

Positively versus Negatively Framed Product Attributes: The Influence of Involvement

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ABSTRACT

Previous studies have shown that the positive framing of a meat product attribute (i.e., 75% lean) results in more positive evaluation of the product than its presumed equivalent negative framing (25% fat). Other framing studies, particularly those dealing with health messages, show mixed results, although there is a tendency in favor of negative framing. Involvement has been hypothesized to account for these conflicting results, in that under high-involvement conditions, negative framing has been found to be superior, with positive framing superior under low-involvement conditions. This article replicates the original meat product study with respect to product attribute framing, and extends this by analyzing the data with respect to subjects' involvement in dietary fat decisions. The study also explores the relationship between framing effects and the influence of the frame on some decision-making reference point.
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Following the work of Kahneman and Tversky and others in the 1970s and early 1980s (e.g., Kahneman & Tversky, 1982), the framing of decisions has received renewed attention in recent years, especially with respect to the framing of health messages (e.g., Block & Keller, 1995).

In its widest sense, framing can be defined as the context within

which information is presented. However, as it has been used by psychologists and others studying decision making, framing generally refers to presenting one of two *equivalent value* outcomes to different groups of decision makers, where one outcome is presented in *positive* or *gain* terms, and the other in *negative* or *loss* terms. For example, Levin (1987) and Levin & Gaeth (1988) described a meat product attribute in favorable (75% lean beef) or unfavorable (25% fat) terms. In a health message, the positive frame might emphasize the benefits to be gained by adopting a promoted course of action (e.g., taking a cholesterol test allows assessment of one's risk of heart disease), whereas the negative frame emphasizes the loss of these *same* benefits if the course of action is not adopted (e.g., not taking a cholesterol test does not allow the assessment of one's risk of heart disease) (Maheswaran & Meyers-Levy, 1990). Alternatively, a probabilistic outcome might be described in terms of the positive outcome (e.g., this medical procedure carries a 50% chance of survival) or the negative outcome (e.g., this medical procedure carries a 50% chance of dying) (Wilson, Kaplan, & Schneiderman, 1987).

The results of framing studies have been mixed. In the consumer products area, Levin (1987) and Levin and Gaeth (1988) found that a product attribute presented positively (75% lean beef) was more effective in terms of eliciting positive attitudes toward the beef than a product attribute presented negatively (25% fat beef). Ganzach and Karsahi (1995) found a negatively framed message (benefits lost and financial costs of nonuse) attracted significantly greater increased credit card usage among lapsed card holders than did the positively framed incentive (benefits gained and financial rewards). The negative frame also resulted in greater recall of the message. Smith (1996) found that positively framed ads were more effective than negatively framed ads for hypothetical camera products.

For health behaviors such as breast self-examination (BSE) (Meyero-witz & Chaiken, 1987), mammography screening (Banks, Salovey, Greener, Rothman et al., 1995), exercise (Robberson & Rogers, 1988), skin cancer detection (Rothman, Salovey, Antone, Keough, & Martin, 1993) and smoking (in Wilson, Wallston, & King, 1987), negative framings have tended to result in greater message compliance, at least relative to controls, but not always significantly greater than the positive framing.

On the other hand, a positive frame was found to be more effective for promoting exercise as a means of enhancing self-esteem (Robberson & Rogers, 1988), parents' use of children's car-seat restraints and for a skin cancer prevention behavior (Rothman et al., 1993a). For surgical procedures, positive outcomes (probability of success or survival) induced greater compliance than negative outcomes (probability of failure or death) (McNeil, Pauker, Sox, & Tversky, 1982; Wilson, Kaplan, & Schneiderman, 1987), and, for a hypothetical immunization, the posi-

tive message framing (90% likelihood of no side effects) elicited more positive response to the immunization than the negative framing (10% probability of side effects) (Jalleh, 1992).

In some cases, a mix of positive and negative messages has been most effective (Treiber, 1986; Wilson, Wallston, & King, 1990), whereas other studies have reported no differences between framing conditions. For example, in a randomized trial, Lerman, Ross, Boyce, Gorchov et al. (1992) found no difference for positively versus negatively framed booklets on adherence to subsequent annual mammography among women with prior abnormal mammograms (but both experimental groups showed greater adherence (66–67%) than the control conditions (53–55%). In a study similar to that of the Meyerowitz and Chaiken (1987) BSE study, Steffen, Sternberg, Teegarden, and Shepherd (1994) found no framing effects for testicle self-examination (TSE). Tykocinski, Higgins, and Chaiken (1994) found no difference for framing overall, but a significant interaction with the personality construct of self-discrepancy.

Various explanations have been proposed as to why negative or loss framing would be more effective, but there is less agreement as to why positive framing would be more effective. Rothman and Salovey (1997) suggested that gain frames are more effective for health enhancing or disease prevention behaviors (e.g., use of sunscreen for skin cancer prevention), whereas loss frames are more effective for disease detection behaviors (e.g., skin examination to detect early cancers). The results reporting the superiority of negative framings are consistent with information integration studies showing that negative information receives greater weight than positive information (Kanouse, 1984; Weinberger, Allen, & Dillon, 1981), and the negativity bias phenomenon has been proposed as an explanation for the greater impact of loss or negative framing. According to the negativity bias concept, negative information may have greater impact because of a greater salience, probably because of its greater scarcity in the environment relative to positive information (Kanouse, 1984). The Kahneman and Tversky (1982) prospect theory also predicts a greater impact for negative framing than positive framing, especially under risky conditions. Kahneman and Tversky (1979) showed that, for outcomes of equal value, people tended to be risk averse when faced with a certain gain versus a probable gain, but risk seeking when faced with an outcome involving a certain loss versus the equivalent outcome involving a probable loss. Their results also showed that losses are evaluated more heavily than equivalent gains; for example, a loss of \$20 is weighted more heavily than a gain of \$20. Kahneman and Tversky hypothesized that individuals evaluate alternative outcomes with reference to some reference point and that the frame alters an individual's reference point.

However, neither the negativity bias concept nor prospect theory explain *why* negative information should have more impact than positive

information. One explanation has been that negative information, perhaps because of its greater salience, receives more processing than does positive information, and hence, because of this greater effort, is weighted more heavily in the decision process. However, apart from the Ganzach and Karsahi finding with respect to recall, in other studies, neither recall (e.g.; Meyerowitz & Chaiken, 1987; Rothman et al., 1993a) nor cognitive response data (e.g., Maheswaran & Meyers-Levy, 1990) support the notion of greater processing of negatively framed information. In a reversal of this causal link, Block and Keller (1995) claimed to show that “when subjects process in depth, negative frames are more persuasive than positive ones” (p. 192). They found no difference when subjects did not process in depth.

Maheswaran and Meyers-Levy (1990), in an attempt to explain the apparently contradictory results of framing studies, postulated that involvement may mediate framing effects. Citing the Petty and Cacioppo (1983) Elaboration Likelihood Model (ELM), they argued that under high-involvement conditions, negative framing should be more effective, because respondents would process the information more comprehensively and use central issue-relevant cues. On the other hand, under low-involvement conditions, positive framing would be more effective, because under peripheral processing, cues such as positive words would have greater influence. The Maheswaran and Meyers-Levy results supported their hypotheses for a gain versus loss framing for a blood cholesterol test under manipulated involvement conditions: Under high-involvement conditions, the negative framing emphasizing benefits lost by not taking the test was superior in eliciting compliance and favorable attitudes, whereas under low-involvement conditions, the positive framing that emphasized the (same) benefits gained by taking the test was superior.

Maheswaran and Meyers-Levy (1990) varied involvement by varying message content: One group of student subjects was told that cholesterol and heart disease “applied even to people their age” (high involvement), whereas the other student group was told that cholesterol and heart disease “applied mainly to people much older” (low involvement). However, a manipulation check revealed that both group means were above average on the involvement measures (interest in, involvement in, and personal relevance of the message), and Maheswaran and Meyers-Levy (1990) did not analyze their data by individual involvement. Such an analysis could have provided confirmatory data with respect to the above involvement-framing interaction, and hence greater robustness of their finding.

Rothman, Salovey, Antone et al. (1993a) found a significant interaction for framing and gender with respect to intentions to perform skin cancer detection behavior: Women were more likely to respond to a negative framing, whereas men were more likely to respond to a positive framing. Rothman, Salovey, Antone et al. (1993a) concluded that this

may be due to women's higher involvement with the topic, but did not analyze their data by self-reported involvement in the issue. Braun, Gaeth, and Levin (1996) found a significant framing by gender interaction for a chocolate described as 20% fat or 80% fat free: Females evaluated and chose the positively framed product significantly more than the negatively framed product, whereas the males did not. Braun et al. (1996) used gender as a surrogate for attribute salience, which in turn, was assumed to be related to an individual's level of involvement in dietary fat decisions. However, in spite of measuring all respondent's dietary fat involvement, Braun et al. (1996) did not analyze their data by involvement, and, as in the Maheswaran and Meyers-Levy (1990) study, both male and female involvement mean scores were above the midpoint of the scales used.

The Maheswaran and Meyers-Levy position is open to question in that they appear to be arguing that benefits lost are somehow more *issue relevant* than the (same) benefits gained. Perhaps a more logical conclusion from The Petty and Cacioppo Elaboration Likelihood Model is that under high-involvement conditions (i.e., high personal relevance, systematic processing), the framing should have no effect, because the subject's elaborations on the issue should include a number of perspectives, including a consideration of both benefits gained and benefits lost. That is, under high-involvement conditions, The Petty and Cacioppo ELM would predict that subjects exposed to, say, a message stating a 10% probability of immunization side effects would include in their elaboration of the information a 90% probability of no side effects. Similarly, subjects with a high involvement in dietary fat intake, if presented with a product labeled "75% fat free," would include a 25% fat inference in their elaboration.

Extending the Levin (& Gaeth) Framing Studies

This study replicates and extends the Levin beef framing studies (Levin, 1987; Levin & Gaeth, 1988) by providing a further test of the Maheswaran and Meyers-Levy (1990) hypothesis with respect to involvement, and by exploring the possibility that the fat frame varies subjects' reference point in their evaluation of fat content.

In his first study, Levin (1987) found that a beef labeled "75% lean" was viewed more positively than one labeled "25% fat." Levin (1987) argued that this was probably due to the "75% lean" label generating more positive associations than the "25% fat" label. This somewhat circular argument was supported in that the "75% lean" beef was rated more positively than the "25% fat" beef on the following attributes: "good taste"–"bad taste"; "lean"–"fat"; "high quality"–"low quality"; and "greaseless"–"greasy." In a later study, Levin and Gaeth (1988) showed that the label effect persisted but was weakened by tasting of the beef prior to carrying out the above ratings.

This study replicates Levin's (1987) study, but with the following additions. First, a third label is introduced, "75% fat free," because it provides a more direct complement to the label "25% fat" and because this label appears to be more commonly used in meat packaging. Second, Levin (1987) only measured prompted associations to the labels. In a follow-up study, people's free associations to the words "lean," "fat free," and "fat"; and to the labels "75% lean," "75% fat free," and "25% fat," when applied to meat labels, were explored. Third, respondents' level of involvement in fat content when making food decisions was measured. Fourth, to explore prospect theory's claim that judgements are made with respect to some neutral or reference point, respondents were asked whether the label to which they were exposed was above average, below average, or average with respect to meat of that type.

The hypotheses were as follows:

- H1:** Positive framing will be more effective overall than negative framing in eliciting positive attitudes towards the meat product (after Levin, 1987; Levin & Gaeth, 1988).
- H2:** For high-involvement respondents, there will be no framing effect. However, under low-involvement conditions, positive framing will be more effective than negative framing in eliciting positive attitudes toward the meat product (after Maheswaran & Meyers-Levy, 1990; Petty & Cacioppo, 1983).
- H3:** Any framing effect will be attenuated by subjects' perception of whether or not the labeled meat is above average or below average in fat content (after Kahneman & Tversky, 1979).

MAIN STUDY

Method

This study followed Levin's (1987) methodology. One hundred and fifty ($N = 150$) undergraduate students were intercepted at various locations on the campus. Respondents were randomly allocated to one of the three frames: 75% lean, 75% fat free, and 25% fat. Respondents were asked to rate the labeled meat product (hamburger meat) on the same attributes and 5 point bipolar scales as in Levin's studies ("good taste"–"bad taste"; "lean"–"fat"; "high quality"–"low quality"; and "greaseless"–"greasy"), and to indicate their purchase intention on a 5-point "very likely"–"very unlikely" scale.

Respondent level of involvement in using fat content as a basis for making food decisions was measured on a single 5-point scale ("very concerned": 5–"not at all concerned": 1) in response to the question: "How concerned are you about fat in your food?" Respondents nominating 4 or 5 were classified as high involved ($n = 89$); respondents nomi-

Table 1. Attribute and Purchase Intention Mean Ratings, MANOVAs and ANCOVAR (Perceived Fat Rating)

	Labels			N	MANOVA <i>p</i>	ANCOVAR <i>p</i>
	75%	75%	25%			
	Lean	Fat-free	Fat			
Buy*	2.99 ^{†,a}	3.11 ^b	3.70 ^{a,b}	138	.023	.095
Taste	2.27 ^a	2.47 ^b	3.05 ^{a,b}	138	.006	.019
Quality	2.58 ^a	2.67 ^b	3.42 ^{a,b}	138	.001	.004
Greasiness	2.80 ^a	2.65 ^b	3.51 ^{a,b}	138	.001	.003
Lean/Fat	2.52 ^a	2.46 ^b	3.50 ^{a,b}	138	.000	.000

*Ratings ranged from 1 to 5, with lower numbers representing more favorable responses.

†Same letter indicates significant difference ($p < .05$); no or different letter indicates nonsignificance.

nating 1–3 were classified as low involved ($n = 48$). Finally, respondents were asked whether the label indicated that the product was above average, average, or below average in fat content with respect to meat products of that type. It was hypothesized that this rating would mediate the framing effect in that those rating the labeled meat above average with respect to fat content, regardless of the label, would rate the meat more negatively than those perceiving the product as average or below average in fat content. That is, a covariance analysis with fat rating as the covariate should result in an absence or at least a significant reduction in any framing effect.

Twelve respondents were excluded from the analyses: Four did not complete the questionnaire and 8 indicated they were vegetarians.

Results

An attempt was made to ensure that each frame had a similar sex profile. However, the 25% fat condition contained 42% males, whereas the 75% lean condition contained 54% males and the 75% fat-free condition contained 55% males. As preliminary analyses showed that males and females differed significantly in their purchase intention for the 25% fat condition, (but not for the other two conditions), for further analyses, the data were weighted by sex.

Frame Effect. The means and MANOVA results are shown in Table 1. There was a main effect for label for purchase intention and all attributes. There was no significant difference between the “75% fat-free” and “75% lean” labels on purchase intention or on any of the attributes, but all differences between each of these labels and the “25% fat” label were significant. Given a scale midpoint of 3, the “25% fat” labeled product was rated slightly negatively on all attributes, whereas the 75% labels were rated slightly positively. Purchase intention was overall unlikely for the 25% product and overall neutral for the 75% products. These

Table 2. Attribute and Purchase Intention Mean Ratings and MANOVAs by Involvement and Labels

		Labels			N
		75% Labels	25% Fat	All Labels	
Buy*	High	3.11 ^{†,a}	4.06 ^a	3.38	89
	Low	2.92	3.24 ^a	3.05	49
Taste	High	2.33 ^a	3.49 ^a	2.66 [§]	89
	Low	2.48	2.48 ^a	2.48	49
Quality	High	2.58 ^a	3.83 ^a	2.94 [§]	89
	Low	2.72	2.91 ^a	2.80	49
Greasiness	High	2.78 ^a	3.99 ^a	3.12 ^{b,§}	89
	Low	2.58	2.90 ^a	2.71 ^b	49
Lean/Fat	High	2.55 ^a	3.87 ^a	2.93	89
	Low	2.36 ^b	3.01 ^{a,b}	2.62	49

*Ratings ranged from 1 to 5, with lower numbers representing more favorable responses.

[†]Same letter indicates significant difference ($p < .05$); no or different letter indicates nonsignificance.

[§]Indicates significant interaction ($p < .05$).

results are consistent with those of Levin (1987) and Levin and Gaeth (1988).

Level of Involvement. Given the previous results, the two 75% labels were combined for further analyses. A 2 (framing labels: “75% lean/fat-free,” “25% fat”) × 2 (respondent’s level of involvement in using fat content as a basis for making food decisions: high; low) analysis was performed. Table 2 shows the means and MANOVAs by involvement. As might be expected, and confirming the face validity of the involvement scale, highly involved respondents rated each of the products less favorably than less-involved respondents on all attributes and purchase intention, but the difference achieved significance only for “greasy”–“greaseless” ($p = .05$).

With respect to interaction effects, for high-involvement respondents, the 75% labels were rated significantly more positively than the “25% fat” label on all attributes and purchase intention. For low-involvement respondents, the pattern of results was similar, but reached significance only for the lean/fat attribute.

For the 25% label, there was a significant difference between high- and low-involvement respondents on purchase intention and all four attributes. For the 75% labels, there were no significant differences between high- and low-involvement respondents on purchase intention or attribute ratings. The interactions achieved significance for taste, quality, and greasiness, and approached significance for lean/fat ($p = .12$). It seems that involvement is a mediating factor only for the 25% label (see Figures 1 and 2).

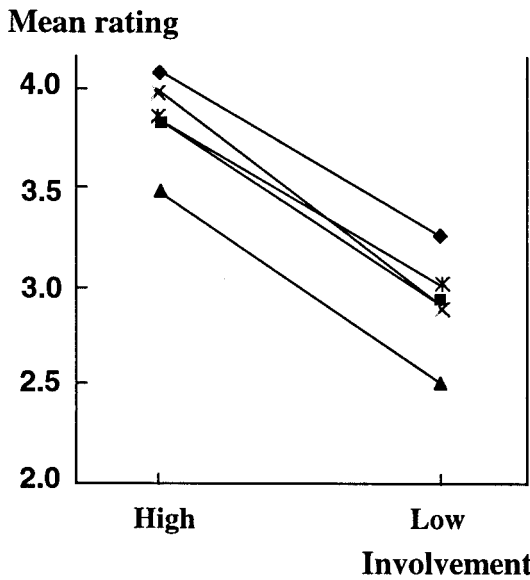


Figure 1 Mean ratings by involvement: 25% labels.

Ratings with Respect to Average Fat Content. Table 3 shows the means and MANOVAs by perceived fat content relative to average, collapsed across all three label conditions. Purchase intention and attribute ratings are clearly associated with perceived fat content relative to average: Respondents who rated the labeled beef as below average in

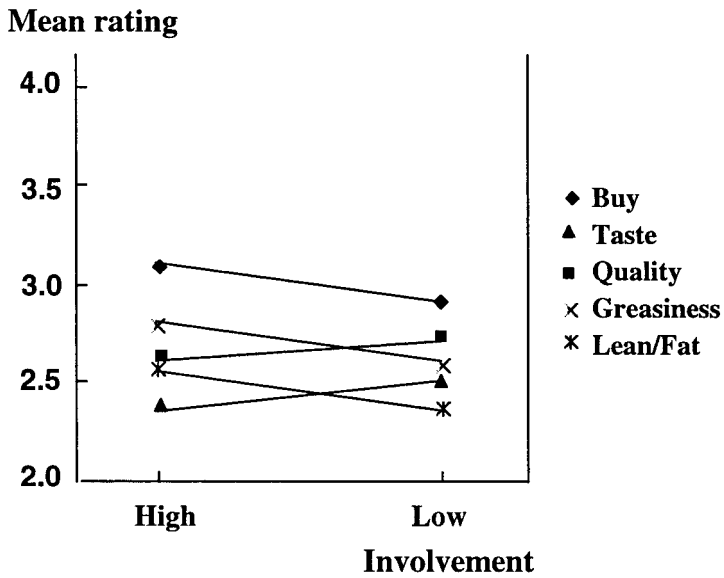


Figure 2 Mean ratings by involvement: 75% labels.

Table 3. Attribute and Purchase Intention Mean Ratings and MANOVAs by Perceived Fat Content

	Fat Content Perceived as			N	p
	Above Average	Average	Below Average		
Buy*	3.85 ^{†,a}	3.41 ^b	2.72 ^{ab}	138	.000
Taste	2.97 ^a	2.70 ^b	2.24 ^{ab}	138	.018
Quality	3.29 ^a	3.14 ^b	2.36 ^{ab}	138	.000
Greasiness	3.53 ^{ac}	2.99 ^c	2.59 ^a	138	.001
Lean/Fat	3.39 ^a	2.97 ^b	2.28 ^{ab}	138	.000

*Ratings ranged from 1 to 5, with lower numbers representing more favorable responses.

†Same letter indicates significant difference ($p < .05$); no or different letter indicates nonsignificance.

fat content were significantly more likely to buy and had more favorable attribute ratings than those who rated the product as average or above average. Interestingly, the differences between the below average and average ratings were greater than between the average and above average differences, suggesting a greater weight attached to negative information than to positive information.

The 75% labels were clearly distinguished from the 25% label with respect to perceived fat content relative to average, although again these perceptions were far from universal: 43% and 45% rated the “75% lean” and “75% fat-free” labels, respectively, *below* average, versus 22% for the “25% fat” label; and 31% rated the “25% fat” label *above* average versus 21% and 22% for the “75% lean” and “75% fat-free” labels, respectively. Hence, if perceived fat content relative to average is a mediator of framing effects, then ANCOVAR with perceived fat rating as a covariate should reduce the significance of the differences between the labeled conditions. Consistent with our hypothesis, ANCOVAR markedly reduced the significance of the difference in purchase intention (from $p = .023$ to $p = .095$), and had some effect on the significance of differences on the attribute ratings (see Table 2). Nevertheless, the framing effect remains for the most part substantial and significant.

To provide some qualitative input to these data and to assist in interpretation, a small-scale follow-up study was carried out to explore people’s associations to the labels and their perceptions of the relative fat and meat content of the three labels.

FOLLOW-UP STUDY

Method

Associations data were gathered from $N = 45$ undergraduate students intercepted at various locations on campus. The questionnaire first ob-

tained free associations to the words *lean*, *fat*, and *fat free*, without stating any meat or food context (“What comes to mind, if anything, when I say the word . . .?”). Respondents then were presented with all three *meat labels* together (i.e., “75% lean meat,” “75% fat-free meat,” and “25% fat meat”) and asked which of these they would prefer to buy, and why. Finally, respondents were asked what they thought would be the percent composition of the labeled meats with respect to meat and fat content. The order of presentation for the first and last tasks was randomized across respondents.

Results

Association Measures. Respondents’ associations were classified (by two independent coders) as positive, neutral, or negative and are summarized below:

Lean:	positive—44%; neutral—53%; negative—2%
Fat-free:	positive—40%; neutral—53%; negative—7%
Fat:	positive—0%; neutral—60%; negative—40%

There was no difference in the valence of associations to the words *fat-free* and *lean*, but there was a clear difference in the valence of associations to the words *fat* versus *fat-free* ($p = .000$) and *lean* ($p = .000$). However, for each word, over half of the respondents had neutral associations. The word *fat* generated generally neutral or negative associations (e.g., “*unhealthy*,” “*bad for you*,” “*yuck*”), whereas the words *lean* and *fat-free* generated generally neutral or favorable associations (e.g., “*healthy*,” “*good for you*”). Consistent with the main study finding, it was noted that the association data included several comments suggesting that the 25% product contained *more* fat than average, whereas the two 75% labels contained *less* fat than average.

Purchasing Preference. Of the 45 respondents, 23 (51%) preferred to buy the 75% fat-free meat, 20 (44%) the 75% lean meat, and none chose the 25% fat (two had no preference). The main reasons given for preferring the 75% fat-free meat were that it “*has the least fat*” ($n = 11$), and “*it is healthier/good for you*” ($n = 10$). The main reasons why the 75% lean meat were chosen were that “*it is healthier/good for you*” ($n = 6$), and “*it doesn’t mention the word fat*” ($n = 3$). Respondents rejected the 25% fat meat because “*it highlights the fat in the meat*” ($n = 8$), and “*it doesn’t sound appetizing*” ($n = 5$). Half of the respondents spontaneously commented that the fat and lean content of each of the three beef labels was the same, but they would prefer to buy one of the 75% labels (e.g., “*I know they’re the same, but I wouldn’t buy the 25% fat one*”).

Composition of the Labeled Meats. Table 4 shows what respondents thought would be the percent meat and fat composition of the labeled meats. There appears to be the most ambiguity for the lean label for both meat and fat content and the least ambiguity for the “25% fat” label, and especially with respect to fat content. Overall, these data suggest that the two 75% labels are perceived to contain slightly more meat and moderately less fat than the 25% label, although these perceptions are by no means universal. These data further indicate that many respondents perceive meat products to contain ingredients other than meat and fat.

GENERAL DISCUSSION

Framing Effect. These results confirm those of Levin and Gaeth (1988; Levin, 1987), that a “75% lean” label is significantly and substantially more effective than a “25% fat” label in attracting likely purchase intention and more favorable attribute ratings for a meat product. It was also shown that a “75% fat-free” label is similarly superior to the “25% fat” label, and no differences were found between these two 75% labels on purchase intention or attribute ratings.

Levin and Gaeth postulated that their “75% lean” label was superior on purchase intention because of more positive connotations than the 25% label, pointing to the more positive attribute ratings as evidence. The main study results confirmed that the 75% labels have more positive attribute ratings, and our follow-up study association data confirmed that the words themselves (i.e., *lean*, *fat free*) have positive connotations, whereas the word *fat* has negative connotations. The follow-up study suggests that these more positive connotations result from the 75% labeled products having a higher perceived percentage meat content and lower perceived percentage fat content than the “25% fat” label. There is also a tendency for the 75% products to be seen to have a lower fat content than average, whereas the 25% product is seen as having a higher than average fat content for these sorts of meat products. The ANCOVAR results showed that the framing effect was nonsignificant for purchasing intention (but not attribute ratings) when perceived fat content relative to average was the covariate.

If the study of a framing effect requires actual equivalence between the positive and negative frames, then it is questionable whether these labels constitute a pure framing effect study. In the case of meat products, it is apparent that meat and fat are not the only perceived constituents of meat products. Perhaps the results reported here and those of Levin and Gaeth can be interpreted more parsimoniously as due to perceived meat and fat composition in the absence of complete information. To remove the ambiguity of other ingredients, the framing equivalents could be stated something like: “This meat product contains

Table 4. Composition Perceptions of the Labeled Meats with Respect to Percent Meat and Percent Fat

Percent Meat	Labels						Percent Fat	Labels					
	75% Lean		75% Fat Free		25% Fat			75% Lean		75% Fat Free		25% Fat	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1–74	8	17.8	4	8.9	7	5.6	1–24	11	24.4	9	20.0	1	2.2
75%	26	57.8	33	73.3	37	82.2	25%	27	60.0	35	77.8	43	95.6
75+	10	22.2	7	15.6	1	2.2	25+	6	13.3	–	–	1	2.2
Don't know	1	2.2	1	2.2	–	–	Don't know	1	2.2	1	2.2	–	–
Total	45	100.0	45	100.0	45	100.0	Total	45	100.0	45	100.0	45	100.0

meat, fat, flour and spices: 75% meat and 10% flour and spices” versus: “This meat product contains meat, fat, flour and spices: 15% fat, 10% flour and spices.”

Involvement Effect and Mediation of the Framing Effect. The results showed that respondents with a reported high level of involvement in dietary fat, regardless of gender, were less favorable towards all three labels than those with a reported low level of involvement, although the overall effect was significant only for the greasiness attribute. There was a framing by involvement interaction for purchase intention and all four attributes, which reached significance for the taste, quality, and greasiness attributes. The interaction was evident in two ways: first, there was no significant difference between high- and low-involvement respondents for the 75% labels, but differences between high- and low-involvement respondents on all dependent variables were significant for the 25% label (Table 2); second, the framing effect was significant for all dependent measures for high-involvement respondents, but, although generally in the hypothesized direction, apart from the lean/fat attribute, was not significant for low-involvement respondents.

It was hypothesized that there would be no framing effect among high-involvement respondents because increased attention to the decision process would include elaboration of the framing converse (i.e., 25% fat would trigger 75% meat; 75% fat-free would trigger 25% fat). It was hypothesized that under low-involvement conditions, a framing effect would occur via peripheral cues (i.e., positive associations to the label terms). The results with respect to low-involvement respondents is partially (but not significantly) supported, but the high-involvement results present a problem. The explanation perhaps partly lies in the follow-up study results with respect to perceived fat and meat percentages, and in people’s perceptions of fat content relative to average. If high-involvement respondents indulge in greater elaboration of the labels than do low-involvement respondents, this would result in greater consideration of the perceived fat and meat percentages, and the perceived fat content relative to average, of the labels. That is, the observed framing difference amongst high-involvement respondents may be due to elaboration of the labels in terms of perceptions of fat content, because, as noted above, meat and fat are not the only perceived constituents of (hamburger) meat products.

The association data also provide a clue for the framing effect overall and why an involvement effect is found for the 25% label but not for the 75% labels. A frequent comment about the 25% label was that “it draws attention to the fat content,” where as the 75% labels—especially the lean label—did not elicit such comments, and may in fact draw attention away from the fat. If this is the case, then the moderate framing effect for low-involvement respondents probably results from greater salience (but not elaboration) of fat composition and greater weighting

of these negative elaborations than the positive elaborations of the 75% products (as per the negativity effect). A moderate effect is found even for those relatively unconcerned about fat in their food, probably through a taste effect resulting from the perceived greasiness of higher fat content products. It is likely that for meat products, the associations with fat content are weighted more heavily than the positive connotations because of the greater diagnosticity (Skowronski & Carlston, 1987) of fat content in assessing the taste of meat products. For high-involvement respondents, the label acts to enhance this effect via elaboration and even greater weighting of the relevant fat composition information.

These involvement results are only partly consistent with the results of Maheswaran and Meyers-Levy (1990), who found negative framing more effective under high-involvement conditions and positive framing more effective under low-involvement conditions. However, Maheswaran and Meyers-Levy (1990) did not analyze their results by individual involvement, and both of their involvement conditions reported a greater than midpoint involvement score. Furthermore, several other studies involving health issues have failed to confirm the framing-involvement interaction found by Maheswaran and Meyers-Levy (1990) (Chan, 1991; Hoy, 1991; Jalleh, 1992; Rothman, Salovey, Turvey, & Fishkin, 1993b).

Perceived Fat Content Relative to Average as Mediator of Framing Effect. Perceived fat content relative to average fat content was significantly related to attribute ratings and purchase intention across all labels. When included as a covariate, the framing effect was no longer significant for purchase intention, and was weakened but remained significant for the attribute ratings. These findings are consistent with prospect theory's concept that comparisons are made with respect to some reference point. In this case, the reference point was perceived fat content as compared to the "average." These findings, along with the follow-up study findings, suggest that it is both the perceived relative to average fat content, and the perceived meat and fat content per se, that mediate the framing effect, an effect which is exacerbated among high-involvement persons by the 25% label focusing attention on the product's fat content.

CONCLUSION

The previously observed framing effect by Levin and Gaeth (Levin, 1987; Levin & Gaeth, 1988) is probably not a pure framing effect, given that the 75% and 25% labels are not in fact equivalent in terms of their perceived meat and fat content for many people. That is, hamburger products contain ingredients other than meat and fat. This study suggests that the framing effect results from the 25% label drawing atten-

tion to the fat content of the product, and that the salience of perceptions of fat content per se and relative to average for products of that type influences resulting attitudes toward the product (as measured by attribute ratings and purchase intention) (Fazio, 1986). This explanation is consistent with the finding that this 25% label effect is enhanced for respondents highly concerned with the fat content of products. It is suggested that future studies first establish equivalent labels and further explore the concept of a reference point.

With respect to the mediating influence of involvement, the results for high-involvement respondents are consistent with the Maheswaran and Myers-Levy (1990) findings and contrary to our hypothesis. However, given that these label framings are confounded by respondents' perceived composition of the meat products, the mediating influence of involvement remains to be confirmed and clarified.

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