulgent reward to maintain the chronic goal. This dynamic self-control process resolves the conflicts between a focal goal and a chronic goal.

**What’s Next? Anticipated Consumption Variety: Borrowing Affect From the Future To Slow Satiation in the Present**

**EXTENDED ABSTRACT**

With enough repetition, even very enjoyable experiences eventually become tiresome and unfulfilling. That is, a consumer’s first Hershey’s Kiss is often more enjoyable than his or her fifth due to satiation (Galak, Kruger, and Loewenstein 2013). While satiation is often regarded as an inevitable side-effect of recurrent consumption (Brickman and Campbell 1971; Redden 2008), the ability to accelerate or slow the effect remains of great interest given the implications for consumer enjoyment, repeat purchases (McAllister and Pessier 1982), and consumption regulation (Galak et al. 2014; Redden and Haws 2013).

Prior satiation research has primarily focused on how consumers perceive and experience stimuli during an ongoing consumption experience, often related to cognitive appraisals of consumption variety or repetition. For instance, item categorization level (providing general vs. specific descriptions) (Redden 2008), attention to consumption amounts (Redden 2008; Redden and Haws 2013), and mental imagery (Larson, Redden, and Elder 2014) have each been shown to influence consumer satiation rates during a present consumption experience. However, consumers attend to more than their present consumption experiences; they also anticipate the future. Past research has demonstrated the importance of present variety on consumer satiation (Redden 2008), and that anticipated variety represents an important aspect of future consumption (Ratner and Kahn 2002). For example, consumers often ponder dessert options throughout a meal or search for a new song while listening to a play list. How does anticipating more or less variety in the future influence consumer’s satiety in the present? This research examines this question: How and why does anticipating future consumption variety accelerate or slow present consumption satiation?

Anticipated experiences can produce emotional responses similar to actually experiencing the consumption event (Holmes and Mathews 2005). As such, anticipated experiences often produce a measurable effect on a range of consumer behaviors through the affect they evoke, from self-regulation (Nenkov, Inman, and Hulland 2008) to purchase decisions (Blair and Roese 2013; Tsiros and Hardesty 2010). Despite being a seemingly common consumer phenomenon, little is known regarding how anticipated future consumption variety, and the affect it may generate, influences consumers’ satiation responses in the present. Further, the moderating roles of product indulgence and consumer emotional intelligence are investigated in this research.

**Central Hypothesis.** We hypothesize that during a present consumption experience, consumers who anticipate more (less) variety in a future consumption experience will satiate less (more) quickly to a present consumption experience. We furthermore hypothesize that negative affect mediates the relationship between anticipated consumption variety and satiation rate during a present consumption experience, such that anticipated consumption variety reduces the amount of negative affect consumers experience during a present consumption experience, which leads to a decreased satiation rate.

**Empirical Support.** Four experiments support our theorizing. To test our hypothesis, experiment 1 utilized a 2 (anticipated consumption variety: more, less) x 15 (song clip exposure) mixed factor design. Anticipated consumption variety was between-subjects and song clip exposure was within-subjects. Participants were told that the study involved two listening tasks to evaluate songs for advertisements. Participants were informed that for the first task they would repeatedly evaluate the same song clip 15 times (procedure adapted from Galak et al. 2009). Participants repeatedly listened to the pretested song, “Hey Ho” by The Lumineers, and rated (15 times) their enjoyment of the 20-second clip. The description of the second task was our manipulation of anticipated consumption variety. Participants were told that after the first 15x listening task, their second task would be to listen to another [similar / different] style song from a [similar / different] style artist that most college students enjoy.

A 2 (anticipated consumption variety: more, less) x 15 (song clip exposure) repeated measures ANOVA was performed on present consumption enjoyment. Results revealed the expected song clip exposure main effect; participants found the song clip less enjoyable the more they listened to it ($F(14, 1176) = 122.45, p < .01$). The main effect of anticipated consumption variety also significantly influenced consumption enjoyment ($F(1, 84) = 5.44, p < .05$). This linear trend of decreased enjoyment with repeated consumption interacted with participants’ experimental condition ($F(14, 1176) = 1.71, p < .05$); consumers who anticipated more consumption variety in the subsequent listening task satiated more slowly than consumers who anticipated less consumption variety.

Following a similar study design, experiment 2 replicates the effects of study 2, that is, participants who anticipated more consumption variety in the subsequent listening task satiated less quickly during their first listening task ($F(14, 1862) = 1.70, p < .05$). Experiment 2 also demonstrates that negative affect fully mediates the relationship between anticipated consumption variety and enjoyment (time 15), [95% CI: .59 to 7.22]. Finally, this experiment shows that the effect holds above and beyond alternative explanations (e.g., variety seeking, attention to consumption).

Studies 3 and 4 reveal two important moderating effects: perception of product indulgence (study 3) and consumer emotional intelligence (study 4). These studies also use different music selec-
tions to further generalize the findings. In experiment 3, we predict and find support for the hypothesis that the effect of anticipated consumption variety on consumer satiation is magnified (attenuated) for vice (virtue) products. In experiment 4, we predict and find support for the hypothesis that the effect of anticipated consumption variety on consumer satiation is magnified (attenuated) for consumers with higher (lower) levels of emotional intelligence.

Too Busy to Lose Control: Impact of Busyness on Indulgent Consumption Behaviors

EXTENDED ABSTRACT

In the last few decades, ‘busy’ has become one of key descriptors of modern consumers as an increasing number of people report that they are busier than ever (Adam, 2013; Hochschild, 1997; Schor, 1991). Accordingly, the use of time-oriented appeals to empathize with today’s busy consumers has been growing in marketing (Gross, 2004; Gross and Sheth, 1989). For example, Apple’s popular Siri ad featuring Martin Scorsese focuses on the busy day of the celebrated director. Similarly, Dunkin Donut ads position their food as the real food for “busy lifestyle”. Despite an increasing number of such marketing appeals targeted at busy consumers, relatively little is understood about how such marketing appeals impact consumers. Some research examining the role of time pressure shows that time pressure leads consumers to primarily rely on affect and choose more myopic and indulgent options (Cohen, Pham and Andrade, 2008; Siemer and Reisenzein, 1998). In the context of busyness-oriented marketing appeals, therefore, this stream of research would suggest that such appeals should increase indulgent consumption behaviors.

Contrarily, we argue that busyness-oriented marketing appeals reduce indulgent consumption behaviors by making subjective busyness—thoughts of oneself as a busy person—salient. Drawing upon research suggesting a link between subjective busyness and positive self-view (Perlow, 1999; Schor, 1991), we propose that subjective busyness (hereafter, referred to as busyness) enhances one’s perception of self-importance. Since busyness also signals that one has not completed all the tasks yet, we posit that busyness would enhance self-importance without eliciting feeling of pride or achievement. Therefore, building on literature showing that enhanced view of self has positive impact on self-control (e.g., Bandura, 1989; Mischel, Shoda and Peake, 1988; Schmeichel and Vohs, 2009), we predict that busyness would reduce indulgent consumption behaviors by enhancing self-importance.

In Study 1, we tested our main argument that busyness reduces indulgence in the context of ad. If our hypothesis is valid, we should observe that busyness-oriented appeals reduce desire for indulging brand (McDonald’s), but not for non-indulging brand (Subway). Busyness was manipulated by varying a tagline in the ad: ‘Good-to-go, for Busy Americans’ (busyness) vs. ‘Good-to-go, for Americans’ (control). Participants were randomly assigned to view one of four ads (McDonald’s-busyness, McDonald’s-control, Subway-busyness, Subway-control) and indicated their desire for the food on the ad on a 7-point scale. As hypothesized, desire for McDonald’s was significantly lower when busyness appeal was used ($M_{busyness} = 3.21$, $SD = 2.39$) as compared to when it was not used ($M_{control} = 4.68$, $SD = 2.02$, $p < .05$), however, no such difference was found for Subway.

In Study 2, we provide support for our underlying process by demonstrating a mediating role of self-importance. Participants were randomly assigned to a condition and asked to recall recent time when they were busy (vs. not-busy) and write about how they felt during that time. Subsequently, they indicated how important they feel and answered various mood and arousal measures. Finally, they completed a delayed discounting task adapted from Thaler (1981). Since myopic view is linked to indulgence, if our hypothesis is correct, we should observe participants in the busy condition to discount less. As predicted, participants in the busy condition reported feeling more important, and discounted future value less as compared to those in the not-busy condition. More importantly, a bootstrap analysis revealed a significant mediation by feeling of self-importance on discounting rate ($CI_{lower-bound} = -1.89$, $CI_{upper-bound} = -.03$). No difference was found on mood and arousal measures.

In Study 3, we provide further support for the underlying process by demonstrating that negative impact of busyness on indulgence is attenuated when self-importance is dampened in an intervening task. Summer students were recruited and randomly assigned to one of four conditions (busyness: salient vs. not x self-importance: dampened vs. not-dampened). Participants in the busyness-salient (busyness-not salient) condition were told that a recent study we’ve conducted revealed that students who stay on campus during summer are busier (tend to engage in different activities) than students who leave campus and asked to write two or three things that keep them busy (they do). The next question asked participants to think about how many people in their lives consider them an important person and indicate their answer on either a scale that ranged from 1-5 (not-dampened) or 10-50 (dampened). This manipulation was based on the logic that responding toward the top or the bottom of a scale could lead responders to make corresponding inferences about themselves (Schwarz, 1999). Therefore, participants responding on the 10-50 scale should feel less important, and the feeling of self-importance induced by the busyness manipulation should be attenuated. Finally, participants were asked to choose between an apple (healthy option) and a brownie (indulgent option). A logistic regression revealed a significant effect of the interaction term between busyness and self-importance on the choice of snack (Wald(165) = 4.20, $p < .05$). Specifically, when busyness was made salient, a significantly higher percentage (65%) of participants chose an apple, compared to when busyness (38%) was not made salient. This effect of busyness appeal was attenuated when the self-importance was dampened in an intervening task.

Finally, in a field study that lasted over three weeks at a main dining hall of a large university, we found that making busyness salient in the environment reduced the percentage of fat calories taken compared to when busyness was not salient. In sum, we provide a converging support for our argument that busyness reduces indulgent consumption behaviors by enhancing perception of self-importance.

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