

# Framing Effects with Differential Impact: The Role of Attribute Salience

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## ABSTRACT

The purpose of this research is to investigate attribute framing effects in an information complex environment where consumers view the frame via a realistic product package and experience a taste test. The framed attribute (content of chocolate expressed as "20% fat" or "80% fat-free") used in our experiment is differentially meaningful to male and female respondents. Framing effects were limited to female consumers for whom the framed attribute was particularly salient.

## INTRODUCTION

"Framing effects" has become a generic term to represent the idea that people respond differently to different representations of equivalent information. This apparent difference has been linked to availability of only one side of the information—the glass half full, half empty phenomenon. We are specifically interested in studying attribute frame effects—verbal labels that describe objectively equivalent product attributes in different ways. This paper's purpose is to better understand the processes that underlie framing effects by bringing attribute framing into a realistic consumer choice environment involving direct experience with a chocolate bar. In this environment, it is predicted that attribute salience will moderate the frame effects.

We begin by briefly describing prior effort to make framing studies more realistic. We introduce our perceiver need/salience explanation to describe how framing effects may operate in a more information complex environment. We then look at frame effects from a hierarchy of evaluative responses.

## BACKGROUND

Much of the research on framing effects has been confined to either risky choice paradigms or environments which become hard to generalize to the consumer environment. Levin and Gaeth (1988) made framing studies more consumer-oriented by adding a direct product experience to the frame paradigm. Levin and Gaeth (1988) found when ground beef was described as "75% lean" respondents rated their actual taste experience more favorably than when it was described as "25% fat." Though the experience diminished the frame effect, it did not negate it. They suggest that an averaging model may be used to describe the information integration process—as more information is made available to consumers, each piece of information will have less weight on the decision. Therefore, we see diminished effects of the framing of a single attribute in a more complex environment.

This study extends that work by adding to the direct experience a viewing of the framed information within the realistic context of information provided on a product package. The significance of this addition is that individual consumers may differentially attend to this information (fat content of a chocolate bar) depending upon its personal relevance to them. In our study we manipulate the frame's salience by choosing an attribute that has differential relevance to males and females.

## PERCEIVER NEEDS/SALIENCE OF FRAME

We know consumers often limit their information search to attributes of direct interest to themselves. Based on the averaging model, we predict under a more complex environment where there

is much information competing for the consumers' attention, only consumers for whom the framed attribute is salient will experience the frame effects on the end choice behavior. The salience of the framed information will depend on consumers' perceived relevance of the fat information. We build on the perceiver and communication interaction model proposed by Taylor and Thompson (1980) in order to account for differences in use of vivid information to explain the magnitude of the framing effects.

Salience refers to the phenomenon when one's attention is differentially directed to one portion of the environment rather than to others. The information contained in that portion will receive disproportionate weighting in subsequent judgments (Taylor and Thompson 1980). According to the Taylor and Thompson model, whether vivid information becomes salient to the consumer depends on how relevant the information is to their needs. In our study we make the framed fat attribute vivid on the target chocolate bar by displaying the information in a bright yellow box. Salience is measured indirectly in this study by having consumers freely list the attributes which were important when making their decision. It is directly manipulated through the choice of the gender-relevant attribute, fat content and the product, chocolate bar. Several manufacturers have begun to offer products geared toward females' need for a low-fat indulgence, e.g. Snackwell's line of fat-free cookies which use highly excited women who chase the Snackwell "cookie man" as the focal point in their advertising messages.

In our study we expect gender differences in perceived relevance of the framed information, where females find the fat information to be more relevant, and subsequently weight it higher in their decision making.<sup>1</sup> Rothman, Salovey, Antone, Keough and Martin (1993) have found that gender differences in level of involvement with a health issue led to differences in their message framing study. This difference has not yet been shown in the attribute framing domain. In addition, research on nutritional labeling has found that individual difference variables, such as nutritional motivation, may affect consumers' perception, processing, and evaluation of specific claims and nutrient information offered on product packages (Moorman 1990). In our study, psychographic variables related to the need to use the fat information are measured as manipulation checks in order to verify that it was the perceiver's need which led to the attribute's salience.

## HIERARCHY OF FRAME EFFECTS

We propose that in representing a complex consumer environment the framed attribute has to go through several stages before it has an impact on end-behavior, a response hierarchy of effects, similar to what we study in advertising, a learn-feel-do sequence, beginning with 1) cognitive recognition of the frame, 2) moving toward a higher level of affective feelings, to 3) overall evaluation, then finally 4) the choice decision. Previous framing researchers have looked at parts of this process but not the entire chain. In particular, most studies of attribute framing use rating measures of

<sup>1</sup> In a pilot study we found females were more likely to notice the framed fat information, recalled it better, and said it influenced their decision more than males.

overall evaluation and cognitive ratings; most studies on attribute frame effects do not measure cognitive and affective dimensions of judgment nor choice.

Below we discuss each stage of this hierarchical frame effect process. We believe attribute salience to moderate this process: that is, if the attribute is salient to an individual, it will be noticed more and receive more attention in processing; it will lead to greater impact on feelings toward the product; both the cognitive and affect components will influence overall evaluation; and that will lead to a choice decision. We expect that for many females, because of their perceived need and interest in the framed information, they will experience frame effects throughout this process. Maheswaran and Meyers-Levy (1990) have suggested that level of processing may be related to findings of frame effects in the message framing domain. This has not yet been investigated in attribute framing studies. (Levin, Schneider, Gaeth and Conlon 1996)

**Cognition.** For the framed information to have impact it first has to be perceived and processed. We will test for this processing of the framed information using a recognition test. To check for frame effects on cognition we use our evaluative measures where consumers rate the chocolate on various attribute dimensions. We expect that only attributes closely related to the frame will be impacted.

**Affect.** Earlier work done by Levin and Gaeth (1988) posits that a positive frame invokes positive associations whereas a negative frame causes disagreeable associations, suggesting the frame might have also have an effect on feelings toward the product. In risky choice framing studies (Frisch 1993) and message framing studies (Rothman et al 1993, Homer and Yoon 1992, Maheswaran and Meyers-Levy 1990, Meyerwitz and Chaiken 1987), research begun to look at the frame's impact on feelings. Frisch used an interesting within-subject design where consumers saw both positive and negative sides of the same risky choice scenario but still were more likely to pick the positive frame because of the regret associated with the negative frame. She suggests that this feeling should be included in the assessment of "value" in certain gambles. In studies of the effects of advertising, the affective component of evaluation has been shown to be more important in explaining attitude toward the ad than the cognitive component (Homer and Yoon 1992). In the current study we look at the framed attribute's effect on consumers' feelings towards the chocolate bar overall and towards the fat attribute in particular. We also look to see if earlier work on the frame's cognitive effects, where the frame has shown to only affect the rating of attributes closely associated with the frame, replicates in this study. We are interested in seeing whether the frame has that same focused effect on the affect dimension, or if the frame transfers an overall positive or negative feeling to the chocolate bar. We expect that females, who are processing the framed information more deeply, would experience greater effects on the affect dimension.

**Overall Evaluations.** Overall evaluations incorporate both consumers' cognitive reactions to the product and their feelings toward the product. In our study we have a comprehensive measure of product evaluation. We again expect that only consumers for whom the framed information is salient (females) would experience frame effects on evaluation.

**Choice.** We thought it would be interesting to see whether the "valence consistent" shift (where a product with a positive attribute frame is rated more favorably than under the negative attribute frame) observed in earlier studies would carry over to a real choice decision. Choice has rarely been studied in attribute frame research (Levin et al 1996). For reasons discussed above, we expected that only females would experience an effect on choice.

## METHOD

### Participants

56 students (30 females and 26 males) from an undergraduate Introduction to Marketing class participated in this experiment for course credit. They were randomly assigned to the positive or negative frame condition.

### Stimulus

The stimulus chosen was a milk chocolate bar. We chose to frame the fat attribute as either "80% fat-free" for our positive frame and "20% fat" for our negative frame. We designed the package to be realistic. Along with the fat attribute information, the wrapper contained additional information—e.g. weight, brand name (Suisse, a fictitious name), country of origin, logo, ingredients, type of chocolate, and help line number.

### Description of Experimental Procedure

Consumers were told that they would be evaluating a new chocolate bar and would be asked questions as to whether or not it might succeed. They first had the opportunity to observe the candy bar in its wrapper. They each got a square inch sample of the chocolate bar served in white paper doily containers. After the taste test they filled out five overall evaluation measures which were later pooled to form our evaluation index. This index will be discussed in more detail later. In addition, one overall *feeling toward the product* measure was asked. They were then given the choice between a candy bar or 50 cents, and were asked to write down why they made that choice and what attributes were important to them.

Consumers then proceeded to answer a collection of individual attribute questions—evaluation of the candy bar on certain attributes and rating the importance of each attribute in their product evaluation, which comprised the cognitive task. Two attributes of interest were embedded in this list—health benefits and fat content. Consumers were given a distraction task where they rated their own general usage of information. This was given because we wanted to assess recall later and did not want them thinking about the chocolate bar prior to that test. Following that task, they were asked to freely recall attributes from the chocolate bar and again asked to describe what factors influenced their decision to choose or not choose the chocolate bar. A recognition test for the wrapper information was then given. The respondents then filled out two feeling/affect measures. Next consumers filled out several product involvement scales. Lastly, the respondents filled out demographic measures—gender, health consciousness, and past diet experience.

## INDEPENDENT VARIABLES

### Frame

There were two sides of the frame—80% fat-free as the positive side, 20% fat as the negative side.

### Salience

Gender was treated as the surrogate for attribute salience because of the expected difference in perceiver need/relevance of the framed attribute. We had several checks for attribute salience: if the fat attribute was reported as a reason for choice, importance rating of fat attribute in their decision, correct free recall of the fat attribute and freely stating during recall that fat was part of their decision to choose or not choose the chocolate bar.

### Perceiver Relevance of the Frame Check

We asked psychographic information we thought to be related to perceivers' needing/finding the fat attribute to be important.

**TABLE 1**  
Fat Salience in Decision

	Fat— reason for choice t1*	Fat— recalled as reason for choice t2*	Fat Recall*
Female	50%	23%	90%
Male	15%	0%	73%

\*Significantly different between gender.

These included past diet history, a self-reported measure of health consciousness, and a self-reported measure of likelihood of buying low-fat products. Zaichowsky's (1994) new 10 item PII scale was used to measure involvement in chocolate and fat. The new scale has been used to break down cognitive and affective components of involvement.

**DEPENDENT VARIABLES**

**Cognitive/ratings of Chocolate bar's Attributes**

The attribute rating measures contained both taste experience—such as creaminess of the chocolate bar—and marketing characteristics—like quality of the brand name. This was deemed the “cognitive” task because it involved rating the chocolate on specific attributes, not supplying feelings or attitudes about those ratings. The complete list of attributes is given later in Table 4. They were measured on the following scale:

Rate the quality of the chocolate's \_\_\_\_\_  
 \_\_\_\_\_  
 Poor Excellent

and for importance:

How important was the chocolate's \_\_\_\_\_ to your overall evaluation of the chocolate?  
 \_\_\_\_\_  
 Very little Very much

Negatively worded items were recoded so that higher scores always reflected higher construct values.

**Affect**

We had several measures of affect (operationalized as feelings). We measured both feelings toward the fat attribute and overall feelings toward the chocolate bar. The same 85 mm scale was used to score the overall feelings (with the score of 85 reflecting highest impact on feelings).

*Overall Affect:* We had three measures of overall affect. The following scale appeared early in the questionnaire:

What are your overall feelings toward the Suisse chocolate bar?  
 \_\_\_\_\_  
 Not very favorable Very favorable

We adapted two additional measures from Hausknecht (1990) to capture the affect differences using “smilie face” and “feeling thermometer” scales. The smilie faces ranged from full smiles to deep frowns. Consumers were asked to circle the face which best fits their feeling toward the fat, and toward the chocolate bar

overall. We later converted those faces into values from 1 to 7, with 7 being the most favorable. The feeling thermometer had consumers put a degree of warmth or coldness toward the fat and the overall chocolate bar, measured in degrees from 0 to 100, with 100 being the most favorable.

**Overall Evaluation**

Our overall evaluation measure was an attempt to integrate both cognitive and affective responses about the chocolate bar. The participants were asked to rate the chocolate bar on the following five dimensions using continuous line mark scales (85 mm):

- (1) “Overall how would you rate the specific sample of the chocolate bar?” (anchored by ‘poor’ and ‘excellent’);
- (2) “Overall how would you rate the chocolate bar?” (anchored by ‘poor’ and ‘excellent’);
- (3) “How much would you like to finish the rest of the candy bar?” (anchored by ‘very little’ and ‘very much’);
- (4) “Compared to your favorite chocolate bar, how would you rate this one?” (anchored by ‘poor’ and ‘excellent’);
- (5) “Would you recommend this brand of chocolate to your family or friends?” (anchored by ‘definitely no’ and ‘definitely yes’).

**Choice**

Our main dependent variable of interest was choice. It was measured early in the experiment. After consumers had seen the wrapper, tasted the chocolate, and filled our evaluation measures, they were given the choice between a chocolate bar or a cash payment of 50 cents. These two values were pretested to yield about a 50/50 preference split.

**RESULTS**

**Salience Manipulation Check**

We found that gender was an effective surrogate for attribute salience. Females were more likely to state openly (without cueing) that the fat attribute affected their decision to choose or not choose the chocolate bar. Table 1 summarizes those results. This gender difference is apparent as they stated reasons just after they made their choice, and after some time, in their recall for their decision ( $\chi^2(1, 56)=5.6, p=.02$ ) for time 1,  $\chi^2(1, 56)=7.44, p=.01$ ) at time 2. Many consumers, male or female, recalled the fat attribute, the gender difference was significant  $\chi^2(1, 56)=2.7, p=.099$ .

*Perceiver Need Check.* We believed that the framed attribute was salient to females due to the relevance of the fat attribute to this group. Table 2 contains those results. Females were significantly

TABLE 2  
Characteristics Associated with the Framed Fat Attribute

	Health consciousness*	More likely to buy low fat products*	Been on a diet*
Female	62.9	69.7	70%
Male	53.2	51	38%

\*Significantly different between gender. Measured on a 85 point scale.

TABLE 3  
Involvement Measures  
(rated on a 7 point scale, where higher means more involved)

	/ Chocolate		/ Fat			
	Overall	Cognitive	Affect	Overall*	Cognitive*	Affect
Female	4.25	3.97	4.48	5.79	6.35	5.24
Male	3.76	3.54	3.98	5.05	5.4	4.7

\*Significantly different between gender.

TABLE 4  
Attribute Ratings  
Measured on a 85 point scale, where the higher rating means more positive evaluation

Attribute	Overall		Female		Male	
	Positive	Negative	Positive	Negative	Positive	Negative
Fat Rating* (reverse scaled)	61	30	57	23	66	38
Health benefits*	44	27	46	21	42	33
Freshness	63	67	61	66	65	67
Greasiness	26	20	23	17	29	23
Brand	53	46	53	43	53	51
Package	34	31	31	21	37	44
Nut flavor	29	26	26	21	32	33
Color	61	64	60	65	63	63
Smell	50	55	49	61	51	48
Texture	60	64	66	67	54	60
Country of Origin	64	65	60	66	69	64
Ingredients	53	55	52	57	54	57
Aftertaste	56	53	58	48	54	59

\*There was a main effect of frame for both these attributes at ( $F(1,52)=31.47$  for fat,  $p=.0001$ ) and ( $F(1,54)=9.95$ ,  $p=.002$ ) for health benefits.<sup>3</sup>

more health conscious ( $F(1, 52)=6.35$ ,  $p=.01$ ). Females were also more likely to say they buy products because they are low in fat ( $F(1,52)=16.25$ ,  $p=.002$ ). And, for our behavioral measure, females were also more likely to have been on a diet at some point in their lives  $\chi^2(1, 56)=6.06$ ,  $p=.02$ .

We expected that females might also be more involved with the product or with the framed fat attribute. Table 3 contains those results. We used Zaichowsky's new 10 item PII to separate the different components of involvement.<sup>2</sup>

We compared the means for each product/attribute across gender. We found that chocolate involvement did not differ by

gender. We did find differences between the level of involvement in the framed attribute, however. Females were both overall more

<sup>2</sup>The factor analysis did not reveal the two distinct factors for affect and cognition as described by Zaichowsky— interest and involvement loaded highly on both the cognitive (factor 1) and affect (factor 2).

<sup>3</sup>There was only one attribute where there was a significant frame\*gender interaction and that was for smell— females seem to think the chocolate smelled much better with the negative frame ( $F(1,51)=6.00$ ,  $p=.0178$ ), there was no such difference for males.

**TABLE 5**  
Affect Ratings  
(Measured on a 100 point scale)

Gender	Fat affect		Overall affect	
	Positive	Negative	Positive	Negative
Female*	83	41	82	65
Male**	70	57	72	75

\*Females are significantly different between frames on both affect dimensions.

\*\*Males are significantly different between frame for only the fat attribute.

**TABLE 6**  
Correlations Between Cognitive and Affective Measures

Affect Measures	Cognitive Measures					
	Health rating			Fat rating		
	All	Female	Male	All	Female	Male
Smilie-fat affect	0.62	<b>0.72</b>	<b>0.4</b>	0.62	<b>0.7</b>	<b>0.43</b>
Therm-fat affect	0.63	<b>0.75</b>	<b>0.37</b>	0.68	<b>0.78</b>	<b>0.49</b>
Overall feeling/affect	0.27	<b>0.52</b>	<b>-0.08</b>	0.19	0.35	-0.03
Smile-overall affect	0.15	0.26	-0.01	0.04	0.09	0.03
Therm-overall affect	0.15	0.14	0.19	0.05	-0.01	0.24

Correlations in bold face are significantly different between gender.

involved with the fat attribute ( $t(53)=2.19, p=.03$ ) and specifically on the cognitive dimensions of involvement ( $t(53)=2.75, p=.008$ ).

Because we did find the expected differences in perceiver needs by gender, which resulted in the framed attribute's greater salience in evaluation, for the following dependent measures we use gender (as a proxy for attribute salience) and frame as the independent variables in our model.

## HIERARCHY OF EFFECTS

### Cognitive Effects of Frame

Our recognition test showed that most consumers processed the framed information; 100% recognition for females, 92% for males. As expected, the frame effect on ratings was focused on beliefs toward the framed attribute, fat, and a closely related attribute, health benefits, demonstrating that the cognitive effects of frame exist for all consumers and are narrow in their focus. The other attributes were not affected. (See Table 4)

### Affect

**Affect Response Indices.** We separated the affect dimension into two areas: feelings specific to the fat attribute and overall feelings toward the chocolate bar. We combined our two fat feeling attribute measures (the smilie face scale and the feeling thermometer) which were correlated at .92. We combined our three measures of overall feelings toward the chocolate bar (the verbal measure, and the smilie face and thermometer scales) which had an alpha of .96.<sup>4</sup>

**Specific Fat Affect.** There was a main effect for frame ( $F(1,51)=19.88, p=.0001$ ) for feelings toward the specific fat at-

tribute and a gender by frame interaction ( $F(1,51)=5.6, p=.02$ ). Females reported more extreme positive feelings under the positive frame, and more negative feelings under the negative frame, than did males.

**Overall Affect Toward the Chocolate Bar.** We found a significant gender by frame interaction for feelings toward the overall chocolate bar ( $F(1,52)=6.02, p=.018$ ) where only females showed the frame effects on the overall affect dimension.

### Overall Evaluation

By using factor and coefficient alpha analyses we found that the five dependent evaluation measures loaded on one factor and

<sup>4</sup>We looked at the correlations between our affect measures and cognitive attribute ratings to show that we were indeed measuring different constructs. Table 6 shows those correlations. As a group these correlations are rather low. The gender differences on the correlations were interesting—the correlations between the males' affect and cognitive ratings toward the health and fat attributes were low, but this was not the case for females. Females appeared to be more consistent in their affect and cognitive ratings toward the fat attribute. For health ratings both feelings toward the fat attribute scales were significantly different between gender, for smilie face ( $F(2, 25)=12.68, p=.001$ ), and the feeling thermometer ( $F(2, 52)=13.05, p=.0001$ ) and also the verbal overall feelings toward the chocolate bar scale ( $F(2, 52)=2.78, p=.07$ ). For fat ratings there are significant differences just for the fat feeling scales, for the smilie face ( $F(2, 52)=17.48, p=.0001$ ), and for the feeling thermometer ( $F(2, 52)=24.01, p=.0001$ ).

**TABLE 7**  
Overall Evaluation of the Chocolate Bar  
(measured on a 85 point scale)

	Positive Frame	Negative Frame
Female	60	49
Male	54	56

**TABLE 8**  
Choice Percentages

Gender	Positive Frame	Negative Frame
Female	100%	53.3%
Male	61.5%	83.3%

**TABLE 9**  
Evaluative Measures Correlated with Choice\*

	Overall	Female	Male
Overall evaluation	.92	.96	.85
Overall affect	.26	.39	.05
Fat & health evaluation (cognitive)	.74	.87	.49
Fat affect	.58	.67	.39

\*Pearson's product moment correlation was used.

yielded a coefficient alpha of .90. Therefore, a chocolate evaluation index was created by averaging these five dependent measures. That index was then used in the following analysis.

#### Evaluation Findings

There was a significant gender by frame interaction ( $F(1,51)=7.71, p=.0076$ ). Follow up tests using the Bonferroni technique found females to be significantly different between frame conditions,  $M=60$  in the positive frame versus  $M=49$  in the negative frame, ( $t(28)=3.55, p=.02$ ) with no such difference for males,  $M=54$  for the positive frame,  $M=56$  for the negative frame ( $t(23)=.50$ ). This interaction is consistent with our choice results where only females experience the frame effects.

#### Choice

Table 8 contains the percentages of choice of the chocolate bar in each framing condition for males and females. There was no overall significant frame effect,  $M=82\%$  for the positive frame and  $M=66\%$  for the negative frame, but there was a significant difference between frames for females,  $M=100\%$  for the positive frame versus  $53.3\%$  for the negative frame  $\chi^2(1, 30)=9.13, p=.003$ , showing the expected frame effects. Males were not significantly different across frames, and even went in the opposite direction,  $61.5\%$  for the positive frame,  $83.3\%$  for the negative frame  $\chi^2(1, 25)=1.470, p=.225$ .

#### Correlations between Overall Evaluation, Affect, Cognitive Rating and Choice

For further illustration of the hierarchy of effects, we looked at the correlations between our evaluative dimensions and choice. We expected that dimensions closer in the hierarchy to choice would show higher correlations. We also suspected that the relationship between other dimensions and choice would be particularly strong for females. We grouped the two cognitive ratings of health and fat together for this analysis. As Table 9 shows, the overall evaluation measure, closest to choice in the hierarchy, was the most correlated to choice—probably because it incorporates both affective and cognitive evaluations. Both the cognitive and affective measures are more closely related to females' rather than males' choices; however, the affect measures in particular seem to relate only to females' choices.

#### DISCUSSION

One female in our positive 80% fat-free condition noted: "The 80% fat-free jumped out at me" while a female in our 20% fat condition said "The packaging was poor...you could not read the name. In fact, you might have thought it was called 20% FAT!" By contrast, male respondents seemed to focus their comments on the taste of the bar: "Very tasty and I would like to eat more. Taste was most important to me. I assume most types have the same nutritional value." These seem to mirror our results in this study:

females' attention was drawn to the framed attribute and it was an important part of their decision, even with a direct taste experience. Males, in contrast, focused on other attributes in their decision making. In this paper we investigated three new issues in attribute framing: first, the importance of attribute salience based on perceiver needs, the effect on the affect dimension of evaluation, and its impact on consumer choice.

First, framing effects have typically been viewed as a generic bias in evaluation. In this study we show that a more information complex environment can lead to differential frame effects—the more salient the attribute being framed, the greater the frame effects. The hierarchy of frame effects explains how as consumers move up the ladder of depth in processing, the greater the influence of perceiver need and salience of the frame. In our study it was clear that females used the framed information more in their decision; it seemed to be a central cue. There is no product involvement difference between genders that might account for the difference. We think that the high correlation between the evaluation components for females further suggests that the framed fat information was guiding their decision on both affective and cognitive levels. This is consistent with past research done by Shavitt and Fazio (1991) who found greater consistency between attitudes based on a salient attribute and subsequent behavior.

Second, researchers are becoming more interested in the role of affect in decision making. The affective component of evaluation was particularly important in this study because it seemed to be the breakpoint in the hierarchy, the step that differentiated well between those affected and those not affected by the frame. Males showed differences between the frames for feelings toward the fat attribute, but not to the same extent as females. We believe that females' transference of overall positive or negative feelings toward the chocolate bar because of the frame demonstrates higher processing of the framed information. For females, the frame seems to conjure up good/bad feelings about the chocolate bar. For males, no such overall feeling seems to be activated.

Lastly, we have shown that the valence consistent bias observed in past research on evaluation can translate to actual consumer choice. This choice difference is particularly relevant to managers because while evaluation measures may offer some meaningful information, product choice is what ultimately determines market impact. The fact that our overall evaluation measure was highly correlated with choice should make researchers more confident in generalizing prior attribute framing findings into a choice environment.

#### Limitations and Applications of this Research

We acknowledge that our three primary findings may not be entirely generalizable to all framing situations. This experiment intentionally included an attribute that was differentially meaningful to respondents. Also, chocolate may be viewed as a hedonic product where guilt and affect may have greater influence. (We note the recent growth of Snackwell's indulgent fat-free cookie line targeted to females.) One female consumer said in their explanation of their decision not to choose the candy bar: "It would be good, but I'd regret it later." In addition, there could be a curvilinear relationship between perceived need and frame effect—perhaps as we increase importance of the framed attribute even higher to some individuals, they might be able to "see through" the frame. We had several females in this study who could be classified in that manner. One said "The label said 20% fat...it should say 80% non fat or something in a positive way." We hope that this research has brought some new perspectives in which to study framing effects in the consumer domain.

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