1-1-2000

# Nutrition Ad Claims and Disclosures: Interaction and Mediation Effects for Consumer Evaluations of the Brand and the Ad

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# Nutrition Ad Claims and Disclosures: Interaction and Mediation Effects for Consumer Evaluations of the Brand and the Ad

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## Abstract

The effects of ad disclosure information on evaluations of the brand, the advertisement, and purchase intentions are postulated to vary across different ad claim types. In addition, consumers' product health perceptions are hypothesized to mediate the effects of the disclosure information and ad claim type on brand and ad-related evaluations. Results from a between subjects' experiment show that the health perception measure mediates the effect of the disclosure on brand and ad evaluations, but the interaction between the ad claim type and the disclosure is not mediated by the inclusion in the model of consumers' product health perceptions.

## Introduction

There has been substantial interest among marketing and advertising researchers on how potentially misleading claims in ads may affect consumer judgements and attitudes (Maronick, 1991; Shimp, 1983). In addition, changes in food package labeling in response to the Nutrition Labeling and Education Act have led to concerns regarding the lack of uniformity between current food package labeling rules and the Federal Trade Commission (FTC)'s individual case approach to regulating claims in food advertising ("FTC Enforcement Policy Statement on Food Advertising," 1994). FTC Commissioner Starek specifically requested research addressing consumers' responses and interpretations of favorable nutrient claims (e.g., "High Fiber") when the food product contains high levels of other negative nutrients (e.g., fat, sodium) not mentioned in the ad (Starek, 1993).

Consistent with this call, this study examines the effects of two types of nutrition claims that are potentially misleading to consumers and the presence of a disclosure statement that seeks to remedy this potential misleadingness. Specifically, we propose and test predictions that inclusion of a disclosure statement in an ad has stronger (i.e., more negative) effects on consumer evaluations for some types of nutrition claims than for others. We also examine the

role of health perceptions about the promoted product as a postulated mediating variable between information in ads and consumers' brand and ad evaluations. In recent years, as consumers have become more health conscious, nutrition and health claims as key message appeals have been used frequently ("Shopping for Health," 1995). While the effects of these appeals on brand attitudes and purchase intentions have implications for marketers and public policy-makers, the effects of such messages and disclosure information are not fully understood. Such an understanding of effects on brand and ad attitudes is relevant to marketing and advertising researchers interested in persuasion and potentially deceptive advertising, policy makers, and applied marketers of food products (Harris, 1983; Johar, 1995; Pechmann, 1996).

## Background and Hypotheses

An overview of predicted effects associated with the use of nutrition claims in ads and the inclusion of footnoted disclosures relevant to such ad claims is offered in Figure 1. The focal outcome variables in this model are consumers' brand attitudes, attitudes toward the ad, and purchase intentions. The perception of whether the advertised product is good for one's health (i.e., health perception) is proposed as a mediator. This contrasts with previous ad claim research that has focused primarily on misleading generalizations and the role of nutrition knowledge (Andrews, Netemeyer, and Burton, 1998). The first predictions suggested in Figure 1 concern the effects of type of nutrition claim used on outcome variables of perceptions of product healthiness, attitude toward the ad and ad evaluations brand, and purchase intentions. Two common types of claims, both of which have the potential to be misleading to consumers, are examined in this study. The first claim type is a specific claim that focuses on a (truthful) reporting of one nutrient level (e.g., "No Cholesterol") for a margarine product, but fails to disclose that the product contains undesirable levels of another nutrient (e.g., 14 grams of fat per serving). The second claim is a more general claim in which the product is promoted as "Healthy," without mentioning any specific nutrient. There has been recent criticism of such nonspecific and overused nutrition terms in ads, such as "healthy," by both consumers ("Shopping for Health," 1995, p. 7) and nutrition groups (Hurley and Schmidt, 1992; Silverglade, 1991). Previous research suggests that very specific information may have stronger effects on thought processes, beliefs and outcomes than more general information (e.g., Ajzen and Fishbein, 1980; Loken and Howard-Pitney, 1988; Nisbett and Ross, 1980). Other research drawn from an economics of information perspective has shown that consumers are more likely

to question nonspecific, subjective claims (e.g., "Healthy") than objective claims ("No Cholesterol"), and claims about products that cannot be inspected prior to purchase (i.e., experience goods) (e.g., Ford, Smith, and Swasy, 1990; Nelson, 1974; Smith, 1990). These findings suggest that more specific claims (i.e., "No Cholesterol") are likely to lead to a more favorable brand attitude, attitude toward the ad, and purchase intention than are more general claims. Thus, we predict:

> H1: The use of a specific nutrition ad claim leads to a more favorable brand attitude, attitude toward the ad, and purchase intent than a general nutrition ad claim.

Footnoted disclosures in ads are one common method that has been used in attempts to remedy misleadingness and potential deception due to information that is either included or omitted from the ad. Such disclosures, when clearly and prominently displayed, represent an important option for advertisers in the FTC's Enforcement Policy statement on Food Advertising (1994). Also, disclosures can be used to present relevant information that supplements and balances the favorable product information presented by the advertiser and thus may help prevent the possible deception (Russo, Metcalf, and Stephens, 1981; Wilkie, 1985). For example, in the case of an ad promoting some positive nutritional aspect of a product ("Healthy," "No Cholesterol"), disclosures including negative information on the level of an important, unfavorable nutrient (i.e., the level of fat per serving) that is not addressed in the ad copy may expand the judgement frame of reference used in product evaluation. More specifically, the disclosure may prompt consumers to consider information that either may not be considered at all or may be misinterpreted in the absence of a disclaimer. Therefore, the inclusion of a disclosure containing negative information on a nutrient not disclosed in the copy of an ad for an unhealthy product should lead to more unfavorable brand and ad attitudes and purchase intentions. H2 states:

> H2: Compared to ads without a disclosure, ads including a disclosure with negative nutrition information lead to a less favorable brand attitude, attitude toward the ad, and purchase intent.

While the disclosure is expected to have effects for both claim types, the strength of this

effect is predicted to vary across the type of ad claim (H3). This difference in strength of the disclosure is suggested by the "hypothesis testing" theory, which indicates that persuasion via advertising is a two-step process (Deighton, 1984). In the first step, consumers exposed to an ad formulate a hypothesis about the product based on the claims made in the ad. The hypothesis is viewed as tentative due to its "partisan" source. In the second step, evidence that bears on the hypothesis is searched for internally and externally. Due to the ambiguity/uncertainty associated with the general ad claim, the individual's need for information to assess the tentative hypothesis may be greater than when a specific, unambiguous claim is made. For specific claims, no additional search may be perceived as needed. Search for relevant, external information perceived to be more objective than the general ad claim may be found in the disclosure information. If the disclosure clearly suggests that a general ad claim has presented potentially misleading information to the consumer, there is a contrast effect, and the negative impact of the disclaimer on brand and ad attitudes may be particularly unfavorable. This is consistent with previous research that has shown that highly incongruent information that contradicts prior ambiguous information may have a substantial effect on subsequent judgements (Hastie, 1984; Hoch and Ha, 1986). Thus, stronger negative effects of disclosures may occur for general claims than for specific claims. For evaluations of product nutrition, research has demonstrated that the level of fat is diagnostic information that is critical to consumers' perceptions of product nutrition level, product attitude, and choice behavior (e.g., Keller et al., 1997; Ono, 1995). An ad that uses a general claim that promotes a product as healthy and then reports incongruent information in a footnoted disclosure about high levels of fat content should result in a negative evaluation. In contrast, the effect of a fat-related disclosure in conjunction with a specific claim (i.e., "No Cholesterol") may not be as strong from the perspective of the consumer because little or no confirmatory search may be required given the specificity of the claim, and the disclosure does not present information that directly contradicts the explicit claim about cholesterol. H3 predicts the following:

> H3: Inclusion of a disclosure interacts with the type of ad claim. When a disclosure is included in an ad using a general claim, there is a stronger (more unfavorable) influence on brand attitude, attitude toward the ad, and purchase intent than for an ad using a specific claim.

**The Mediating Role of Product Health Perception**

Consistent with attitude models indicating that effects of brand or ad information on brand attitudes is mediated by product-related beliefs (e.g., Ajzen and Fishbein, 1980), predicted effects on attitude and intent dependent variables are expected to be mediated through product health perception. Because both the ad disclosure and claims focus on product nutrition information, their influence on overall attitude toward the brand and ad and purchase intention should be largely due to their effects on product healthiness perceptions. Specifically, the perceived level of product healthiness should be negatively affected by the ad disclosure (that focuses on a diagnostic nutrient) and positively affected by a specific nutrition claim used in the advertisement (H4). In turn, the perceived healthiness of the product is expected to be positively related to consumers' brand and ad-related evaluations (H5). Thus, the perception of product healthiness intervenes between the effects of manipulations of presence of a disclosure and ad claims on the brand and ad evaluations. When the variance associated with product healthiness is removed, the main and interaction effects proposed in HI to H3 should be significantly reduced or eliminated (H5) (Baron and Kenny, 1986; Holmbeck, 1997).

> H4: For product health perception, there is: (a) a favorable effect of a specific ad claim, and (b) an unfavorable effect of presence of a disclosure.
>
> H5: Product health perception mediates the effects of ad claim type, inclusion of a disclosure, and the claim by disclosure interaction on brand attitude, attitude toward the ad, and purchase intent.

## Method

**Pretests and Main Study**

Prior to the main study, pretests were performed to assess potential ad claims and disclosures to use in the study and help choose a target product category. The ad copy conditions (with no disclosures) were presented to pretest respondents who rated the copy on three items with endpoints of "general" to "specific;" "vague" to "clear;" and "not detailed" to "detailed." A summed, ad claim specificity scale was formed (alpha = 0.89), and differences between the copy were significant ($t = 7.71$, $p < 0.01$) and as intended. Several possible disclosures were assessed in the pretest, all of which focused on the communication of the product's level of amount of fat per serving. For example, an absolute disclosure communicated

information on the absolute quantitative level of fat (i.e., "Contains 14 grams of total fat per serving"), and a relative disclosure offered a table that showed the absolute fat amount (14 grams) and the recommended daily value and percent of the daily value for fat (similar to a Nutrition Facts panel on food packages). An evaluative disclosure showed the absolute level of fat, reported that the level was "high" according to FDA criteria, and noted that fat intake has been linked to specific health- related disease (e.g., some types of cancer). Because each of the disclosures showed effects on key dependent variables in the pretest, their common focus on level of fat, and interest in each expressed by FTC staff and commissioners, these disclosures were retained for use in the main study. Based on results from an initial separate (n = 54) pretest, ten different product categories were rated on perceived product nutritiousness. Based on pretest results showing that margarine was rated as one of the lowest categories in nutritiousness and extensive use of nutrition claims in ads, margarine was selected as the target product in the main study. Hypothesized predictions were tested in a between-subjects experiment in which ad claims and disclosures were experimentally manipulated within an advertisement for margarine. Based on pretest results, the ad claim type manipulation made use of either a general nutrition treatment headline ("Here's a (margarine) that's Healthy for You") or a specific nutrition treatment headline ("No Cholesterol -- Zero"). The disclosure manipulation consisted of none (i.e., disclosure absent), and the presence of one of the disclosures tested in the pretest, each of which focused on the communication of fat level information that was not addressed in any form in the disclosure absent condition. Because predictions focus on differences between ads either containing or not containing disclosure information addressing the negative nutrient of fat, ad conditions containing a disclosure are pooled for tests of hypotheses.[1] A total of 324 consumers who were the primary food shoppers for their households (and at least 18 years of age) were randomly exposed to one of the ad claim and disclosure conditions. Participants were recruited and interviewed in three mall locations (Boston, Chicago, and Los Angeles). Age quotas matched U.S. Census projections for those 18 years of age or older and resulted in sample percentages of 26% between 18 and 29 years; 25% between 30 and 40 years; 25% between 41 and 56 years, and 24% who were 57 years or older. Participants were screened for food shopping status, and two-thirds of the sample (68%) were female.

**Procedures and Dependent Measures**

Recommended advertising copy testing procedures generally employed in FTC cases were used in the study (cf. Andrews and Maronick, 1995). After initial screening, mall-shoppers were taken to an interview facility where they were randomly assigned to one of the possible claim type and disclosure ad conditions. Each participant viewed a booklet containing a full color target ad embedded between two (non-changing) clutter ads for consumer packaged products. The dependent measures included brand and ad attitudes, purchase intent, and consumers' product health perceptions. All measures were assessed using 7-point scales. Attitude toward the ad used three items (alpha = 0.93) assessing whether the participant's overall reaction to the ad was favorable-unfavorable, good-bad, and positive- negative. Participants' brand attitudes were measured by three items (alpha = 0.96) that gauged whether attitude toward the advertised brand was positive-negative, favorable- unfavorable, and good-bad. Purchase intent used a single-item to measure the likelihood (on a scale ranging from unlikely to likely) that the participant would buy the advertised brand (if available) in one of their shopping trips in the next month. Two nutrient content items were used to measure product health perception. The endpoints of the two items were: (1) "unhealthy for you" and "healthy for you" and (2) "high in fat content" and "low in fat content." The correlation between these two items was 0.68 (p < 0.01). For all multi-item measures, items were summed and then divided by the number of scale items, and these means were used in subsequent analyses.

Seven-point scale items also were used to measure two possible covariates, motivation to process nutrition information and brand familiarity. Because the two constructs potentially affect the dependent variables of interest in the study, measures were included to permit potentially more powerful tests of proposed relationships. Two Likert-type items were summed (correlation = 0.63) to measure motivation to process nutrition information (Moorman, 1990, p. 367). These items included the following statements: "I usually am interested in looking for nutrition information in margarine ads," and "I would like to see additional nutrition information in margarine ads." The second covariate, brand familiarity, was measured on a 7-point scale from "not very familiar" to "very familiar" in response to: "Before the study today, how familiar were you with the advertised margarine brand?" Preliminary analyses indicated that while these covariates measures were significantly correlated with some of the dependent variables, they did not interact with the manipulated variables (F-values < 0.6, ns) in affecting the dependent variables of interest.

# Results

## Tests of Effects on Ad and Brand Attitude and Purchase Intent (HI to H 3)

To test the possible combination of predicted mediation and moderation effects, the recommended framework of Baron and Kenny (1986, p. 1179) for assessing such combined effects in an experimental design context was followed. HI to H3 are tested using analyses of covariance (i.e., Step 1 of Baron and Kenny). Relevant means are shown in the top portion of Table 1 , and F-values associated with effects are displayed in the bottom of this Table.[2]

Findings assessing HI to H3 show that there are main effects for both ad claim type and disclosure on all three dependent variables, but as predicted in H3, the interaction of disclosure and ad claim type is significant for ad attitude and purchase intention ($p < 0.05$), and it is marginally significant ($p < 0.10$) for brand attitude. Plots of the means for the ad attitude and intention measures are shown in Figure 2. As postulated, when a disclosure is present, ad attitude and purchase intentions are lower (/-values = -3.35 and- 2.52, respectively, $p < 0.01$) for the general than the specific claim type. Also, the effect of the disclosure is significant for the general claim {t's = -4.29 and -2.94, ($p < 0.01$) for ad attitude and purchase intent, respectively), but nonsignificant for the specific claim (t's = -0.77 and 0.03, respectively). This pattern of results offers partial support for HI, H2, and H3.

## Tests of Mediation (H4 and H 5)

The final column in Table 1 offers means and ANCOVA results to assess H4.[3] For the proposed mediator of product health perception, there is a significant effect of the presence of a disclosure ($F = 27.0$, $p < 0.01$), as anticipated, but the main effect of claim and the interaction are both nonsignificant.

To test H5, three regressions are performed in which brand and ad attitude and intention serve as the dependent variables and the predictors include product health perception, dummy coded variables for claim type (0 = Specific; 1 = General) and disclosure (0 = Absent; 1 = Present) manipulations, and the claim by disclosure interaction. For the dependent variables of brand attitude and intention, results are assessed while accounting for the effects of the brand familiarity and motivation to process nutrition information covariates. (Given preliminary analyses showing no effect of these possible covariates on ad attitude (see Table 1), the regression for this dependent variable was performed without accounting for variance associated with these covariates.)

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Results are shown in Table 2. Model findings are significant for each of the three regressions, and R2 values range from 0.22 to 0.33. As suggested in H5, the proposed mediator of product health perception has a significant and substantial effect ($t$-values ranging from 7.59 to 1 1.29, $p < 0.01$ for all) for each of the dependent variables, and in each case the main effects of ad claim type and presence of the disclosure are nonsignificant. However, the disclosure by claim type interaction remains significant and negative for attitude toward the ad ($p < 0.01$), purchase intention, ($p < 0.01$), and brand attitude ($p < 0.05$).[4] (These negative coefficients are consistent with the pattern of means shown in Figure 2.) These results indicate that inclusion of product health perception in the model can account for main effects of claim type and disclosure, but not for their interaction.[5] The findings offer partial support for H5 in that there is a mediating role of health perception for the effect of the disclosure, but not for the interaction involving the disclosure, indicating there is no mediated moderation (Baron and Kenny, 1986, p. 1179).[6]

## Discussion

The purpose of this paper was to test the effect of inclusion of a disclosure statement across different ad claim types and assess a proposed mediating effect of health perceptions on consumers brand and ad evaluations. As hypothesized, results indicate that presence of a disclosure interacts with ad claim type on the attitude and purchase intent variables. When the disclosure is present, the specific claim results in a more favorable evaluation of the ad, brand, and purchase intention than the general claim. The disclosure information has a significant effect for the general ad claim but not for the specific claim. This finding that disclosures do not have the same effect across different claim types is important for public policy and supports the individual case approach used by the FTC in addressing ad claims that may be misleading. Consistent with the theory of reasoned action, it was predicted that the effects of claims and disclosures on attitudes and intentions operated through beliefs about product healthiness (H5). The disclosure information revealing the level of fat contained in the product had a strong negative effect on product health perception (as hypothesized in H4), but claim type had no effect. Inclusion of the health perception measure reduced the main effects of the disclosure and claim type on consumer evaluations to a nonsignificant level. These results offer partial support for a mediating role of health perception for the disclosure effect. The findings are consistent with attitude theory that indicates that changes in salient product beliefs may account

for more global product evaluations and intentions (Fishbein and Ajzen, 1980). However, it should be noted that the ad claim type and disclosure interaction remained significant subsequent to the inclusion of the health perception measure (i.e., no mediated moderation). This failure to support mediation of the interaction indicates that the proposed negative effect of the disclosure in the general claim condition extends beyond the reduced perception of product healthiness. A possible explanation is that the general "Healthy" claim first creates a tentative hypothesis about general product healthiness. Due to the ambiguity of the claim and the partisan source of the ad, consumers search for relevant information to test the tentatively held hypothesis (Hoch and Ha, 1986). The tentative hypothesis is subsequently disconfirmed when consumers are exposed to the unambiguous information in the disclosure about the level of fat in the product. Beyond the reduced perceptions of the healthiness of the product, brand and ad attitudes may be negatively impacted not only due to these poorer health perceptions, but because consumers feel that there was a conscious attempt to mislead them through the use of the "Healthy" headline claim (cf. Wright, 1986). Such deleterious effects on these attitude and intent variables do not seem to occur for the specific claim of "No Cholesterol," perhaps because there is no explicit disconfirmation of the claim and, thus, consumers do not interpret it as a direct, purposeful attempt to mislead on the part of the advertiser.

**Implications of Results**

Our findings suggest several implications for advertising researchers and policy-makers. The inclusion of the disclosure information had a strong effect on consumers' perceptions of the product's healthiness, and this effect appeared to dominate any effect of the claim or claim by disclosure interaction on consumer attitudes and intentions. Thus, if clearly and prominently displayed, disclosures appear capable of substantially altering product health perceptions that may be influenced by favorable nutrition claims that omit important nutrition information. In addition, the significant relationship between perceptions of the product's healthiness and brand attitudes and purchase intention indicated in Table 2 supports the increasing importance of consumers' perception of nutritional value in today's food product marketplace (e.g., "Shopping for Health," 1995). It may be argued that omission of information about a diagnostic attribute (i.e., fat level) from both the "general" and "specific" claims for the product may be capable of misleading consumers about the overall healthiness of the product (cf. Andrews et al., 1998). While the inclusion of a disclosure resulted in a substantial reduction in the perceived

healthiness of the product, the failure to eliminate the claim by disclosure interaction suggests negative carryover effects on consumer attitudes may be much more severe for some claims than for others. Also, the fact that the disclosure information had a significant negative influence on attitude and purchase intent variables for the general claim but not for the specific ad claim is useful information for deceptive ad cases. Thus, these differences are important for applied food marketers that use nutrition claims, researchers interested in how persuasive communications influence consumer attitudes, and federal and state agencies interested in the broad effects of disclosure information in ads. Future studies may examine whether these effects on attitudes and intentions are evident for longer time frames and influence subsequent purchase behavior of consumers.

## Notes

1. Initial analyses showed that the effect of each of the disclosures differed significantly from the no disclosure control condition on perceived healthiness and fat content of the product.

2. Given the three related dependent variables of interest in hypotheses, a MANCOVA was performed prior to these univariate analyses of variance. MANCOVA results showed multivariate significance for the effects of the covariates ($F = 4.31$, $p < 0.01$), type of ad claim ($F = 3.06$, $p < 0.05$), presence of the disclosure ($F = 4.38$, $p < 0.01$), and the claim by disclosure interaction ($F = 2.74$, $p < 0.05$). Because we are interested in effects of the ad manipulations for the separate dependent variables addressed in hypotheses, we focus on the univariate results in the text.

3. For purposes of comparison, a separate trailer control group ($n = 40$) that used a non-nutritional headline (and no disclosure information) was also included in the design of the study. Means for this trailer control on health perceptions, brand attitude, ad attitude, and intention are 5.05, 5.04, 5.13, and 4.03, respectively. Comparisons of these control group means to the nutrition claim conditions suggest some positive effects on these variables due to the nutrition claims when disclosure information is not included.

4. Coefficients and other regression results shown in Table 2 and reported in the text are based on inclusion of the brand familiarity and motivation to process covariates as independent variables in the analyses. We also performed analyses in which the variance explained by the covariates is first removed from the dependent variable and then the effects of

the manipulated variables and the mediator are assessed on the residual variance (i.e., effects are assessed on the remaining variance in the dependent variable after removing that explained by the covariates). The coefficients and significance levels are essentially unchanged from those reported in Table 2, and the R2 values are slightly lower.

5.   As suggested by a reviewer, we also performed the regression tests of mediation for just the general claim condition. Within this claim condition the effect of the disclosure in the model including the health perception mediator was nonsignificant for brand attitude and purchase intention. For attitude toward the ad, the effect of the disclosure was reduced but remained statistically significant.

6.   Consistent with the third step recommended by Baron and Kenny (1986), we also tested a model in which the interaction between the disclosure and product health perception measure was hierarchically added as an independent variable. Both the F-change statistics and /-values associated with the coefficient indicated that this interaction was nonsignificant for each of the dependent variables.

## Acknowledgement

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## Appendix

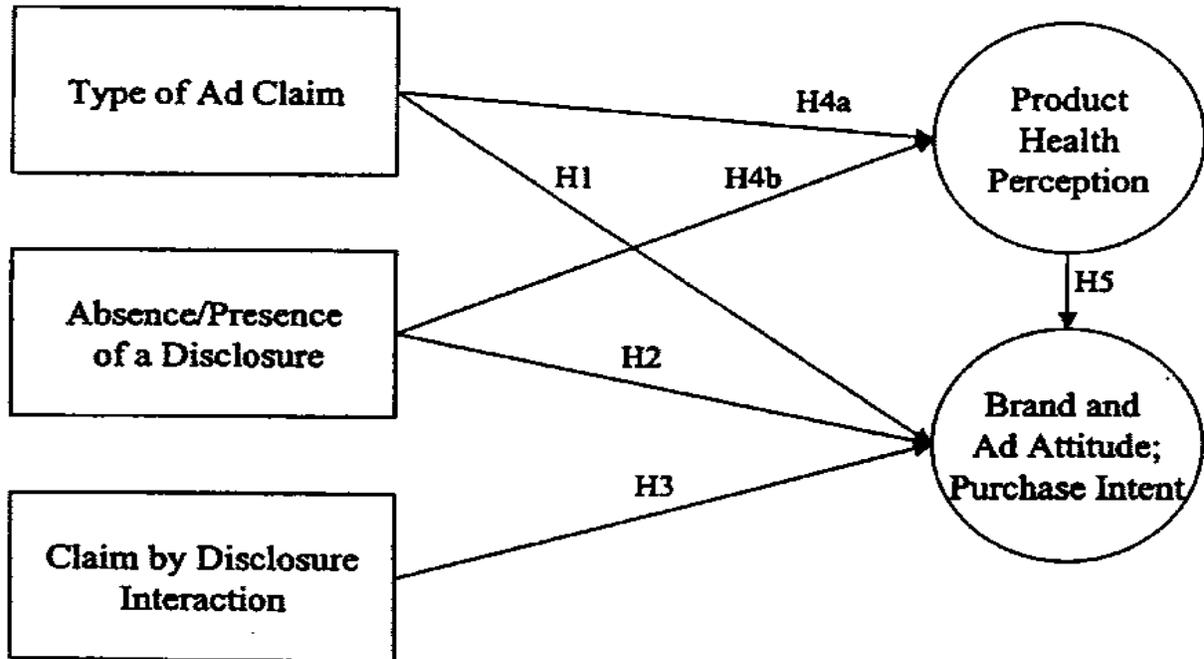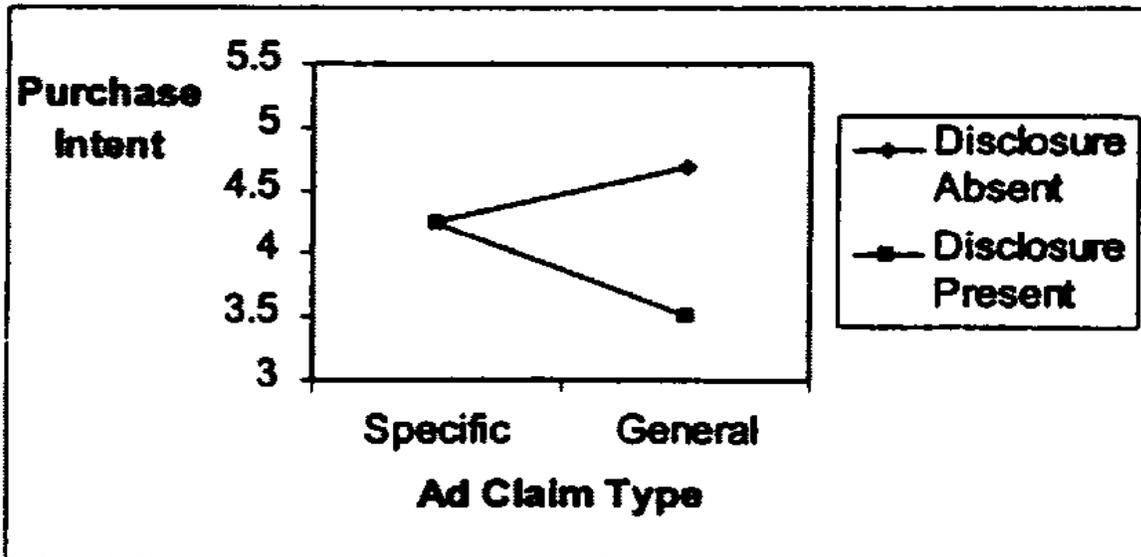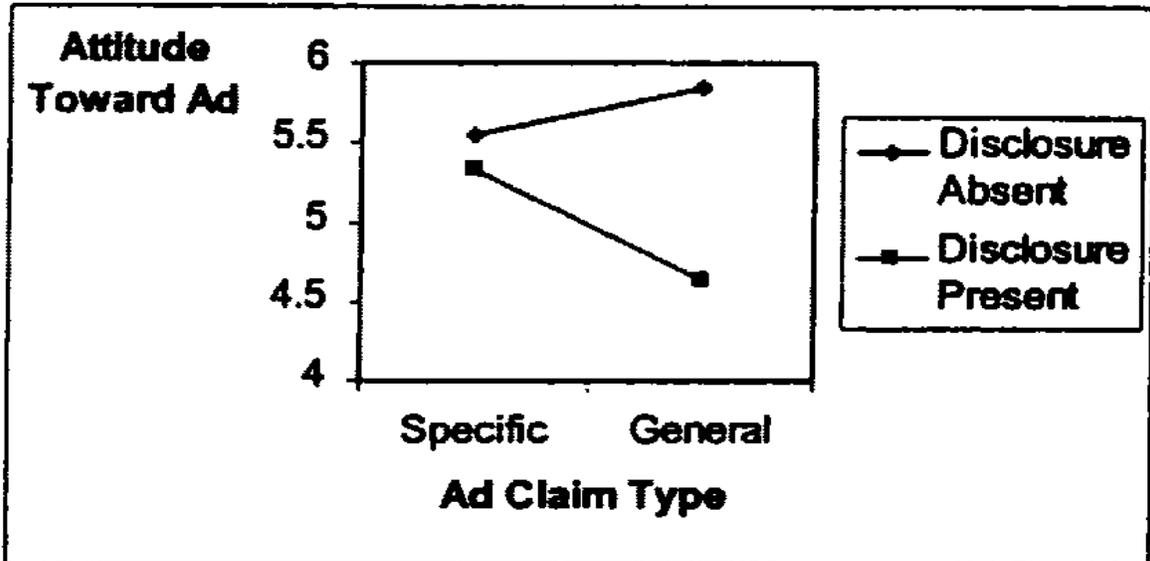## Figure 1: Hypothesized Effects on Product Health Perceptions and Brand and Ad Evaluations

**Figure 2: Effects of the Ad Claim Type and Presence of a Nutrition Disclosure in an Advertisement**

## Table 1: Means (standard deviations) and Results for Tests of HI, H2, H3, and H4

### A. Means (standard deviations):

| | Type of ad claim | | | |
| | Specific | | General | |
| | Disclosure absent | Disclosure present | Disclosure absent | Disclosure present |
|---|---|---|---|---|
| Brand Attitude | 5.69 (1.55) | 5.37 (1.50) | 5.60 (1.56) | 4.64 (1.78) |
| Attitude toward the ad | 5.55 (1.36) | 5.34 (1.54) | 5.85 (1.25) | 4.66 (1.61) |
| Purchase intention | 4.25 (2.44) | 4.26 (2.24) | 4.68 (2.07) | 3.51 (2.26) |
| Healthiness perception | 6.15 (1.35) | 4.99 (1.85) | 5.98 (1.26) | 4.73 (1.98) |

### B. ANCOVA results:

| | | Univariate F-values | | | |
| | | Outcome variables | | | Proposed mediator |
| Independent variables | df | Brand attitude | Ad attitude | Purchase intention | Healthiness perception |
|---|---|---|---|---|---|
| Covariates: | — | | | | |
| Brand familiarity | (1, 317) | 6.29** | 1.34 | 5.05** | 0.67 |
| Nutrition motivation | (1, 317) | 0.10 | 0.59 | 12.45*** | 4.60** |
| Hypothesized effects: | | | | | |
| Type of ad claim (AC) | (1, 317) | 9.06*** | 6.55** | 3.62* | 0.90 |
| Presence of disclosure (D) | (1, 317) | 9.11*** | 12.73*** | 4.14** | 26.99*** |
| AC × D | (1, 317) | 2.81* | 6.63*** | 5.27** | 0.01 |

*Note.* For all dependent variables, higher mean values indicate more favorable responses.

*** $p < 0.01$

** $p < 0.05$

* $p < 0.10$

## Table 2: Tests of the Mediating Role of Product Health Perception (H5)

| Independent variables | Brand attitude | | Ad attitude | | Purchase intention | |
|---|---|---|---|---|---|---|
| | Standardized coefficient | $t$ value | Standardized coefficient | $t$ value | Standardized coefficient | $t$ value |
| Covariates: | | | | | | |
| Brand familiarity | 0.10 | 2.24* | — | — | 0.24 | 4.86** |
| Nutrition motivation | 0.09 | 1.90* | — | — | 0.11 | 2.20* |
| Proposed mediator: | | | | | | |
| Health perceptions | 0.54 | 11.29** | 0.53 | 11.01** | 0.39 | 7.59** |
| Ad manipulations: | | | | | | |
| Ad claim type (AC) | 0.02 | 0.16 | 0.12 | 1.30 | 0.13 | 1.29 |
| Presence of disclosure (D) | 0.08 | 1.17 | 0.09 | 1.29 | 0.12 | 1.65 |
| AC × D | −0.20 | −1.93* | −0.29 | −2.86** | −0.27 | −2.41** |
| Model F | 27.61** | | 39.14** | | 15.91** | |
| Adj. $R^2$ | 0.33 | | 0.32 | | 0.22 | |

*Note.* Model df for brand attitude and purchase intention are (6,316), and for ad attitude the df are (4,318).
** $p < 0.01$.
* $p < 0.05$.