THE EFFECTS OF MESSAGE STRATEGIES AND SPOKESPERSONS
IN DIRECT-TO-CONSUMER (DTC) ADVERTISING:
INFORMATIONAL AND TRANSFORMATIONAL ADVERTISING

By

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A THESIS PRESENTED TO THE GRADUATE SCHOOL
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To my beloved family

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The present study investigates the effects of message strategies and endorser

types in direct-to-consumer (DTC) advertising on consumer attitudes and behaviors. An

experiment was designed with a 2 (message strategy: informational versus

transformational) × 3 (endorser: celebrity or physician versus typical consumer) x 2

(involvement: low versus high) factorial design, to explore the interactive effects of

message strategy, spokesperson, and involvement on the consumers' attitudes toward

an ad and a brand and consumers' intentions to ask a doctor. The data showed that

transformational advertisements have greater influence on consumers' positive attitude

toward a DTC ad than informational advertisements, and a celebrity endorser has

greater impact on positive attitude toward a DTC ad than other types of endorsers. The

results revealed a three-way interaction between message strategy, spokesperson, and

involvement. The patterns of interaction between message strategy and endorser type

differed according to level of involvement. For participants who had a high level of

involvement, the high-credibility ads elicited more positive attitudes than did the low-

credibility ads under conditions using the informational strategy. This study finding

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suggests that advertisers should recognize the unique characteristics of pharmaceutical

products and use caution when adopting strategies that have been effective for other

product categories.

CHAPTER 1
INTRODUCTION

Direct-to-consumer (DTC) advertising of prescription drugs has grown

dramatically. DTC advertising spending increased from $985 million in 1996 to $4.43

billion in 2008 (IMS Health, 2008). In 2007, medicine and remedies advertising was the

fourth largest advertising category in the U.S., behind only retail, automotive, and

telecommunications (TNS Media Intelligence, 2008). This growth reflects the belief of

pharmaceutical companies that (a) DTC advertising positively affects consumer

awareness of specific brands of drugs and retailer margins and (b) increases customer

knowledge and potential use of these drugs (Kopp & Sheffet, 1997).

As DTC advertising has grown, advertisers and advertising researchers have

investigated its effectiveness in the pharmaceutical field. Therefore, a number of

advertising elements, such as advertising appeals, message characteristics, and types

of endorsers, have been examined in terms of advertising effects.

The purpose of this study was to investigate the effects of message strategies

and endorser types in DTC ads on consumer attitudes and behaviors. Understanding

the elements that affect attitude toward pharmaceutical advertising and pharmaceutical

brands is important for both researchers and advertisers. If the message strategies and

the spokespersons of the DTC ad indeed influence attitude, then researchers and

advertisers must identify specific features and relationships that have positive effects on

consumer attitudes toward these ads and brands and apply those results productively to

achieve effective persuasion.

Prescription drugs are advertised using both rational and emotional advertising

appeals. According to a content analysis of DTC ads, 67% of magazine advertisements

made emotional appeals to readers (Woloshin, Schwartz, Tremmel, & Welch, 2001).

Pinto (2000) found that all pharmaceutical advertisements in magazines were

essentially informational in nature. However, many also used emotional appeals: 43%

were classified as fear appeals, 8.6% were guilt appeals, 3.1% employed humor, and

8.6% used sex (Pinto, 2000). In another content analysis of DTC ads, only 33% of print

ads contained a rational appeal in the visual or headline, but 74.8% contained a positive

emotional appeal in the visual and/or headline (Main, Argo, & Huhmann, 2004).

Pharmaceutical advertisers also frequently use endorsements. One content

analysis of 23 television DTC ads examined whether the spokesperson was a health

care professional, a layperson, a celebrity, or an anonymous voiceover actor (Kaphingst,

Dejong, Rudd, & Daltroy, 2004). Kaphingst et al. found that in 22% of the ads a

physician provided information about the drug, whereas in 30% a layperson provided

information.

Advertising researchers have been interested in the effectiveness levels of

various message strategies, as well as the audience responses to these strategies.

Advertisers believe the advertising message must rely on the situation: the type of

product, the intended audience, and the motivation for purchase (Rossiter, Percy, &

Conovan, 1991).

For a high-involvement product, information should be more persuasive than

emotional (Vaughn, 1980). Since prescription drugs are highly involving as health and

medical products (Vaughn, 1980), it is essential to know whether informational

strategies are more effective than emotional strategies in advertising them.

Past studies investigated whether endorsers in advertisements have a significant effect on consumer attitudes and behavioral intentions. A significant amount of empirical research on celebrity endorsement showed that celebrities make advertisements more believable (Kamins, Brand, Hoeke, & Moe, 1989), enhance message recall (Friedman & Friedman, 1979), create a positive attitude toward the brand (Atkin & Block, 1983; Freiden, 1984; Kamins et al., 1989), and increase purchase intention (Atkin & Block, 1983; Freiden, 1984; Kahle & Homer, 1985; Kamins et al., 1989; Ohanian, 1991). Although a celebrity is a popular form of endorser in general brand advertising, an empirical study argued that an expert endorser is more effective for a high-risk product (Friedman & Friedman, 1979). Since prescription drugs may be considered high-risk products, an expert endorser, such as a physician, is expected to be more effective than a celebrity or a lay endorser.

Although these topics, appeals and endorsers, have been researched separately and in some combination, they have yet to be combined in one study. Furthermore, since DTC advertisements promote drugs that must be prescribed by physicians, empirical studies that examine the effects of different types of message strategies and endorsers may make important contributions to pharmaceutical marketing.

This paper contains a summary of the background and nature of message strategies, endorsements, and advertising and DTC advertising. It also contains an examination of the effects of message strategies and spokespersons on consumer attitude, which covers such questions as how the consumer perceives pharmaceutical advertising and prescription drugs. Of specific interest was the process by which

consumers perceive pharmaceutical advertising and involvement and how those

perceptions may affect their attitudes.

CHAPTER 2
LITERATURE REVIEW

A pharmaceutical-product message primarily aims to encourage people to discuss the product with their doctor to increase consumer knowledge about the product as well as evoke favorable product attitudes (Sewak, Wilkin, Bentley, & Smith, 2005). Predicting the effects of the content of pharmaceutical advertising on consumers, an understanding of the attributes of the medium, as well as an understanding of how consumer attributes can influence the cognitive process is required.

Message Strategies

Advertising's effectiveness is influenced by both the message strategy and the execution of the message (Laskey, Fox, & Crask, 1995). Many studies have defined and used the terms "message strategy" and "creative strategy" interchangeably, but some researchers have distinguished between them (Laskey, Day, & Crask, 1989; Taylor, 1999). Creative strategy deals with message content and execution comprising what is said and how it is said; message strategy focuses on the concept of what to say (Laskey et al., 1989). Taylor (1999) defined message strategy as "a guiding approach to a company's or institution's promotional communication efforts for its products, its services, or itself" (p. 7).

Several classifications of message strategies have been developed: cognitive and affective (Aaker & Norris, 1982), informational and transformational (Puto & Wells, 1984), and emotional and rational (Roselli, Skelly, & Mackie, 1995).

Aaker and Norris (1982) classified advertising as either informational/rational/cognitive or image/emotional/feeling. Similarly, Vaughn (1980) divided advertising into thinking messages and feeling messages. However, it is not

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clear that message strategies are exclusively informational vs. emotional (Laskey et al., 1989).

One classification of advertising strategies is informational (e.g., highly cognitive) vs. transformational advertising (e.g., highly experiential) (Puto & Wells, 1984). Puto and Wells (1984) defined an informational advertisement as "one which provides consumers with factual (i.e., presumably verifiable), relevant brand data in a clear and logical manner such that they have greater confidence in their ability to assess the merits of buying the brand after having seen the advertisement" (p. 638). Puto and Wells (1984) also argued that informational advertising must (a) present factual, relevant information about the brand, (b) present information which is immediately and obviously important to the potential consumer, and (c) present data that the consumer accepts as being verifiable (p. 638).

They defined a transformational advertisement as "one which associates the experience of using (consuming) the advertised brand with a unique set of psychological characteristics which would not typically be associated with the brand experience to the same degree without exposure to the advertisement" (p. 638). According to Puto and Wells (1984), transformational advertising must (a) make the experience of using the product richer, warmer, more exciting, and/or more enjoyable than that obtained solely from an objective description of the advertised brand and (b) connect the experience of the advertisement so tightly to the experience of using the brand that consumers cannot remember the brand without recalling the experience generated by the advertisement (p. 638).

Transformational advertising is essentially affect-based rather cognitive-based and, therefore, it is comparable to other psychological terms, such as emotional, feeling, and image advertisements (Puto & Wells, 1984). However, Puto and Wells (1984) emphasized that the transformation takes place when these descriptors are explicitly related to the experience of the advertised brand by consumers.

Laskey, Day, and Crask (1989) developed sub-categories of two message strategies, informational and transformational, which further classified the main message strategy. Sub-categories within the informational category were comparative, unique selling proposition, preemptive, hyperbole, and generic strategies. Strategies under the transformational category were user image, brand image, use occasion, and generic strategies (Laskey et al., 1989).

Empirical studies to examine which strategy is more effective have also been conducted. Laskey, Seaton, and Nicholls found that informational messages are more persuasive and produce more favorable attitudes toward the ad and greater purchase intentions in different product/service categories, such as bank, travel agency, and health club (Laskey, Seaton, & Nicholls, 1992; 1994; 1994).

Spokespersons

An endorser can be defined as a person who is employed to communicate an advertising message to a target audience (Freiden, 1984). Typical consumers, product class experts, company presidents, and celebrities are popularly used as endorsers in advertising (Friedman & Friedman, 1979). Endorsers can be grouped into three classes: expert, celebrity, and lay or typical consumer (Tellis, 2004).

Source Credibility Model – Expert Endorser

An expert can be defined as an individual or firm that the consumer (i.e., the target audience) recognizes as having specific knowledge in a particular area (Tellis, 2004). Hovland, Janis, and Kelley (1953) examined the factors resulting in a communicator's perceived credibility, which depends on expertness and trustworthiness, and ultimately developed their source credibility model. Hovland et al. defined expertise as "the extent to which a communicator is perceived to be a source of valid assertion" and trustworthiness as "the degree of confidence in the communicator's intent to communicate the assertions he considers most valid" (Ohanian, 1990, p. 41).

When the target audience perceives a source as being highly credible, the source is in a better position to persuade the audience than a low-credibility source (Hovland & Weiss, 1951; McGuire, 1985). Researchers have already defined the link between credibility and persuasiveness. For example, Friedman, Santeramo, and Traina (1978) demonstrated that likeability is the most significant component of trust. Based on their findings, these authors encouraged advertisers to utilize well-liked personalities as trusted endorsers of brands.

In addition, scholars have identified trustworthiness's positive effect on attitude change. When an expert is utilized as a trustworthy source, that expert creates the most significant opinion change among consumers (McGinnies & Ward, 1980). According to Ohanian (1991), a trustworthy communicator is able to persuade the target audience whether audience members perceive that communicator as expert or not. An expert celebrity appears to combine both factors by being significantly persuasive and creating a higher willingness among consumers to purchase the brand (Ohanian, 1991). Kamins et al.'s (1989) study found that increased credibility and effectiveness resulted in higher

ratings for quality of service and increased respondents' intention to purchase the advertised brand, thereby indirectly supporting the source credibility model.

Meaning Transfer Theory – Celebrity Endorser

A celebrity is an individual known to the public for achievements or popularity in an area other than the product class endorsed (Kamins, 1989). McCracken's (1989) meaning transfer theory indicates that a celebrity shares a unique set of meanings with the target audience; this set of meanings is also transferred to the product being endorsed. According to the theory, consumers purchase the endorsed product to acquire those meanings transferred to the product by the celebrities.

Past studies found that a celebrity endorser can support consumer recall of brand name and advertising copy (Friedman & Friedman, 1979), generate positive attitudes toward an advertisement (Kamins, 1990), make advertisements more memorable, improve both product- and ad-based evaluations (Kahle & Homer, 1985), and enhance brand awareness (Premeaux, 2005). The use of an attractive celebrity spokesperson appears to enhance spokesperson credibility for a particular category of products (Kamins, 1990). Advertisements featuring celebrities produce more favorable effects than non-celebrity advertisements because the celebrity figure is perceived as competent and trustworthy (Atkin & Block, 1983). Patzer (1985) suggested that the physical attractiveness of a communicator can determine the effectiveness of persuasive communication and influence overall marketing outcomes.

Internalization – Lay Endorser

A lay endorser is a specific kind of consumer endorser. This endorser is not a celebrity, but rather a common person who has no unique knowledge about the product class except that which the person has developed during its everyday use (Friedman &

Friedman, 1979). Consumers find an advertisement appealing because they identify with the endorser due to the endorser's similarity to the consumer or because they internalize the advertisement, one process of social influence (Kelman, 1961), since similarity in product use may endow the lay endorser with some expertise. Internalization is assumed to occur when individuals accept the attitude or behavior of another person because it is viewed as honest, sincere, and consistent with the individuals' own personal values (Friedman & Friedman, 1979). Such internalization of information makes the endorser credible, meaning he or she can influence consumers' attitudes and value structures.

Theoretical Foundation

The elaboration likelihood model (ELM) (Petty & Cacioppo, 1986) defines two types of message processing that result from access to issue-relevant information: central processing and peripheral processing. In central processing, the target audience expands upon the message; in peripheral processing, the audience takes shape and subsequently changes its attitudes according to the message's inferences or associations.

ELM deals with consumer persuasion and attitude change. The model demonstrates that attitude change results from "a diligent consideration of information that is central to what people feel are the true merits of the advocacy" (Taylor, 1999, p. 19) or "because the attitude object has been associated with either positive or negative cues, or the person uses a simple decision rule to evaluate a communication" (Taylor, 1999, p. 13).

Two conditions occur early on to engage the two routes to persuasion, motivation and ability. When exposure is presented to people who have high motivation about the

product and a high ability to evaluate a message, their likelihood of thinking about that exposure will be high.

The Foote, Cone, and Belding grid (FCB grid) is another model that advertising researchers developed to understand consumer purchase decisions; it incorporates several behavioral theories: economics, response actions based on learning, psychological elements, and social influences (Ratchford & Vaughn, 1989). The FCB grid, based on the hierarchy of effects model, "postulates that the hierarchy varies depending on whether the decision is: (1) high vs. low in involvement; (2) thinking vs. feeling" (Ratchford & Vaughn, 1989, p. 293).

An endorsement serves as a peripheral cue to persuasion under conditions of low elaboration (Petty, Cacioppo, & Goldman, 1981). When people are less involved in an issue, a highly credible source tends to generate more attitude change than a low-credibility source (Johnson & Schileppi, 1969). Ratneshwar and Chaiken (1991) found that subjects with low levels of comprehension expressed more positive attitudes toward expert inventors and that their responses were strongly associated with source-related thoughts (e.g., source expertise).

However, a number of studies reported null findings regarding the source credibility effect on attitudes under conditions of high elaboration. When people were motivated or able to process the message, deep elaboration on the message itself may have reduced their need to rely on cues such as source credibility (Homer & Kahle, 1990).

These dual-processing models of attitude change indicate that involvement is a significant moderator of how much and what kind of information processing occurs as a result of the persuasive communication.

Direct-to-Consumer Advertising of Prescription Drugs

Consumers' Attitudes toward DTC Advertising and Behavioral Intention

In previous studies, DTC prescription drug advertising focused on the ads' impact on consumer attention (Menon, Deshpande, Perri, & Zinkhan, 2003), comprehension of information, consumer attitudes toward DTC prescription drug advertising (Morris, Brinberg, Klimberg, Rivera, & Millstein, 1986), and information research and behavioral intentions (Doucette & Schommer, 1998).

Signh and Smith (2005) found, through a mail survey, that consumers have generally favorable perceptions of prescription drug advertising. However, a survey conducted by Herzenstein, Misra, and Posavac (2004) revealed that consumers are neither extremely positive nor extremely negative toward DTC advertising. Their findings suggested that consumers' attitudes toward DTC advertising are related to whether they search for more information about the advertised drug and ask their physician about the drug (Herzenstein et al., 2004). Limbu and Torres (2009) found that product involvement and the type of DTC advertisement are significant predictors of consumer attitudinal responses to DTC advertising.

According to Huh and Becker (2005), DTC advertising exposure strongly correlated to information seeking about the drug, thoughts about communicating with healthcare providers, and actual communication with healthcare providers. Chen and Carroll (2007) concluded, through a telephone survey, that consumers who are more

positive toward DTC advertising, more inclined toward media information sources, and more susceptible to diseases treatable with drugs are more likely to visit their physicians.

Advertising Appeal and Endorsement of DTC Advertising

Food and Drug Administration guidelines require that DTC advertisements include information on side effects, appropriate usage, and so forth; however, far less is known about the use of emotional appeal to support interest in the drug (Pinto, 2000). Some advertisers use a strict informational appeal while others employ a combination of emotion and information. A content analysis of 38 television DTC ads found that both rational and emotional appeals are used; specifically, 86% of the DTC ads in the sample included rational arguments for product use and 95% included emotional appeals (Frosch, Krueger, Hornik, Cronholm, & Barg, 2007). One content analysis looking specifically at magazine DTC ads found that 61% contained a rational appeal, compared to 39% with an emotional appeal (Macias & Lewis, 2006).

In the context of DTC advertising, physicians are widely used as experts (Huh & Langteau, 2007) who have a large amount of knowledge, training, and experience about prescription drugs. Recently, pharmaceutical advertisers have begun to use celebrity endorsers; however, the effectiveness of such DTC ads remains unproven (Menon, Deshpande, Zinkhan, & Perri III, 2004). The current research was intended to support in filling this gap.

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Hypotheses and Research Question

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According to Roth (2003), the informational-transformational distinction is similar to the thinking-feeling typology (Ratchford, 1987). Since prescription drugs are highly involving as health and medical products (Ratchford, 1987), it is expected that informational strategies are more effective than transformational strategies in

advertising. Although high-involvement products can relate to both informational and transformational motives, in the DTC drug context, transformational or emotional messages have been shown to be more effective than informational messages (Roth, 2003). Roth (2003) studied the message effects on advertising awareness through print ads and DTC monitors, the field studies including data on "brand level DTC advertising awareness for drugs used to treat a wide spectrum of medical conditions or diseases" (Roth, 2003, p.183). The ads that convey transformational message strategies were associated with higher awareness (34% to 35%) than ads that convey informational messages (28.9 %). Therefore, the following hypothesis was proposed:

H1a: Overall, individuals will have more positive attitudes toward a DTC ad with a transformational strategy (highly experiential) than an ad with an informational strategy (highly cognitive).

The dual mediation hypothesis (DMH) helps explain the relationship between consumers' attitudes toward advertising, their attitudes toward the advertised drug, and intentions to ask a doctor. DMH posits that attitude toward ad influences brand attitudes directly and indirectly through brand cognitions (MacKenzie, Lutz, & Belch, 1986). Therefore, the following hypothesis was proposed:

H1b: Overall, individuals will have a more positive attitude toward the product in a DTC ad with a transformational strategy (highly experiential) than toward a product in a DTC ad with an informational strategy (highly cognitive).

Studies such as the one conducted by Goldsmith, Lafferty, and Newell (2000) found that endorser credibility has an impact on attitude toward the ad. Higher ratings

for endorser credibility are related with more positive attitude toward the ad. Therefore, the following hypotheses were proposed:

H2a: Overall, individuals will have the most positive attitude toward a DTC ad with a celebrity endorser than other types of endorsers.

H2b: Overall, individuals will have the most positive attitude toward a product in a DTC ad with a celebrity endorser than other types of endorsers.

Differences in involvement with the subject (prescription drugs, medical condition) of an ad can predict the relationship between creative strategies. According to ELM, involvement—the perceived personal relevance of the product or message—is one of the key variables that motivates consumers to process advertising. A high level of involvement, such as that elicited by a high-involvement product, motivates consumers to elaborate on a message and form attitudes through central route processing. Thus, consumers with a medical condition should be more likely to centrally process a DTC advertisement for a pharmaceutical treatment of that condition and less likely to be influenced by peripheral cues (e.g., transformational or endorser type). Cho (1999) found that information-based strategies were more effective with high-involvement consumers than they were with low-involvement consumers. Otherwise, attention-getting appeals were more effective among low-involvement consumers. Therefore, the following hypotheses were proposed:

H3a: Individuals who have a high level of involvement will have a more positive attitude toward an ad with an informational strategy (highly cognitive) than an ad with a transformational strategy (highly experiential).

H3b: Individuals who have low-level involvement will have a more positive attitude toward an ad with a transformational strategy (highly experiential) than toward an ad with an informational strategy (highly cognitive).

According to ELM, high-involvement people are more likely to elaborate upon a message and form attitudes through a central route of persuasion. Since the sample of this study was high-involvement subjects, they were expected to process the DTC advertisement through a central route of persuasion. Therefore, peripheral cues and spokespersons were not expected to produce differences in their responses. Thus, the following hypothesis was proposed:

H4: An interaction between endorsement and level of involvement will be present such that endorser type will have a larger impact on attitude and intention for a low level of involvement than a high level of involvement. No difference will occur in attitude between high-involvement subjects who see a DTC ad with an expert endorser versus a celebrity or typical consumer endorser.

Due to the complexities of information processing, including involvement and credibility, specific predictions regarding three-way interaction cannot yet be justified. Thus, the research questions were as follows:

RQ 1: What will be the effects of message strategy and the type of endorsement when combined with attitude and intention?

RQ2: What will be the effects of message strategy, the type of endorsement, and involvement when combined with attitude and intention?
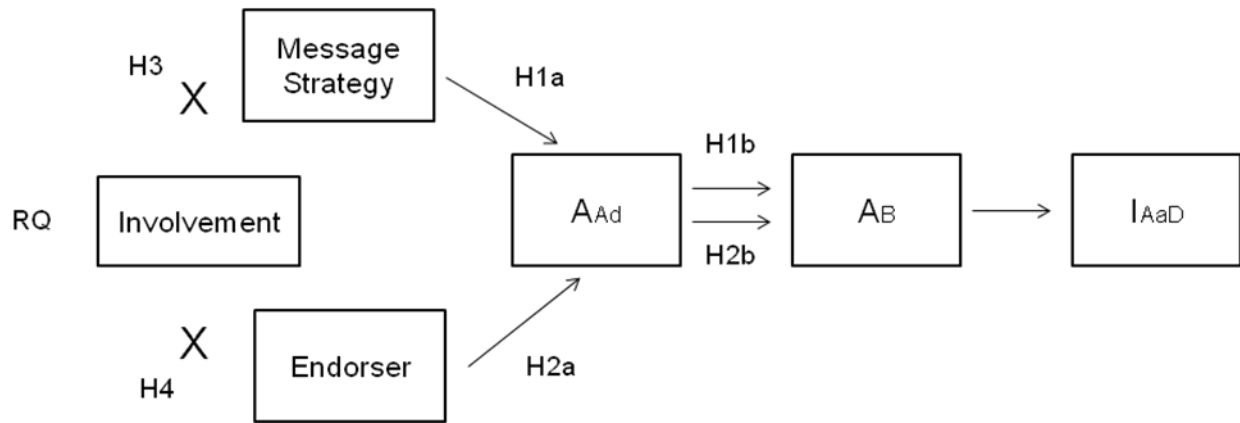
Figure 2-1. Conceptual Framework

CHAPTER 3
METHOD

Experimental Design

A 2 × 3 factorial design was used to investigate the hypotheses. The two

manipulated independent variables were message strategy (informational vs.

transformational) and endorser (celebrity or physician vs. typical consumer). The third

independent variable was consumer involvement. Since this research was intended to

explore consumers' enduring involvement with the advertised product, involvement was

measured but not manipulated. Each participant was randomly assigned to one of the

six experimental conditions.

Procedure

To ensure a proper experimental setting, a pretest was conducted. The pretest

was designed to aid in the selection of appropriate messages strategies that best

represented informational and transformational appeals and to ensure the quality of

endorser images that were most suitable for each type. Subjects who participated in the

pretests were told that the objective of the survey was to assist in designing a

commercial to be launched. Thirty undergraduate students attending the University of

Florida volunteered for these pretests.

Pretest 1: Selection of Messages

Eight messages (4 informational and 4 experiential) were prepared in advance

based on current and previous prescription drug advertising messages. The

informational and transformational messages were arranged in an interlacing style in

the list to avoid affective or priming interference.

The participants were asked about their perceptions of the eight messages (scoring from 1 to 7, representing emotional to informational). This test used six items from the information and transformation scale (Puto & Wells, 1984). The two headlines with the highest weighted scores (Chen & Wells, 1999)were selected as informational appeals for the experiment. For emotional headlines, the items were regarded as reverse-scored and the same scheme was followed to compute the weighted scores. The two headlines with the highest weighted scores were selected as emotional appeals for the experiment.

Pretest 2: Selection of Endorsers

The participants were asked to choose the one most appropriate portrait from each initial pool of three forms of endorser (expert, celebrity, and typical consumer) to promote an allergy medication. Also, the source credibility for each endorser was measured using a 7-point semantic differential scale developed by Dholakia and Sternthal (1977).

Main Test

The participants were randomly assigned to one of six experimental conditions, varying in terms of message strategy and endorser, by distributing six different versions of the material packet. Each group consisted of 30 subjects per cell. Participants were informed that the study was being conducted on a prescription drug advertisement. In a laboratory setting, participants were exposed to a print advertisement for 3 minutes and asked to complete a short questionnaire. Participants were also asked general questions about prescription drug DTC advertising and demographic questions such as age, gender, race, and education. Consumer attitudes toward the DTC ad (A_{DTCA}) were also measured using a 5-item, 7-point scale developed by Petroshius, Titus, and Hatch

(1995). The participants were asked about their perceptions of the 8 messages (scoring from 1 to 7, representing emotional to informational). For the manipulation check, a 23-item, 6-point information and transformation scale (Puto & Wells, 1984) was used. For each informational ad, the sum of the weighted scores obtained from multiplying the perception score and the relatedness score were computed. For emotional headlines, the items were regarded as reverse-scored and the same scheme was followed to compute the weighted scores.

Independent Variables

Message Strategy

For the message strategy, two forms of message appeal were offered based on the pretests. Informational message strategy was designed to present factual, relevant information about the brand, such as specific product attributes, so that consumers could make comparisons or arrive at purchasing decisions based on these factual and objective details. In contrast, transformational strategy included more subjective elements, such as experience using the product, than those acquired exclusively from an objective description of the brand being advertised.

Endorsers

Expert endorsers (physicians) were selected based on expert knowledge in a particular area (Tellis, 2004). The criteria for selecting celebrity endorsers were based on achievements (not including the product class endorsed) (Kamins, 1989); the typical endorser was chosen based on familiarity (i.e., normal user of the product) (Friedman & Friedman, 1979).

Moderator

Consumer involvement

The definition of involvement was based on the advertised prescription drug and the medial condition, and the revised PII was used to measure participant involvement with the product. Each participant's level of involvement with the prescription drug was computed as the sum of the 8 items of PII developed by Zaichkowsky (1994).

Attitude toward spokesperson

The endorser in the ad was measured on characteristics relating to attractiveness, trustworthiness, and expertise using a 15-item, 7-point semantic scale. The questions were included on the instrument which was designed by Ohanian (1990).

Control Variables

Steps were taken to control for possible confounding effects to improve the internal validity of the research. In addition to message and endorser selections conducted in the two pretests, individual differences of participants, such as gender, age, sex, and interest in health care, were controlled by randomly assigning the participants to each group. Brand effects were also eliminated by presenting fictitious brand names and images of the product. This made the advertised product new to all participants.

Dependent Variables

Attitude toward Advertising

Consumer attitude toward the ad (A_{Ad}) was measured using the 3-item, 7-pont semantic differential scale of previous studies (Goodstein, 1993).

Attitude toward Product

Attitude toward the brand was measured using the 5-item, 7-point (1 = strongly disagree, 7 = strongly agree) Likert scale developed by Putrevu and Lord (1994) to assess consumer attitudes toward the drug's brand (A_B).

Intention

Prescriptions are required to gain access to prescription medication; thus, the first step in learning about a medication is to ask one's physician about it. This dependent variable—"intention to ask a doctor" (I_{AaD})—was measured using a 5-item, 7-point Likert scale developed by Young, Lipowski, and Cline (2005).

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Research Stimuli

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The product category used for the experiments was DTC prescription allergy medicines. Due to the participants' general familiarity with allergy treatments, the product class was considered relevant for the sample. The fictitious brand name, ALTIRINE, was used. The ideal fictitious brand name for use in research is low in name familiarity, low in implied product category benefits, and neutral in perceived quality (Baker, 1999).

A full-page print advertisement for a prescription drug employed for the treatment of allergies that is appropriate for all age groups and both males and females was developed for the experiment. Based on the pretests, six versions of the advertisement were prepared combining two message strategies and three types of endorsers (Ad 1: Informational copy and expert endorser (physician); Ad 2: Informational copy and celebrity endorser; Ad 3: Informational copy and typical consumer endorser; Ad 4: Transformational copy and expert endorser (physician); Ad 5: Transformational copy and celebrity endorser; Ad 6: Transformational copy and typical consumer endorser). In

the advertisements, the endorser was presented on the upper side as a spokesperson, and the message strategy was presented on the lower side in a big font as a headline of the ad. Therefore, apart from the headline message and endorser, all other message and executional aspects of the advertisement were held constant across all versions. The bottom part of the advertisement comprised one statement describing benefits, three describing uses, and two describing side effects in a small font to comply with Food and Drug Administration regulations for DTC advertising. The final section of the advertisement included the brand name, product picture, and logo.

Study Participants

A total of 304 students from the University of Florida participated in this study for extra credit. Of these participants, 60 were involved in pretesting the materials, and the remaining 244 were participants in the main study.

CHAPTER 4
RESULTS

Sample Characteristics

The sample consisted of 244 respondents who attend a southeastern United States university. Participants' ages ranged from 18 to 29 years, M = 20.30, SD = 1.54; 60.7% (n = 148) were female and 39.3% (n = 96) were male. Most (98%) were working on undergraduate degrees. The largest ethnic segment (77.5%) was white, followed by Hispanic (10.2%), Asian (3.7%), African American (2.9%), Hawaiian native (1.6%), and other (4.1%). Of the respondents, 41.4% suffered from seasonal allergies; 8.6% said they suffered from allergies all the time, while 9% had experienced allergies in the past. Less than half (41%) said they had never suffered from allergies. Of those who did have allergies, 39.6% said they use prescription allergy medication, while more than half (63.9%) choose over-the-counter medication.

Scales Used and Reliability Analyses

Attitude toward the Ad

Attitude toward the ad was measured using three items on a 7-point semantic differential scale, as proposed by Goodstein (1993). The Cronbach's alpha for these items was .89. Inter-item correlations ranged between $r = .68$ and $r = .83$.

Attitude toward Brand

The 7-point scale developed by Putrevu and Lord (1994) was used to measure five items related to attitude toward brand. The Cronbach's alpha for these items was .88. Inter-item correlations ranged between $r = .35$ and $r = .75$.

Intention to Ask a Doctor

Young et al.'s (2005) 7-point scale was used to measure five items regarding intention to ask a doctor. The Cronbach's alpha for these items was .96. Inter-item correlations ranged between $r = .70$ and $r = .88$. No increase in the Cronbach's alpha would result from the deletion of any of the scale items.

Message Strategy

Advertising message strategy type was based on 23 items measured using the 6-point scale developed by Puto and Wells (1984). Between the two strategies examined, six items measured informational strategy. The Cronbach's alpha for these six items was .73. Inter-item correlations ranged between $r = .13$ and $r = .48$. From the original eight informational items, two were deleted for reliability reasons. For the transformational strategy, 14 items were used. The Cronbach's alpha was .89. Inter-item correlations ranged between $r = .12$ and $r = .72$. Among 15 informational items, one was deleted for reliability reasons.

Endorsers

Each dimension of source credibility was measured using five items on a 7-point scale developed by Ohanian (1990). For attractiveness, the Cronbach's alpha for these five items was .91 and inter-item correlations ranged between $r = .40$ and $r = .88$. For trustworthiness, the Cronbach's alpha was .95, and inter-item correlations ranged between $r = .72$ and $r = .87$. For expertise, the Cronbach's alpha was .94; inter-item correlations ranged between $r = .74$ and $r = .87$.

Involvement

The 7-point scale developed by Zaichkowsky (1994) was used to measure eight items related to involvement. The Cronbach's alpha was .93, and inter-item correlations ranged between $r = .38$ and $r = .78$.

Manipulation Check

As shown in Table 4-1and Table 4-2, participants who viewed the informational ad reported higher levels of perceived information ($M = 3.48$, $SD = 0.76$) than participants who viewed the transformational ad ($M = 3.06$, $SD = .71$), $F(1, 206) = 16.10$, $p < .01$. Likewise, participants viewing the transformational ad reported higher levels of perceived transformation ($M = 3.30$, $SD = .65$) than participants viewing the informational ad ($M = 2.62$, $SD = .73$), $F(1, 206) = 48.33$, $p < .01$.

The mean scores of participants' perception of spokesperson types showed a significant difference. The celebrity endorser ($M = 4.98$, $SD = .93$) was rated as more credible than both the expert endorser ($M = 4.06$, $SD = .93$) and the typical consumer ($M = 4.23$, $SD = .87$), $F(2, 237) = 17.56$, $p = .00$. A planned comparison was conducted to measure attractiveness among endorsers using ANOVA followed by Scheffé multiple comparison testing. The results showed a significant difference between the celebrity endorser and the typical consumer and between the expert endorser and the typical consumer ($p = .00$). There was, however, no significant difference between the celebrity endorser and the expert endorser ($p = .81$).

The celebrity endorser ($M = 5.67$, $SD = 1.01$) was rated as more attractive than both the lay endorser ($M = 4.73$, $SD = 1.11$) and the expert endorser ($M = 4.06$, $SD = 1.06$), $F(2, 239) = 45.82$, $p = .00$. A post hoc Scheffé analysis indicated that

participants' perception of celebrity endorser attractiveness was compared to

perceptions about all other endorsers, and the results were significant (p = .00).

The celebrity endorser (*M* = 5.23, *SD* = 1.09) was rated as more trustworthy than

both the expert endorser (*M* = 5.12, *SD* = 1.05) and the lay endorser (*M* = 4.49, *SD* =

1.02), *F* (2, 239) = 11.81, *p* = .00. A post hoc Scheffé analysis indicated that there was

no significant difference between the celebrity endorser and the expert endorser (*p*

= .81). There was, however, a significant difference between the celebrity endorser and

the typical consumer and between the expert endorser and the typical consumer (*p*

= .00).

An analysis of variance (ANOVA) indicated differences among the three types of

endorser *F* (2, 238) = 81.94, *p* = .00. The expert endorser (*M* = 5.42, *SD* = 1.14) was

perceived to have more expertise than either the celebrity endorser (*M* = 4.02, *SD* =

1.29) or the lay endorser (*M* = 3.44, *SD* = 1.10). Scheffe's post hoc analysis regarding

expertness among endorsers found that all other endorsers yielded significant

differences between expert and celebrity (*p* = .00) as well as celebrity and typical

consumer (*p* = .01).

Hypotheses

Hypothesis 1A stated that, overall, individuals will have more positive attitudes

toward a DTC ad with a transformational strategy (highly experiential) than an ad with

an informational strategy (highly cognitive). Using attitude toward the ad as a dependent

variable, the results of a one-way analysis of variance indicated the main effect of

advertising appeal type on attitude toward the ad; participants who viewed the

transformational ad (*M* = 4.90, *SD* = 1.21) showed a more positive attitude toward the

ad than participants who viewed the affective ad (*M* = 4.27, *SD* = 1.37), *F* (1, 232) =

14.36, $p < .01$. Thus, Hypothesis 1A was supported. See Table 4-3 for statistical test results and means. Graphical representations of these main effects are depicted in Figure 4-1.

Hypothesis 1B proposed that, overall, individuals will have a more positive attitude toward the product in a DTC ad with a transformational strategy (highly experiential) than toward a product in a DTC ad with an informational strategy (highly cognitive). The results indicated no significant difference in attitude toward brand among participants who viewed a transformational ad ($M = 4.43$, $SD = .93$) and participants who viewed an informational ad ($M = 4.31$, $SD = .91$), $F(1, 232) = .90$, $p = .34$. Therefore, Hypothesis 1B was rejected. Also, there was no significant difference in intention to ask a doctor between the group that viewed the transformational ad ($M = 4.79$, $SD = 1.51$) and the group that viewed the informational ad ($M = 4.63$, $SD = 1.68$), $F(1, 232) = .36$, $p = .55$.

Hypothesis 2A proposed a main effect of endorser type such that, overall, individuals will have a more positive attitude toward a DTC ad with a celebrity endorser than other types of endorsers. To test this hypothesis, a one-way analysis of variance with the dependent variable of attitude toward the ad was conducted. The results indicated a main effect of endorser type on attitude toward the ad; participants who viewed an ad with a celebrity endorser ($M = 5.03$, $SD = 1.35$) had a more positive attitude toward the ad than participants who viewed an ad with a typical consumer ($M = 4.52$, $SD = 1.33$) or an expert ($M = 4.19$, $SD = 1.19$), $F(2, 232) = 10.24$, $p = .00$. A post hoc Scheffé analysis indicated that there was a significant difference between celebrity endorser and other types of endorser. Therefore, Hypothesis 2A was supported. See

Table 4-4 for statistical test results and means. Graphical representations of these main effects are depicted in Figure 4-2.

Hypothesis 2B proposed that individuals will have a more positive attitude toward a product in a DTC ad with a celebrity endorser than other types of endorsers. The results indicated no significant difference in attitude toward brand among participants who saw an expert endorser ($M = 4.33$, $SD = .79$) and those who saw a celebrity endorser ($M = 4.46$, $SD = .89$) or a typical consumer ($M = 4.31$, $SD = 1.05$), $F(2, 232) = 1.04$, $p = .36$. Therefore, Hypothesis 2B was rejected. Also, there was no significant difference in intention to ask a doctor among the group that viewed the expert ad ($M = 4.65$, $SD = 1.69$), the group that viewed the celebrity ad ($M = 4.68$, $SD = 1.70$), and the group that viewed a typical consumer ad ($M = 4.72$, $SD = 1.52$), $F(2, 232) = .05$, $p > .05$.

Hypothesis 3, which concerned interaction between message strategy type and involvement, proposed that individuals who have a high level of involvement will have a more positive attitude toward an ad with an informational strategy than an ad with a transformational strategy and that individuals who have low-level involvement will have a more positive attitude toward an ad with a transformational strategy than an ad with an informational strategy. The results indicated that no interaction effect exists between message strategy and involvement on attitude toward the ad, $F(1, 237) = .08$, $p = .76$. Also, there was no significant difference in attitude toward brand, $F(1, 232) = 1.45$, $p = .23$, or intention to ask a doctor, $F(1, 245) = .00$, $p > .05$. Therefore, Hypotheses 3A and 3B were rejected.

Hypothesis 4 predicted an interaction between endorsement type and involvement; the prediction posited that endorser type would have a larger impact on

attitude and intention for a low level of involvement than for a high level of involvement. The results indicated that no interaction effect exists between endorsement and involvement on attitude toward the ad, $F(2, 238) = .08$, $p > .05$. However, there was significant difference in attitude toward brand, $F(2, 238) = 3.91$, $p = .02$, and intention to ask a doctor, $F(2, 238) = 4.14$, $p = .02$. Therefore, Hypothesis 4 was partially supported. Graphical representations of these main effects are depicted in Figures 4-3 and 4-4.

Research Question 1 on the relationship of the three independent variables (message strategy, endorsement, and involvement) was investigated using the same analysis of variance procedure. All variables were entered in the three-way ANOVA analysis. The results indicated a three-way interaction, $F(2, 232) = 4.29$, $p = .015$. For people who reported having a low level of involvement, there existed an interaction between message strategy and spokesperson such that in conditions of a typical consumer, attitude toward the ad was very similar for informational and transformational strategies, but in conditions of a celebrity endorser, transformational strategy led to a significantly higher attitude toward the ad ($M = 5.69$) than informational strategy ($M = 4.27$). For individuals who reported having a high level of involvement, there was an interaction between message strategy and spokesperson such that when exposed to ad with a celebrity endorser, attitude toward the ad was similar for transformational and informational strategies, but participants under informational strategy ($M_{Expert} = 3.82$, $M_{Typical\ Consumer} = 4.19$) reported a lower attitude toward the ad than participants under transformational strategy when exposed to an ad with an expert endorser ($M = 4.65$) and a typical consumer ($M = 5.03$). However, the interaction effect between message strategy type and endorsement type was not significant, $F(2, 232) = .65$, $p = 0.52$. See

Table 4-5 for statistical test results and means. Graphical representations of these main

effects are depicted in Figure 4-5.

Table 4-1. Manipulation check of message strategy

			Mean	Std. Deviation	F
Message Strategy	Informational	Perceived informational	3.48	.76	16.10**
		Perceived transformational	3.06	.71	
	Transformational	Perceived informational	2.62	.65	48.33**
		Perceived transformational	3.30	.73	

Note. *p < .01

Table 4-2. Manipulation check of source credibility

			Mean	Std. Deviation	F
Spokesperson	Expert	Source Credibility	4.89 [a]	.88	17.56**
	Celebrity		4.98 [a]	.93	
	Typical Consumer		4.21 [b]	.87	
Spokesperson	Expert	Attractiveness	4.06 [a]	.88	11.81**
	Celebrity		5.67 [b]	.93	
	Typical Consumer		4.73 [c]	.87	
Spokesperson	Expert	Trustworthy	5.12 [a]	1.09	17.56**
	Celebrity		5.23 [a]		
	Typical Consumer		4.49 [b]	.87	
Spokesperson	Expert	Expertness	5.42 [a]	1.14	17.56**
	Celebrity		4.02 [b]	1.29	
	Typical Consumer		3.44 [c]	1.10	

Note. Means with different superscripts are significant different between groups at p < .05 using Scheffé post hoc test.
**p < .01

Table 4-3. Descriptive statistics

	Message Strategy	Endorser Type	Involvement	Mean	Std. Deviation	N
Attitude toward the Ad	Informational	Expert	Low	3.77	1.27	13
			High	3.82	1.05	28
		Celebrity	Low	4.27	1.61	21
			High	5.13	1.31	21
		Typical Consumer	Low	4.44	1.53	15
			High	4.19	1.22	26
	Transformational	Expert	Low	4.48	1.26	11
			High	4.65	1.12	27
		Celebrity	Low	5.69	1.05	15
			High	5.20	1.02	23
		Typical Consumer	Low	4.33	1.10	19
			High	5.03	1.40	25
Attitude toward the Brand	Informational	Expert	Low	4.43	.81	13
			High	4.19	.73	28
		Celebrity	Low	3.83	1.00	21
			High	4.79	.58	21
		Typical Consumer	Low	4.37	1.06	15
			High	4.33	1.01	26
	Transformational	Expert	Low	4.69	1.01	11
			High	4.28	.75	27
		Celebrity	Low	4.65	.55	15
			High	4.62	.93	23
		Typical Consumer	Low	4.16	.97	19
			High	4.38	1.18	25
Intention to ask a doctor	Informational	Expert	Low	4.14	1.62	13
			High	4.86	1.50	28
		Celebrity	Low	4.35	1.71	21
			High	5.40	1.46	21
		Typical Consumer	Low	4.63	1.33	15
			High	4.22	1.37	26
	Transformational	Expert	Low	4.47	1.80	11
			High	4.98	1.46	27
		Celebrity	Low	3.72	1.89	15
			High	4.93	1.40	23
		Typical Consumer	Low	5.15	1.35	19
			High	4.97	1.62	25

Table 4-4. Attitude toward ad for spokespersons

Endorser Type	Mean	Std. Deviation	N
Expert	4.19 [a]	1.19	79
Celebrity	5.02 [b]	1.35	80
Typical Consumer	4.51 [a]	1.33	85

Note. Means with different superscripts are significant different between groups at p < .05 using Scheffé post hoc test.

Table 4-5. Attitude toward ad between message strategy, spokesperson, and involvement

	Low Involvement		High Involvement	
	Informational	Transformational	Informational	Transformational
Expert	3.77	4.48 [b]	3.82 [b]	4.65
Celebrity	4.27	5.69 [a]	5.13 [a]	5.20
Typical Consumer	4.44	4.33 [b]	4.19 [b]	5.03

Note. Means with different superscripts are significant different between groups at p < .05 using Scheffé post hoc test.
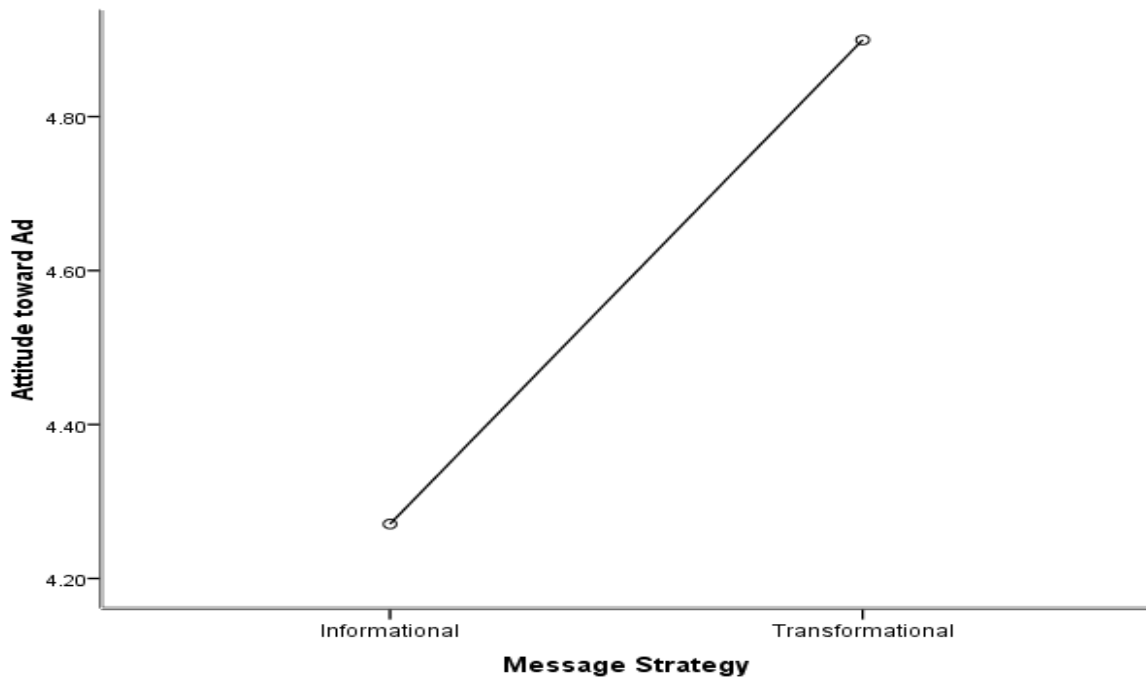
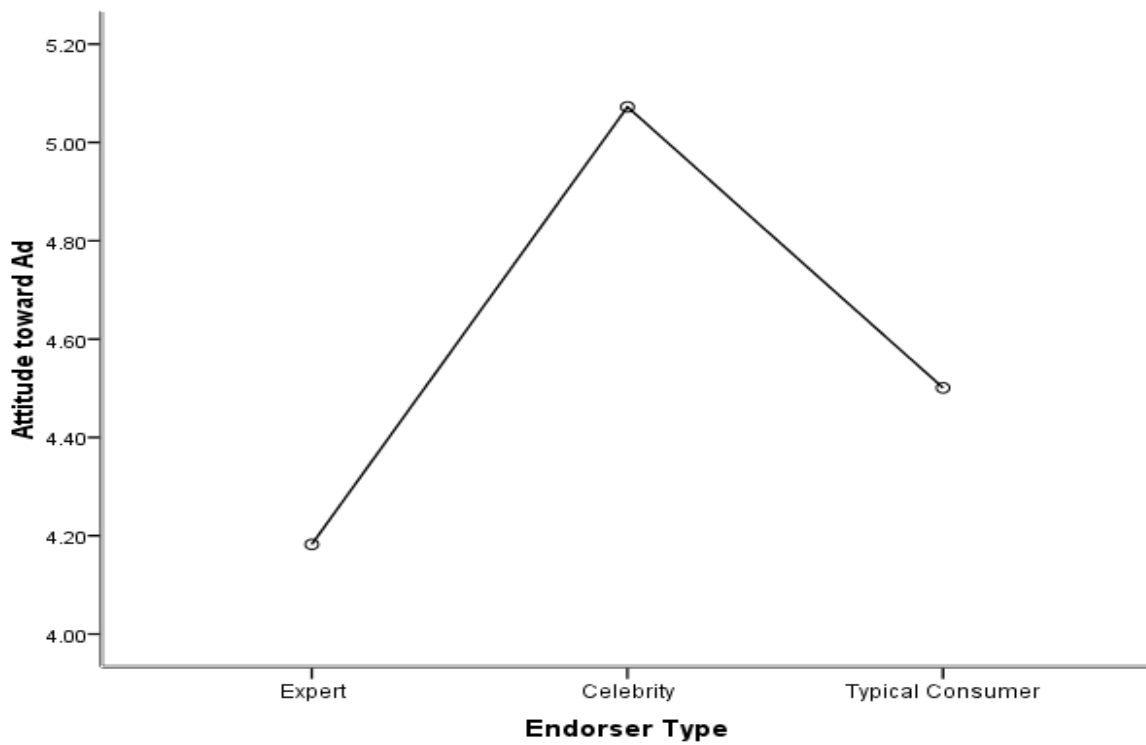Figure 4-1. Attitude toward the ad for informational and transformational strategy

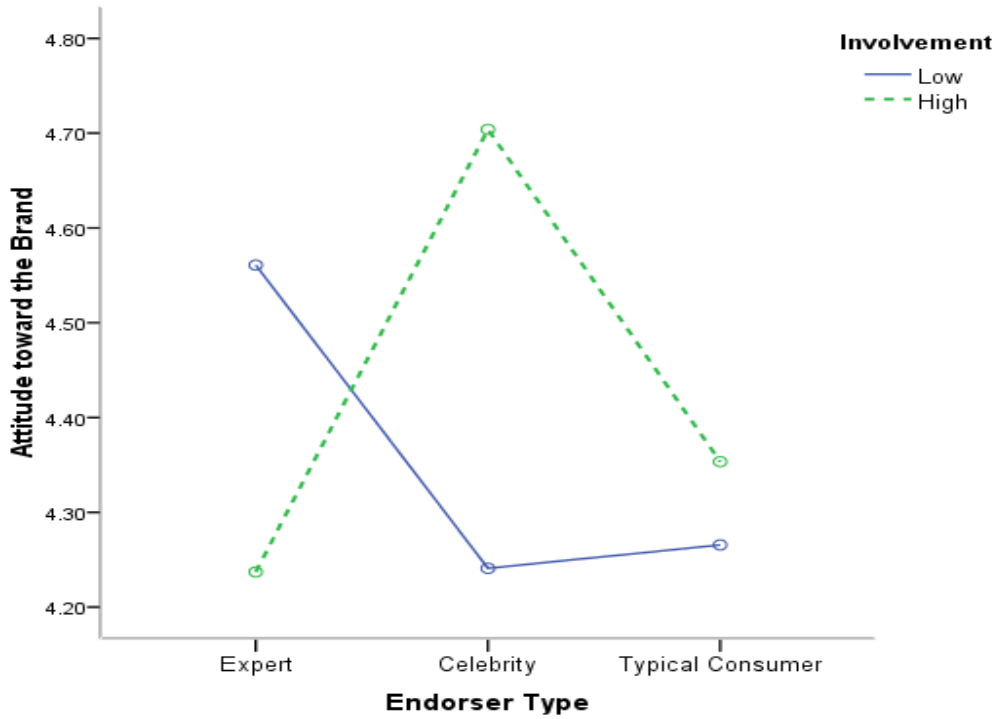Figure 4-2. Attitude toward the ad for expert, celebrity, and typical consumer

Figure 4-3. Attitude toward the brand for expert, celebrity, and typical consumer under
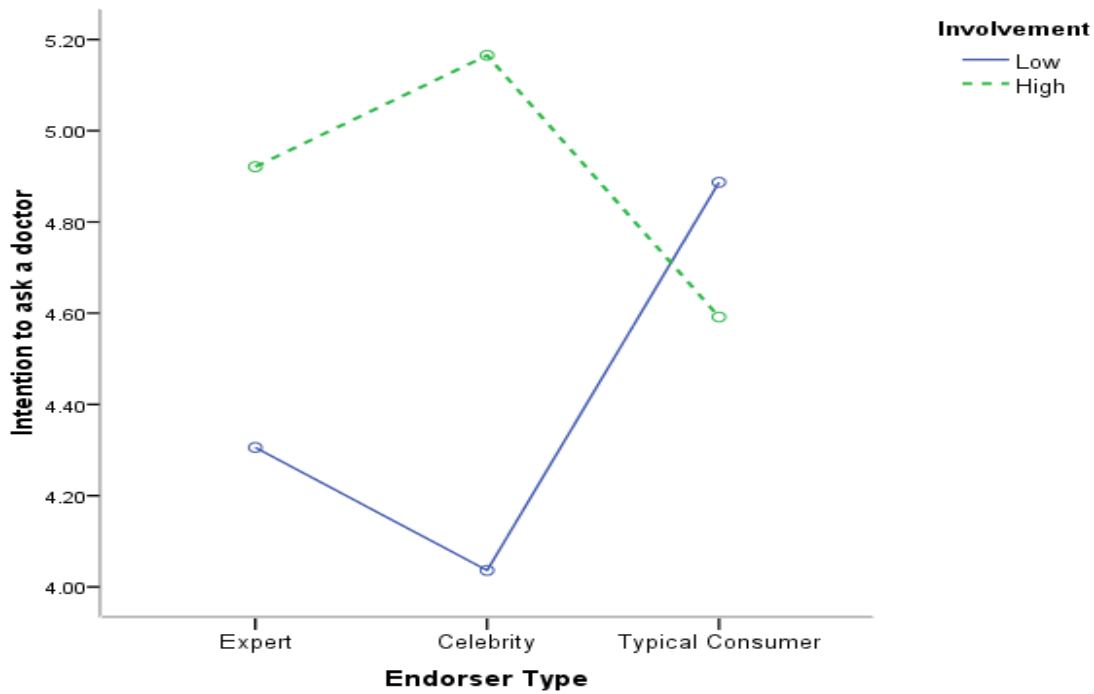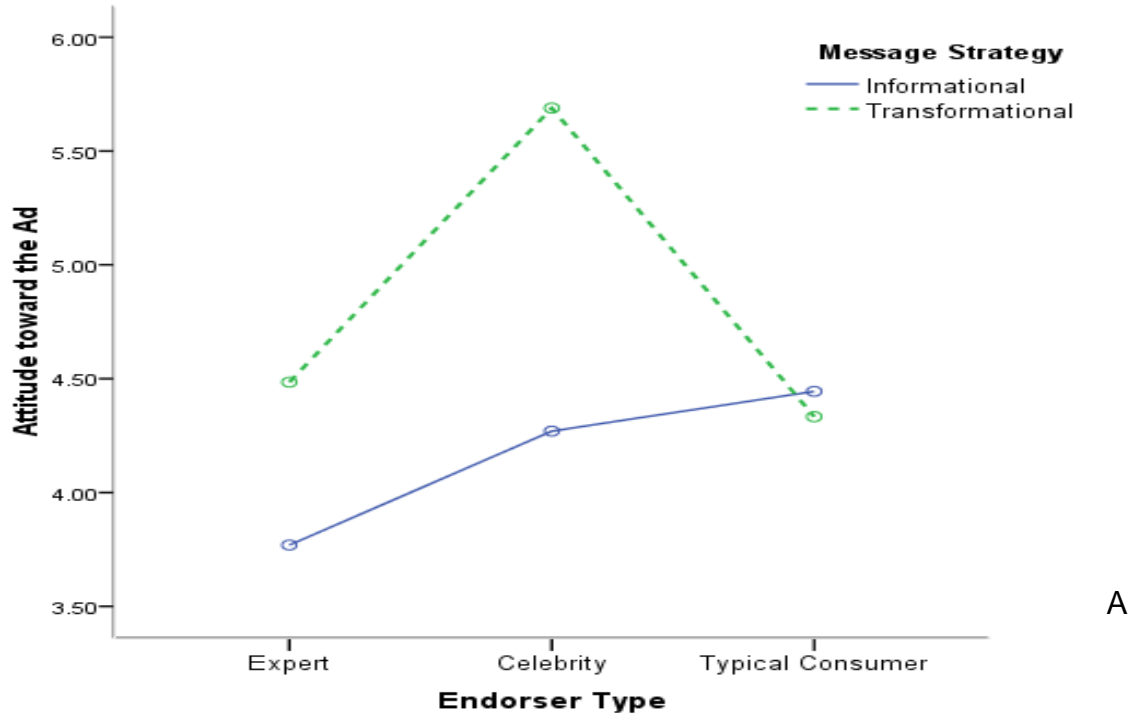   conditions of involvement

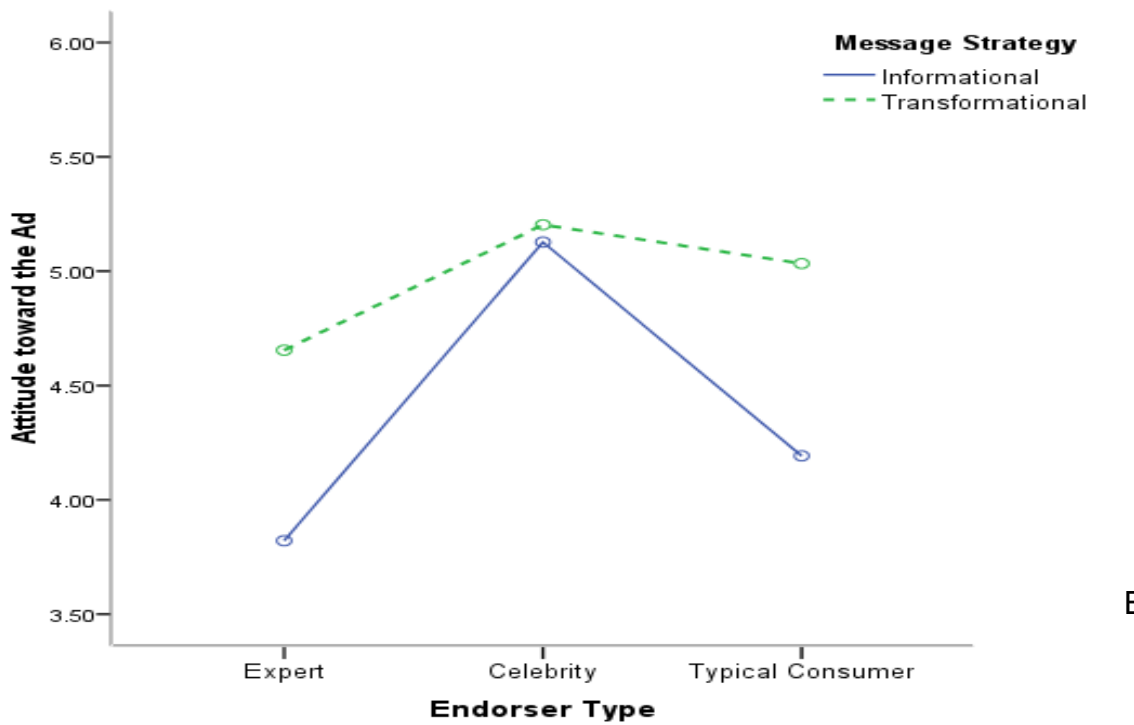Figure 4-4. Intention to ask a doctor for expert, celebrity, and typical consumer
        conditions of involvement

Figure 4-5. Interaction between message strategy and spokesperson under conditions of involvement A) Low involvement and B) High Involvement

CHAPTER 5
DISCUSSION

Evaluation of the Hypotheses

The purpose of this study was to investigate the effects of message strategies and endorser types and to identify whether there are differences in attitudes toward a direct-to-consumer ad based on the two variables. While many studies have researched the effectiveness of different types of message strategies and endorsers on different types of products, none have been connected in one study using an ad for a prescription drug.

Regarding the study hypotheses, Hypothesis 1A was as predicted. The FCB grid (Vaughn, 1980) places health-related products in high-involvement areas. Past research on high-involvement products has indicated that informational strategies are more effective than transformational strategies in advertisements. However, the result was contrary to the expectation based on attitude toward the ad. The findings showed that the transformational strategy was preferred to the informational strategy. This finding supported the study of Laskey, Fox, and Crask (1995), which found that message strategy affects ad effectiveness, but effective or ineffective strategies tend to differ by product category. In contrast to this study, however, Laskey et al. used over-the-counter (OTC) medications as one of the product categories. According to their study, transformational strategies are as persuasive as informational strategies, and relative advantages and disadvantages exist among the informational strategies. Specifically, the unique selling proposition (USP) strategy was fairly ineffective in the informational strategies in regard to key message comprehension for the OTC category. This finding was also consistent with the framework of Rossiter and Percy (1997) and the study of

Roth (2005) that transformational messages are positively associated with advertising awareness. The results can be supported by the theory that prescription drugs benefit through advertisements that appeal to positive emotions and desirable motivations, like transformational advertisements. Based on the results of this study, because of the unique nature of the message strategy, people seemed to have a more positive attitude toward ads that used the transformational strategy.

Hypothesis 2A was supported. This finding confirmed findings of previous research that source credibility has an impact on the formation of positive attitudes toward advertising (Atkin & Block, 1983). La Ferle and Choi (2005) found that celebrities are seen as more credible than non-celebrities, likely because they are widely recognized and popular, and Sternthal, Philips, and Dholakia (1978) argued that the more credible the source, the more effective the advertising in influencing consumer attitudes. This finding was consistent with many credibility findings in past research, and was also demonstrated in DTC ads.

Since a prescription drug is a health-related product, it carries high physical, performance, and/or financial risk (Jacoby & Kaplan, 1972). According to Friedman's theory, the expert endorser is expected to be the most effective endorser in this product category. In addition, Lord and Putrevu (2009) suggested that informational motivation leads to the cognitive processing of endorser expertise and trustworthiness, while transformational motivation leads to the affective processing of endorser attractiveness. Thus, it may be concluded that the inconsistency in previous findings can be attributed to differences in source credibility. Although attractiveness and expertise associated

with source credibility manipulation was strong, trustworthiness manipulation was not. The celebrity endorser was rated as both the most attractive and the most trustworthy.

The interaction outlined in Hypothesis 3 was not supported by the data. There was no significant interaction between message strategy and level of involvement. However, there was influence between allergies and message strategy. For participants who had allergies, differences between informational and transformational conditions emerged. Contrary to past research of the ELM by Petty and Cacioppo (1986), this was congruent with what might be hypothesized by taking into account that Roth (2003) suggested that a transformational message strategy appealing to positive emotions and desirable motivations reinforces the notion that a drug addresses a serious problem. Participants who had allergies were likely to be more motivated to process a message pertaining to the allergy drug. It appears that participants who had allergies were more affected by message strategy manipulation. For these individuals, motivation to process the ad was likely to be high because of their perceived vulnerability to the disease discussed in the ad.

The data analyzed failed to provide evidence for Hypothesis 4A. A moderating effect of involvement was not significant based on attitude toward ad. However, the level of involvement was found to moderate the relationship between attitude toward brand and intention to ask a doctor. Many researchers consider endorsement to be a peripheral cue in the ELM (Petty, Cacioppo, & Goldman, 1981; Petty, Cacioppo, & Schumann, 1983). In this theoretical model, the endorser serves as a cue during peripheral processing but not during central processing. However, the finding showed that endorser type and source credibility affect attitude toward brand and intention to

ask a doctor under high-involvement circumstances. Specifically, in respondents having

high involvement, participants who were exposed to an ad high in credibility showed

more a positive attitude toward the brand and intention to ask a doctor than did

participants who were exposed to the low-credibility ad. Shavitt, Swan, Lowrey, and

Wanke (1994) found that goals are important for defining how message cues are

processed, as goals determine cues' perceived relevance, thereby resulting in different

function-relevant attributes becoming salient. The authors also demonstrated that

endorser attractiveness followed a more central route for affecting the results,

particularly when image attributes were relevant; this leads to information being

processed in an elaborate manner when the incentive to process it is high. In other

words, salient attributes that are significant for public image goals enable endorser

attractiveness to influence assessments in conditions of high (not low) involvement.

Such findings suggest that image attributes important for making a good impression

become significant for participants by encouraging them to use a social identity function

to evaluate the product rather than sensory attributes. The result of this study implied

that there were other factors such as goals to induce a positive attitude and intention for

high-involvement participants.

The interaction between message strategy and endorser type was not significant.

Previous research by Yoo and MacInnis (2005) had found an interaction between these

two variables for long distance telephone service, but in this study no such interaction

was evident. Each of the variables involved in Research Question 1 indicated a main

effect: The transformational strategy elicited more a positive attitude toward the

advertisement than did the informational strategy. A celebrity endorser (high source

credibility) was more effective in terms of increasing attitude toward the advertisement than were expert endorsers and typical consumers (low source credibility). In this case, message strategy and endorser type have separate effects influencing attitude toward the advertisement, but they do not depend on each other.

However, a significant three-way interaction between message strategy, spokesperson, and involvement emerged. The patterns of interaction between message strategy and endorser type differed according to level of involvement. For participants who had a low level of involvement, the high-credibility ads elicited more positive attitudes than did the low-credibility ads under conditions using the transformational strategy. This is congruent with what might be supported as the peripheral processing of the ELM (Petty & Cacioppo, 1986). However, for participants who had a high level of involvement, respondents with high-credibility ads showed more positive attitudes toward the ad than did respondents with low-credibility ads under conditions using the informational strategy. This finding contradicts the ELM, which indicates that greater consumer motivation toward brand-relevant factors increases the significance of central processing on attitudes whereas the significance of peripheral processing decreases. One study suggested that under circumstances of high motivation and interest, source credibility becomes a central part of the message. Higgins (1999) found that although time constraints should have induced peripheral processing, source credibility was not used as much, perhaps because its message cues were more complex than others. In addition, several studies which have used source credibility as a peripheral cue also examined the central cue through the message content-related variable of argument quality or strength. It could be that the informational strategy ads were thought of as

strong arguments and the transformational strategy ads as weak. This could mean that source credibility might be a central processing cue, as described in MacKenzie and Lutz (1989), rather than a peripheral cue as outlined by the ELM (Petty & Cacioppo, 1986).

According to multivariate analysis (MANOVA), the study result also supported the linear relationships between attitude toward advertising and attitude toward brand as well as between attitude toward brand and purchase intention proposed by MacKenzie et al. (1986). Several researchers have argued that positive attitude toward a brand demonstrates a significant intention to buy that brand. This would lead to a positive relationship between AB and PI. Because AB is influenced by AAd, the dual mediation hypothesis indicates strong linear relationships between AAd and AB and between AB and PI (Brown & Stayman, 1992; MacKenzie et al., 1986). However, the results from individual ANOVA analysis implied that these variables do not have a direct effect on attitude toward brand and intention to ask a doctor. These results were consistent with the theory by Goldstein (1992).

Implications

The findings of this research may have several managerial implications. First, this study can help decision makers determine the best message strategies and endorser type to influence positive attitude formation. The results confirmed that transformational advertisements have greater influence on consumers' positive attitude toward an ad than informational advertisements. Therefore, advertisers and marketers may want to focus more on transformational ads in promoting prescription drugs. The informational strategy was used relatively frequently in this category despite that it was found to be relatively ineffective compared to the transformational strategy in previous research.

Advertisers still must recognize the unique characteristics of pharmaceutical products and use caution when adopting strategies that have been effective for other product categories. In addition, based on this study, advertisers should use celebrity endorsement for prescription drugs because celebrities have more credibility than non-celebrities and credibility of advertising source is the main factor in forming a positive attitude.

The current study helped explain how involvement interacts with message strategy and endorser type and how this interaction affects consumers' attitude toward direct-to-consumer advertising. This study found results opposite to what might be predicted by Petty and Cacioppo's ELM, depending on whether source credibility is assumed to be a central or peripheral information cue. Consumers' processing of source credibility as a central or peripheral cue may depend on their level of exposure, particularly on limitations in ability to process the details or context of the ad. Alternatively, when consumers think an ad is highly relevant to their needs, source credibility may become central to the argument presented by the ad, particularly for relatively unfamiliar products.

This suggests that advertisers must become aware that these individual differences could have a significant impact on the success of their advertising strategies.

Limitations

This researcher noted several limitations. One weakness was the student sample. Although participants were randomly assigned to conditions, all participants were university students. This limits generalizing the findings of this study to the larger population. In experimental studies, external validity is often limited; this means that

duplication of this study among the general population may not produce results similar to those found in this study.

Some of the hypotheses proposed in this study were not supported by the results. This may be attributed to a few of the study's assumptions.

First, for a more accurate experimental design, spokespersons should be manipulated under the dimensions of source credibility. Although the manipulation check was conducted successfully based on overall source credibility, trustworthiness between celebrity and expert did not show significant difference, especially when compared to salient manipulation for attractiveness and expertness.

Another limitation related to message generation. Messages of this study were modified from past and current campaigns; this may mean participants were familiar with the headlines on the ads. Also, the message contained distinct content. Nevertheless, it was necessary to create messages that convey the same content using different characteristics.

Third, ad stimuli should be consistent. The environments of the models which could influence the reaction of participants were different in the ad stimuli, as indoor and outdoor, especially the grass. The environment in the ad may be the confounding variable according to participants' allergy types and other characteristics.

Another potential limitation can be recognized in the selection of expert endorser. The participants may be not familiar with the unknown physician. Although the name and occupation as Allergist were presented on the ad for the expert endorser, participants may perceive that the model was less trustworthy than the other well-known

experts. A selection of a well-known physician can be increased the source credibility, which can make the manipulation salient.

Another limitation was that the study was conducted via the Qualtrics survey. The context of exposure to the advertisement was artificial; participants saw the print advertisement in the packet containing the online survey rather than viewing it embedded in a magazine, Web site, or newspaper. The time needed to complete the questionnaires could not be controlled.

Future Research

Future researchers can use different types of drugs in print ads and compare and contrast their findings based on different message strategies and endorser types. The use of additional message strategies, such as comparative, hyperbole, and brand image, offers further opportunities for research in this area. Researchers can also use different emotional appeals, such as fear and humor, or different message content, such as information about disease and side effects of the product.

Another suggestion for future researchers would be to use a different level of source credibility with same type of endorser. Also, future researchers can use a different medium such as television or the Internet and conduct a study in the same or a different setting. Past research has argued that the specific medium may be more effective in attitude change. Chaiken and Eagly (1983) found that source characteristics are more influential in television ads than in print ads.

The individual differences that have an impact on ad effectiveness likely change due to product type, so individual variables for each research study should be carefully evaluated. For example, ability to understand the message and cognitive load may influence the effectiveness of DTC advertising for prescription drugs.

Studies using varying and different samples, such as patients, prescription drug types, and media vehicles, would also broaden understanding and the ability to generalize the results.

Please read the questions carefully and fully and circle the number that most closely matches your response. There is no right or wrong answer. Your responses will be confidential. I am very grateful for your help.

Part I

Please indicate your <u>attitude toward pharmaceutical advertising</u> to consumers.

	Strongly Disagree						Strongly Agree
Pharmaceutical advertising directly to consumers provides them with accurate information.	1	2	3	4	5	6	7
I think pharmaceutical companies should not advertise to the general public.	1	2	3	4	5	6	7
The advertisements that promote new drugs to me are confusing to me.	1	2	3	4	5	6	7
Pharmaceutical advertising directed toward consumers makes me happier and better informed.	1	2	3	4	5	6	7
I don't like the idea of pharmaceutical companies advertising because health care should not be about making a profit.	1	2	3	4	5	6	7

To me <u>prescription drugs for allergy</u> are:

Important	1	2	3	4	5	6	7	Unimportant
Boring	1	2	3	4	5	6	7	Interesting
Relevant	1	2	3	4	5	6	7	Irrelevant
Means nothing	1	2	3	4	5	6	7	Means a lot to me
Appealing	1	2	3	4	5	6	7	Unappealing
Worthless	1	2	3	4	5	6	7	Valuable
Involving	1	2	3	4	5	6	7	Uninvolving
Not needed	1	2	3	4	5	6	7	Needed

Part II

Please answer the following questions <u>about the ad you just saw</u>. Please circle the number that correspond to your response

The ad was

Bad	1	2	3	4	5	6	7	Good
Unlikable	1	2	3	4	5	6	7	Likeable
Unfavorable	1	2	3	4	5	6	7	Favorable

Please rate your beliefs about <u>the brand in this ad</u>.

	Strongly Disagree					Strongly Agree
The decision to buy this drug is foolish.	1	2	3	4	5	6	7
Buying this drug is a good decision.	1	2	3	4	5	6	7
I think this drug is a satisfactory brand.	1	2	3	4	5	6	7
I think this drug has a lot of beneficial characteristics.	1	2	3	4	5	6	7
I have a favorable opinion of this drug.	1	2	3	4	5	6	7

Please rate your <u>attitude toward asking doctors</u> about this advertised drug.

	Strongly Disagree					Strongly Agree
I would talk to my doctor about the advertised drug.	1	2	3	4	5	6	7
I would ask my doctor if the advertised drug really works.	1	2	3	4	5	6	7
I would ask my doctor for more information about the advertised drug.	1	2	3	4	5	6	7
I would ask my doctor if the advertised drug is appropriate for me.	1	2	3	4	5	6	7
I would ask my doctor about the side effects associated with the use of the advertised drug.	1	2	3	4	5	6	7

Please rate your beliefs <u>about this ad</u>.

	Strongly Disagree					Strongly Agree
I learned something from this ad that I didn't know before about this brand.	1	2	3	4	5	6
I would like to have an experience like the one shown in the ad.	1	2	3	4	5	6
The ad did not seem to be speaking directly to me.	1	2	3	4	5	6
There is nothing special about this brand that makes it different from the others	1	2	3	4	5	6
While I read this ad, I thought how this brand might be useful to me.	1	2	3	4	5	6
The ad did not teach me what to look for when buying this product.	1	2	3	4	5	6
This ad was meaningful to me.	1	2	3	4	5	6
This ad was very informative.	1	2	3	4	5	6
This brand fits my lifestyle very well.	1	2	3	4	5	6
I could really relate to this ad.	1	2	3	4	5	6
Using this brand makes me feel good about myself.	1	2	3	4	5	6
If it had to, the company could provide evidence to support the claims made in this ad.	1	2	3	4	5	6
It's hard to give a specific reason, but somehow this brand is not really for me.	1	2	3	4	5	6
This ad did not really hold my attention.	1	2	3	4	5	6
This ad reminded me of some important facts about this brand which I already knew.	1	2	3	4	5	6
If I could change my lifestyle, I would make it less like the people who use this brand.	1	2	3	4	5	6
When I think of this brand, I think of this ad.	1	2	3	4	5	6
I felt as though I was right there in the ad, experiencing the same thing.	1	2	3	4	5	6
I can now accurately compare this brand with other competing brands on matters that are important to me.	1	2	3	4	5	6
This ad did not remind me of any experiences or feelings I've had in my own life.	1	2	3	4	5	6
I would have less confidence in using this brand now than before I saw this ad.	1	2	3	4	5	6

It is the kind of ad that keeps running through your head after you've seen it.	1	2	3	4	5	6
It's hard to put into words, but this ad leaves me with a good feeling about using this brand.	1	2	3	4	5	6

Please rate your beliefs about <u>the person who endorsed the drug</u> in the ad.

Unattractive	1	2	3	4	5	6	7	Attractive
Not classy	1	2	3	4	5	6	7	Classy
Ugly	1	2	3	4	5	6	7	Handsome/Beautiful
Plain	1	2	3	4	5	6	7	Elegant
Not sexy	1	2	3	4	5	6	7	Sexy
Undependable	1	2	3	4	5	6	7	Dependable
Dishonest	1	2	3	4	5	6	7	Honest
Unreliable	1	2	3	4	5	6	7	Reliable
Insincere	1	2	3	4	5	6	7	Sincere
Untrustworthy	1	2	3	4	5	6	7	Trustworthy
Not an expert	1	2	3	4	5	6	7	Expert
Inexperienced	1	2	3	4	5	6	7	Experienced
Unknowledgeable	1	2	3	4	5	6	7	Knowledgeable
Unqualified	1	2	3	4	5	6	7	Qualified
Unskilled	1	2	3	4	5	6	7	Skilled

Part III

The following are demographic questions that will only be used for statistical analyses.

1. What is your age? _____

2. What is your gender?

   Male   ☐
   Female   ☐

3. What is your ethnic background? (circle one)
   a) Caucasian
   b) African American
   c) Hispanic
   d) Asian
   e) American Indian/Alaskan Native
   f) Hawaiian Native/Pacific Islander
   g) Other (please specify) _____

4. What is your education level? (circle one)
   a) High school graduate
   b) Working on undergraduate degree
   c) Working on graduate degree
   d) Completed graduate

A

B

A) Informational Strategy X Expert and B) Informational Strategy X Celebrity

While many allergy medicines block histamines, Altirine works differently by blocking leukotrienes.

Altirine contains ketotifen fumarate, to provide targeted itchy eye and nose relief for up to 12 hours.

Jessica M.
Allergy Suffer

ALTIRINE

I'd been a runner my whole life until managing my allergy symptoms became a challenge.

One pill per day gives me the relief I need all day long.
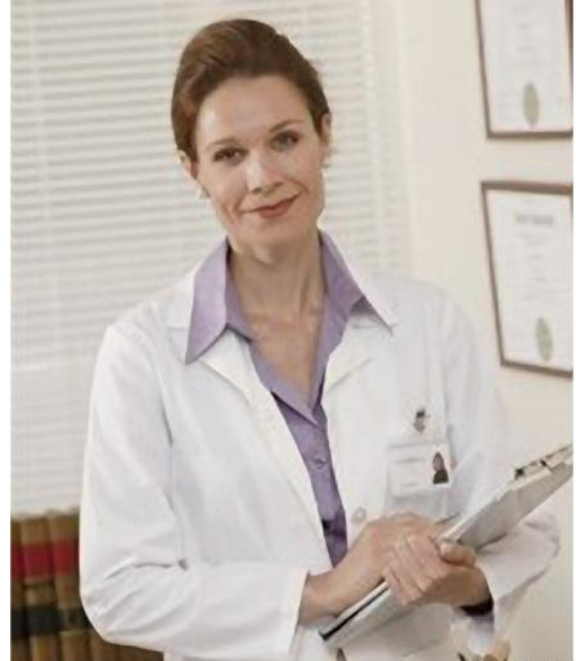
Dr. Jennifer Laskey
Allergist

ALTIRINE

C   D

C) Informational strategy X Typical consumer and D) Transformational strategy X expert

E

F

E) Transformational Strategy X Celebrity and F) Transformational Strategy X Typical Consumer

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BIOGRAPHICAL SKETCH

Jihye Kim, born and raised in Seoul, South Korea, graduated from Korea University in 2005 with a bachelor's degree in nursing. After graduation, Jihye worked as an intern for Seokyo Telecommunications and, after that, for Phoenix Communications. She received her Master of Advertising degree at the University of Florida in August 2010. Since graduation, Jihye has pursued a doctoral degree in mass communications, concentrating on health communication and new media, at the University of Florida.