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Labovitz School of Business & Economics, University of Minnesota Duluth, 11 E. Superior Street, Suite 210, Duluth, MN 55802

Vicarious Goal Fulfillment: When the Mere Presence of a Healthy Option Leads to an Ironically Indulgent Decision

Keith Wilcox, Babson College, USA

Beth Vallen, Loyola College, USA

Lauren G. Block, Baruch College, CUNY, USA

Gavan Fitzsimons, Duke University, USA

The recent trend of restaurants and event venues adding healthy options to supplement their typically unhealthy offerings is predicated on the assumption that making nutritious alternatives more available will lead to better food choices. However, across four studies in varying food consumption domains, we show that for some individuals the mere presence of a healthy food option in a relatively unhealthy choice set (1) vicariously fulfills health-related goals, (2) drives attention to the least healthy option in the choice set, and (3) licenses them to select the most indulgent alternative. Ironically, this effect is strongest for people with greater self-control.

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SPECIAL SESSION SUMMARY

Nudging Consumers Towards Healthier Food Choices

Pierre Chandon, INSEAD, France

EXTENDED ABSTRACTS

“Vicarious Goal Fulfillment: When the Mere Presence of a Healthy Option Leads to an Ironically Indulgent Decision”

Keith Wilcox, Babson College, USA

Beth Vallen, Loyola College, USA

Lauren G. Block, Baruch College, CUNY, USA

Gavan Fitzsimons, Duke University, USA

In response to mounting criticism that their offerings contribute to rising obesity rates, many fast food chains have added healthier options to their menus. While this menu expansion has been beneficial for consumers who tend to make healthier meal choices, its effect is far from ubiquitous. In fact, much of McDonald's recent financial success is not attributed to new healthy menu additions, but rather to increased sales of more indulgent options like burgers and fries (Case 2006). With the increased availability of nutritious menu options, why have more consumers not swapped their french fries for salad? In this paper, we present evidence that for many consumers, the mere presence of such alternatives can, ironically, increase the consumption of the unhealthiest item on the menu.

Recent research suggests that individuals license themselves to indulge in temptations when they have previously acted in line with a long-term goal. This research suggests that when individuals focus on their progress towards a focal goal, it allows them to temporarily disengage from that goal to pursue indulgent alternatives (Fishbach and Dhar 2005). Related research on the licensing effect shows that prior virtuous behavior—or even intentions to act in such a manner—provides individuals with the rationale for activities and choices that are not in line with long-term goals (Khan and Dhar 2007). We extend this reasoning to suggest that when individuals have the opportunity to engage in a course of action that is consistent with healthy eating goals, the consideration of this option will satisfy the goal—at least temporarily—and, in turn, license them to indulge. Moreover, we suggest that this licensing effect does not merely result in the selection of a less healthy option, but rather the most indulgent option available.

Interestingly, the goal activation processes that underlie this behavior suggests an ironic effect of sorts at the individual level; namely that the effect will be accentuated for individuals who are high in self-control. Previous research has shown that individuals high in self-control have more accessible cognitions associated with the achievement of long-term goals compared to those low in self-control, thus demonstrating a greater focus on achieving important long-term objectives (Giner-Sorolla 2001). In addition, high self-control individuals are also likely to rely more heavily on cues that justify indulgent choices (Kivetz and Zheng 2006). Thus, we predict that the mere presence of a healthy item in a choice set of less healthy food alternatives will result in a greater likelihood of choosing the least healthy item for individuals with high self-control.

In study 1, we presented respondents with side dish menus consisting of either relatively unhealthy food items (i.e., french fries, chicken nuggets and baked potato) or the same items in addition to a relatively healthy item (i.e., salad). We found that, ironically, when the healthy alternative was added to a menu, it increased the likelihood of selecting the most indulgent option for people with high self-control.

Our second study replicated the findings of study 1 in two different, food-related contexts, specifically the selection of an entrée and the choice of a within-category packaged snack food.

Study 3 provided direct evidence of goal activation/fulfillment as the underlying process. When the choice set did not include a healthy option, higher levels of self-control corresponded to faster response times to health-related words, indicating greater activation of these goals relative lower levels of self-control. Interestingly, when the choice set did include a healthy option, the response times to health-related words for high self-control individuals were slower, demonstrating less accessibility when the choice set includes a healthy option, compared to when the healthy option was not included. In other words, while high self-control individuals are better equipped to activate self-control in response to tempting stimuli, they are also highly susceptible to cues that reduce the threat imposed by tempting stimuli and, as such, are likely to fail in self-control efforts under some conditions.

Our final study provided additional support for our proposed goal activation process using a categorization approach to demonstrate vicarious goal fulfillment. Prior research (Ratneshwar et al. 2001) shows that accessible health goals lead individuals to rate food items with different levels of healthfulness as less similar to one another, while individuals with less accessible health goals rate such items as more similar to one another. In study 4, we show that the presence of the healthy item increases the perceived similarity of the items for individuals with high self-control compared to when the healthy item is not present. Importantly, we show that once healthy eating goals are fulfilled and perceived similarity among items in the choice set is high, high self-control individuals pay more attention to the most indulgent option in the choice set. Thus, we demonstrate that high self-control individuals increase the amount of attention paid to the most indulgent option in the choice set, explaining why the most indulgent option, rather than any indulgent option, is chosen.

The most obvious implication of these findings is that, despite the rush to offer healthier food alternatives, this trend may be doing little to alleviate the deeper societal issue of rising waistlines. Interestingly, while the waistlines of many consumers might be suffering as a result of the inclusion of healthier menu options, food retailers appear to be reaping substantial benefits. For instance, a recent consumer loyalty study ranks McDonald's as the front-runner in the fast food category (Hein 2008). Typically low in the rankings, McDonald's turnaround performance this year has been attributed, in part, to the inclusion of healthier alternatives that increase menu variety. Therefore, while the inclusion of healthy items is driving some consumers to make less optimal food choices, it appears to be increasing their satisfaction with food retailers and, perhaps, the choices themselves. Thus, an understanding of goal fulfillment processes is of substantial importance for understanding consumer behaviour at the individual level, as well as broader issues like the U.S. obesity epidemic.

References

- Case, Tony (2006), “Fast Food,” *Adweek*, 47(18) SU20.
Fishbach, Ayelet and Ravi Dhar (2005), “Goals as Excuses or Guides: The Liberating Effect of Perceived Goal Progress on Choice,” *Journal of Consumer Research*, 32(3), 370-77.

- Giner-Sorolla, Roger (2001), "Guilty Pleasures and Grim Necessities: Affective Attitudes in Dilemmas of Self-Control," *Journal of Personality and Social Psychology*, 80(2), 206-21.
- Hein, Kenneth (2008), "McD's, Sam Adams in Line with Shifting Loyalty Drivers," *Brandweek*, 49(7), 8.
- Khan, Uzma and Ravi Dhar (2006) "Licensing Effect in Consumer Choice," *Journal of Marketing Research*, 43 (2), 259-66.
- Kivetz, Ran and Yuhuang Zheng (2006), "Determinants of Justification and Self-Control," *Journal of Experimental Psychology: General*, 135(4), 572-87.
- Ratneshwar, S., Lawrence W. Barsalou, Cornelia Pechmann, and Melissa Moore (2001), "Goal-Derived Categories: The Role of Personal and Situational Goals in Category Representations," *Journal of Consumer Psychology*, 10(3), 147-57.

"Rejection is Good for Your Health: The Influence of Decision Strategy on Food and Drink Choices"

Jane Machin, Virginia Polytechnic Institute and State University, USA

Yong Wan Park, Virginia Polytechnic Institute and State University, USA

A hungry woman stands at a breakfast buffet deciding whether to consume an apple or a donut. Can she be nudged towards the apple simply by thinking about which option to reject, rather than which option to select? Laboratory studies provide support for this idea.

Decision strategy is the process used to make a choice: a rejection-based decision strategy occurs when the primary focus of the decision is on rejecting the undesired option(s) whereas a selection-based decision strategy occurs when the primary focus of the decision is on selecting the desired option. Prior research suggests that selection and rejection are not complementary strategies (e.g. Shafir, 1999). Of importance here is the finding that using a different decision strategy can lead to preference reversal in choice sets where one option has stronger positive attributes but also stronger negative attributes relative to another more neutral option. The positive information is weighted more heavily when using a selection-based decision strategy, but the negative information is given more attention when using a rejection-based decision strategy, resulting in the enriched option being both selected and rejected more frequently than the impoverished option.¹

We extend findings in this literature to the area of food decisions, improving our knowledge of the food and drink decision making process and providing a simple intervention to improve dietary choices. Specifically, we propose that unhealthy foods are often spontaneously construed as enriched options. A donut, for example, is very high in calories (a strong negative attribute) but tastes great (a strong positive attribute). An apple, on the other hand is, relatively, more neutral. In support of this idea, Raghunathan, Naylor & Hoyer (2006) find that consumers rate unhealthy foods as better tasting than healthy foods. Combining these two research streams leads to the proposition that, compared to selectors, rejecters will spontaneously focus more attention on the negative attributes of the enriched option (e.g. the relatively high calorie content), leading them to reject this option and consume the alternative,

relatively healthier option. Selectors, on the other hand, will focus more attention on the positive attributes of the enriched option (e.g. the superior taste), leading them to consume it.

Shafir (1993) provides some early support for this proposition in his Problem 6 (p 551). Our research extends Shafir's finding in numerous ways. First, in Shafir's vignette, rejecters received supplementary information and were also artificially endowed with both options. To demonstrate that the results replicate in more natural situations, information about the choice options was held constant between selectors and rejecters in all our studies and only decision strategy differed. For example, Study 1a presented identical information about the healthiness and taste of two types of frozen dessert to all participants. Half the participants were then asked "which do you want to eat" while the other half were simply asked "which do you not want to eat?" Consistent with the hypothesis, participants who chose by rejecting the dessert they did not want were significantly more likely to choose the healthier option. Study 1b replicated this result in a drink choice situation. Rejecters were significantly more likely to select the healthy option (mineral water) compared to selectors.

More importantly, Shafir's participants were given explicit information about both health and taste attributes. In the real world, however, such overt information is often not readily available. Building on the "unhealthy=tasty intuition" (Raghunathan, Naylor & Hoyer 2006) we expect that participants, spontaneously inferring that unhealthy options will taste better, will both select and reject the unhealthy options more frequently. Results confirm this hypothesis. Study 2 demonstrates that using a rejection-based decision strategy leads to healthier food choices when only health information is provided. Participants were given a real choice between three types of cracker, varying in the degree of fat they contained. Compared to participants who chose by selection, participants who chose by rejection were significantly more likely to choose the healthiest cracker. Study 3 removed all explicit information about the options. Participants were shown a mock drink vending machine where the brand names of various drink options were visible, but no explicit health or taste information was presented. Once again, participants who chose by rejection were significantly more likely to choose the healthier option (bottled water) compared to participants who chose by selection. Additional analyses in studies 2 and 3 demonstrate that differences in beliefs about the relative taste of the options mediate the relationship between decision strategy and choice.

Study 4 extends the findings to a situation where actual dietary information could be analyzed to provide an objective reference point regarding the healthiness of the choice. Participants were presented with a take-out menu from Arby's and asked to choose a meal for lunch that day by either selecting the items they wanted or rejecting the items they did not want. Rejecters made objectively healthier meal choices. For example, the total carbohydrate count in the meals chosen by selectors was significantly higher than that of the meals chosen by rejecters and the total grams of fat in the meals chosen by selectors was significantly higher than that in the meals chosen by rejecters.

In all the above studies, decision strategy was manipulated. While these demonstrate that consumers can be encouraged to adopt a rejection based decision strategy, leading to healthier choices, there is little understanding whether rejection-based decision making ever occurs spontaneously. Study 5 presented participants with a variety of choice situations and, using language meant to be as neutral as possible, asked participants to "indicate their decision". Compared to those who used a selection-based decision strategy, participants who spontaneously reported using a rejection-based decision strategy were significantly more likely to

¹The term "enriched" has a specific meaning within research on nutrition (i.e. vitamins have been added to the food; Doyon and Labrecque 2008) that is not relevant here. Enriched is used only as Shafir (1999) defines it, to refer to the option with more positive as well as more negative dimensions.

choose frozen yogurt over ice cream, an apple over a donut and a medium size fast food meal over a large size.

Marketers of healthy food products could easily encourage the use of a rejection-based decision strategy through, for example, comparative advertising techniques and in-store decision aids, helping to nudge consumers to “have it their way—more healthily”—more apples, less donuts.

References

- Doyon Maurice and JoAnne Labrecque (2008), “Functional Foods: A Conceptual Definition,” *British Food Journal*, 110 (11) 1133-1149
- Raghubiran, R., R. W. Naylor and W. D. Hoyer (2006), “The Unhealthy=Tasty Intuition and Its Effects on Taste Inferences, Enjoyment, and Choice of Food Products,” *Journal of Marketing*, 70 (4) 170-184.
- Shafir, E. (1993), “Choosing Versus Rejecting: Why Some Options Are Both Better and Worse Than Others,” *Memory and Cognition*, 21 (4) 546-556.

“Linearize This! Why Consumers Underestimate Food Portion Changes and How to Help Them”

Pierre Chandon, INSEAD, France

Nailya Ordabayeva, INSEAD, France

Because large packages and portions lead to greater consumption, the trends towards supersized food portions and packages is considered one of the prime drivers of the obesity epidemic (Cutler et al. 2003; Nielsen and Popkin 2003). Supersizing leads to overeating because people do not realize just how big these portions are. Therefore, improving people’s size estimations is essential to help consumers choose smaller, and healthier, portions sizes (Chandon and Wansink 2007). In this research, we examine how consumers estimate changes in package and portion size and what can be done to improve their estimations.

Research in psychophysics has shown that people’s estimations of object size follow an inelastic power function of its actual size (Estimated size = $a \cdot (\text{Actual size})^b$, where $b < 1$), which means that people underestimate the magnitude of size changes (Stevens 1986). In previous research (Chandon and Ordabayeva 2009), we showed that size estimations are even less elastic when a package increases or decreases along all three dimensions (height, length, and width) rather than a single dimension in space (e.g., only in height). However, we still do not know why this happens.

As suggested by prior research (Raghubir 2007), we examine two potential causes of these psychophysical biases—information integration (i.e., incorrectly integrating dimensions) and information attention (i.e., ignoring some dimensions). We further hypothesize that the key problem is biased information integration caused by the reliance on an additive model of size change (vs. the correct multiplicative one). Specifically, we hypothesize that consumers add the increases in package dimensions instead of multiplying them. As a result, people think that a 26% increase in height, width, and length increases volume by 78% ($26+26+26$) when, in reality, it increases volume by 100%.

Our model leads to several testable hypotheses. First, it predicts that consumers accurately estimate size changes when they occur along a single spatial dimension but underestimate size changes when they occur along two dimensions, and even more so when they occur along three dimensions. Second, linearizing size changes by decreasing the dimensionality of changes from 3D to 2D to 1D reduces the underestimation bias and increases the preference for large packages and portions (when people prefer more food to less). Third, because it is an information integration and not an

information attention bias, drawing attention to the fact that all three dimensions of a package change (i.e., by asking people to estimate the change in each of the three dimensions) does not reduce the underestimation bias or people’s size preferences. However, it is possible to improve people’s size change estimations by simply multiplying their (linear) estimations of the change in each of the three dimensions. We test these hypotheses in two studies.

In Study 1, we studied the effect of the two linearizing manipulations (dimensionality and decomposition estimation) on consumers’ size estimations for increasing packages. The participants saw pictures of four sizes of popcorn boxes which increased either in 1D, 2D or 3D (between-subjects). Participants were given the size and the price of the smallest box (A) and were asked to estimate the sizes and prices of the remaining three boxes. Participants in the decomposition estimation condition were also provided with the sizes of the dimensions of size A and were asked to estimate the dimensions of the remaining three boxes before providing their size estimations. As expected, we found that people underestimated the magnitude of supersizing ($b = .63$), and more so in 3D vs. 2D vs. 1D ($b = .48, .65, .73$, respectively). As expected, drawing attention to the fact that all three dimensions could be changing by asking people to estimate the size of each dimension did not improve their size estimations ($b = .62$) and did not reduce the effect of dimensionality ($b = .50, .54, .70$ in 3D, 2D and 1D conditions, respectively). All these results were also obtained when looking at willingness to pay, supporting our hypotheses. In addition, the additive model of information integration fit the data significantly better than the multiplicative model, suggesting that people do indeed add % changes instead of multiplying them.

In Study 2, we looked at increasing as well as decreasing package sizes, used real products (instead of pictures), and examined the effect of the two linearizing strategies on choice (and not just on size estimations and WTP). The participants saw four increasing or four decreasing sizes (between-subjects) of a rectangular candle and a cylindrical candy box displayed on the table. We manipulated the dimensionality of size change and decomposition between-subjects as in Study 1. In addition to size estimations and WTP, we asked the participants to indicate their preferred size for each product. We found that, for both supersizing and downsizing, decreasing the dimensionality of size change improved the accuracy of size estimations. Interestingly, we found that size estimations were steeper and more linear (and hence more accurate) for downsizing than for supersizing ($b = .75$ vs. $.85$ for supersizing vs. downsizing, respectively). As in Study 1, decomposition task did not improve size estimations or reduce the effect of dimensionality. Again, the additive model predicted size estimations better than the multiplicative model.

Study 2 also showed that decreasing the dimensionality of size change increased the preference for large sizes of both products (30% vs. 43% vs. 64% chose the largest two sizes in 3D, 2D, and 1D, respectively), as expected. However, the decomposition strategy increased the preference for large size of candles (from 30% to 46%) but decreased the preference for large sizes of candies (from 55% to 49%). This suggests that drawing attention to the three dimensions, although it did not improve people’s size estimations, activated more utilitarian goals and thus motivated people to choose larger (and cheaper) candle sizes but smaller (and healthier) candy sizes.

In a final study in progress, we are testing the conflicting predictions of the additive and multiplicative models when package dimensions change in opposite directions (e.g., the height of a cylinder increases, but its diameter decreases). This will allow us to test whether consumers can be fooled by downsized packages

which appear bigger than they actually are (because the strong % reduction in one dimension seems to be compensated by the % increase in two other dimensions).

Understanding what drives the underestimation of size changes should suggest effective strategies to improve consumers' perceptions of supersized and downsized packages and portions. Our findings suggest that packages that linearize the estimation problem (by reducing the dimensionality of size change) should nudge consumers toward healthier choices.

References

- Chandon, Pierre and Nailya Ordabayeva (2009), "Supersize in 1D, Downsize in 3D: Effects of Spatial Dimensionality on Size Perceptions and Preferences," *Journal of Marketing Research*, 46(6), 739-53.
- Chandon, Pierre and Brian Wansink (2007), "Is Obesity Caused by Calorie Underestimation? A Psychophysical Model of Meal Size Estimation," *Journal of Marketing Research*, 44 (1), 84-99.
- Cutler, David, Edward Glaeser, and Jesse Shapiro (2003), "Why Have Americans Become More Obese?" *Journal of Economic Perspectives*, 17 (3), 93-118.
- Nielsen, Samara Joy and Barry M. Popkin (2003), "Patterns and Trends in Food Portion Sizes, 1977-1998," *The Journal of the American Medical Association*, 289 (4), 450-53.
- Raghubir, Priya (2007), "Are Visual Perceptual Biases Hard-Wired?" in *Visual Marketing: From Attention to Action*, ed. Michel Wedel and Rik Pieters, New York: Lawrence Erlbaum Associates, 143-66.
- Stevens, Stanley Smith (1986), *Psychophysics: Introduction to its Perceptual, Neural, and Social Prospects*, Oxford: Transaction Books.