Consider the Consequences: the Effect of Consequence Information on Consumer Choice of Snack Foods

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Abstract
This paper examines how the inclusion of consequence information in nutrition labeling affects food choice. A sample of 98 undergraduates participated in an experiment designed to assess the value of consequence information. Consumption goals and presence of consequence information were manipulated experimentally. Overall health goals were measured as an additional predictor. Preliminary results indicate that consequence information is capable of spurring healthier food selections, but that this effect is contingent upon the level of health goal and the specifics of the snacking situation. Implications for academics, brand managers, and government policy makers are discussed.

Conceptualization
The obesity rate is rising at an alarming rate in the United States. The rate among American adults doubled between 1980 and 2000. During the same time, the rate doubled among children and tripled among adolescents. This rapid rise in obesity rates has profound implications for human health as well as the economy (US Department of Health and Human Services, 2005a). One response to this crisis has been to provide consumers with information that aids choice. The Nutrition Labeling and Education Act (NLEA) of 1990 led to a number of studies of use of nutrition information and consumer behavior. An overall conclusion of this research stream is that for many, nutrition labels do not have a strong affect on food choice (Wansink and Huckabee 2005). If labels can help consumers make better choices, new approaches are called for.

This research examines one such opportunity—the addition of consequence information to labels. Specifically, we investigate whether consequence information should enable choices that are more consistent with the chooser's goals.

Self-Regulation
Self-regulation refers to the mental processes used to control one’s functions, states, and inner processes, that when combined, transform the inner animal nature into a civilized human being (Vohs and Baumeister 2004). Several approaches have been used in the study self-regulation. The classical theory of Carver and colleagues (e.g., Carver and Scheier 1981; Carver and Scheier 1990) is most applicable to this research.

Cybernetic Control and Feedback Loops
Carver’s (2004) model of self-regulation is based upon an analogy of cybernetic control. Like a thermostat, cybernetic control switches actions on/off in response to progress towards (away from) a goal state (Carver 2004). Cybernetic control operates in a four step cycle: 1) input function, 2) comparator, 3) output function, and 4) effect on environment. The input function (perception) brings information into the system about the state of the environment. In the present research, this includes nutritional information about the attributes of snack foods under consideration. A comparator is a mechanism that calculates a comparison between the input and the relevant goal or standard. If the comparison yields a discrepancy, then the output function (behavior) changes. In this research, it is expected that the projected consequences of eating a particular snack food are compared to the chooser’s goal state.

Consequence information should enable choices that are more consistent with the chooser’s goals. Using the standard NLEA nutrition facts panel, one must process relatively abstract concepts, such as number of calories and fat grams, to form a judgment of whether a snack supports a goal. When straightforward consequence information is provided, a more direct comparison is possible. For example, if the amount of associated weight gain or the amount of exercise required to expend the calories contained were presented, a comparison to the goal state becomes straightforward. Finally, if the behavior change is effective, then some change results in the environment, which is detected in the next cycle of the input function. This part of the process falls outside the context of this study.

People possess both chronic and situational goals, which may at times conflict. For example, a person may have the chronic goal of maintaining a healthy weight, but in a given situation have the goal of rewarding him or herself with an indulgent snack. Applying the analogy of cybernetic control to this situation, we can imagine multiple conflicting feedback loops in operation. Under conditions of such goal conflict, consequence information has the potential to enable the feedback loop associated with the chronic goal of weight loss/maintenance to become more dominant in the resolution of goal conflict.

Method
Participants
Participants were 98 undergraduate business students at a major southeastern university. Students were recruited from business classes and were awarded extra credit for participation.

Procedure
The computer mediated experiment was a mixed design with one factor (consequence information; present or absent) manipulated between subjects, and another factor (consumption goal; hedonic or utilitarian) manipulated within subjects. Order of presentation of the choice tasks, content of the choice tasks, and screen position of the choices were counterbalanced, resulting in 16 versions of the materials to which participants were randomly assigned. Following a practice choice task, participants were asked to imagine themselves in a
scenario seeking a snack to either satisfy hunger (utilitarian goal) or to reward themselves for studying hard (hedonic goal). Prices of the two choices were not shown, but were reported to be equal, to avoid potentially confounding effects of price sensitivity.

All participants were shown package images and NLEA nutrition facts panels. Consequence information was manipulated by the addition of the following example text to the NLEA label:

**Nutrition Consequences:** If you do not use up the calories contained in this snack, and you eat a similar snack daily, you will gain 1 pound every 21 days.

To use up the calories in this snack, you need to walk or jog about 1.7 miles.

Participants were asked to put themselves in the scenarios and select between two snacks. One snack was higher in calories than other. The lower calorie option is assumed to be more consistent with the chronic goal of weight loss/maintenance.

**Major Findings**

Cross-tabulation was used to evaluate the effects of consequence information and nutritional goals on product choice under each of two situational goals. Initial findings suggest that under conditions of a situational hedonic consumption goal, for consumers who possess a chronic goal of weight loss/maintenance, the addition of consequence information leads to selections more consistent with the chronic goal than the NLEA nutrition facts panel alone ($\chi^2 = 2.746, p = .097$). No other significant effects were found. If these results are confirmed by further studies, this research will have important implications to public policy.

**References**


How and Media and Advertising Jointly Affect Ad Effectiveness

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Advertising that appears in a media context can be affected by both consumers’ experience with the media context and their experience with the ad itself. To date, the two issues have been studied separately. One line of research focuses on the media context effects and demonstrates that consumers’ experience with the media context programs could affect ad effectiveness either positively or negatively. A second line of research studies consumers’ experience with the ad itself and how that affects ad effectiveness. We look at both issues in our study and seek to show how consumers’ experience with the media context interacts with their experience with the ad to affect an ads’ ultimate effectiveness.

Many studies have looked at advertising context effects. Some of them show a positive effect (e.g., Anand and Sternthal 1992; Feltham and Arnold 1994) whereas others show a negative effect (e.g., Norris and Colman 1992; Soldow and Principe 1981). Rather than resolving the conflicting results, Wang and Calder (2006) propose a theory that predicts both a positive media context effect and a negative one. The authors argue that it is crucial to look at the relationship between the advertising and the media context that it’s embedded in. People come to media for its content and enjoy being transported into the media content. If the advertising is inserted in such a way that it is intrusive to consumers’ media experience, a high level of media transportation leads to reduced ad effectiveness because of the ad intrusion. However, if advertising occurs without intruding on consumers’ transportation experience with the media, this enjoyable experience enhances ad effectiveness. The authors also show that such transportation effects operate independently of another frequently studied construct—context involvement.

Consumers’ experience with the ad itself could also affect ad effectiveness. Deighton, Romer, and McQueen (1989) find that more dramatic television commercials are processed differently from more argument oriented ones. More recently, Escalas (2004b) finds that narrative ad processing is positively correlated with brand attitudes and behavioral intentions. According to Escalas (2004a), a narratively structured ad increases ad effectiveness by connecting the ad to the self via narrative transportation.

In our research, we study both media context transportation and advertising transportation and examine how they jointly affect ad effectiveness. The study has a 2 (media context transportation: high vs. low) × 2 (advertising transportation: high vs. low) design. We manipulate both context transportation and advertising transportation by varying the narrative structure of each. Following Wang and Calder (2006), participants either read a story that has a linear chronological flow, or read another version of it where the chronological flow was broken. An ad for Chicago Tribune is inserted in the middle of the story at the climax for all participants.

The High Transportation Ad consists of three small cartoon pictures that together tell a story. The first picture shows a person lying on a couch, bored; the second picture features this person reading Chicago Tribune; and the third one shows the person enjoying a party. The three pictures are organized such that the antecedence and consequence of reading Chicago Tribune are clearly conveyed. In the Low Transportation Ad, we reordered the three pictures such that it started with the party picture, followed by the lying-on-the-couch picture and the reading-newspaper picture, in that order. We predict that disrupting the narrative flow of the story within the ad will reduce consumers’ transportation experience with the advertising.

When transportation into the advertising was low, we replicated Wang and Calder’s (2006) results. Participants who were highly transported into the media context had less favorable product attitude because the ad was perceived as intrusive. However, this negative media transportation effect on ad effectiveness disappeared when transportation into the advertising was high. Participants had equally favorable product attitude regardless of their media transportation experience.

Advertisers select popular media programs for their advertising. However, Wang and Calder (2006) showed that such placement could lead to reduced ad effectiveness. One way to offset the negative media transportation effect is to place advertising in a nonintrusive way (e.g., Study 1 in Wang and Calder 2006). Another is to improve the effectiveness of the ad itself. One way to achieve high ad effectiveness is to state the position in a narrative format so that consumers could be transported into the advertising. Such positive experience with the ad can compensate the negative media transportation effect on advertising.

References