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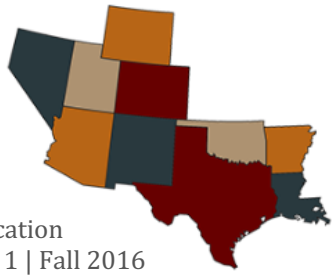

Direct to Consumer (DTC) pharmaceutical advertising recall: The role of involvement

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by

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Abstract

The effect of different amounts of risk information in DTC ads on recall was examined in an experiment. Three versions of DTC ads, containing different amounts of risk information were developed based on FDA guidelines and shown to participants in a 3 x 3 between group design. Participants' unaided recall of ad information suggest a main effect of ad version on recall, with the ads that have moderate amount of risk information eliciting the most recall of risk information. The moderating role of involvement was inconclusive.

Since the Food and Drug Administration (FDA) eased restrictions on Direct to Consumer (DTC) advertising of prescription drugs in the 1980s, the debate regarding appropriate risk disclosures that would enable consumers make accurate assessment of drugs continues. At the core is what risk disclosure formats lead to adequate recall of risk information. This paper explores the role of involvement in recall of risk disclosures in print ads containing varying amounts of risk information. This exploratory study uses experimental methodology and helps provide preliminary insights into this important issue. Findings from this study could serve as a basis for developing larger studies to examine this issue in more depth to reach actionable conclusions that would inform policy recommendations on what level of risk disclosure should be encouraged to achieve the desired levels of risk information recall.

Risk disclosures

Although the focus of this research is on print DTC advertising, some general FDA guidelines on risk disclosures in broadcast advertising will be discussed in this section to put the issue in perspective. The FDA's risk disclosure alternatives for broadcast ads include the "brief summary" provision, the "major statement" provision, and the "adequate provision" (see FDA, n.d.). The brief summary provision requires that prescription drug advertising should present all risk information about a drug but may leave out non-risk information such as how to use the drug or the chemical composition of the drug. The major statement provision requires advertisements on broadcast media or telephone communication systems to include information on the most important risks, major side effects and contraindications for the drug in the audio or audiovisual portions of the ad. The adequate provision allows broadcast ads to leave out the major side effects and contraindications, as long as they include alternative sources where patients could receive detailed information on the approved package labeling about the drug. These alternative sources could be toll-free numbers, websites where consumers could get more information about the major side effects and contraindications of the drug, a statement to "ask someone else," such as pharmacists and physicians who could provide additional information to consumers, or a statement to "look elsewhere" such as print ads appearing within the same time period (Holtz,

1998; Wilkes, Bell, & Kravitz, 2000). These provisions give pharmaceutical companies the option to develop different formats of broadcast DTC advertising.

For print DTC advertising, the FDA's brief summary requirement is that ads should disclose all side effects, warnings, precautions, and contraindications (see FDA, n.d.). To fulfill this brief summary requirement, most DTC print ads in the past reproduced verbatim, in fine print, the complete risk information in the FDA-approved professional labeling. This includes all adverse reactions as well as minor risks of the drug. This information is usually very extensive and written in technical language, and appears to be aimed mainly at health professionals. Pharmaceutical companies argued that this information was too extensive. Obviously, it required them to purchase more than one page in print media to advertise their drugs. Consumers also complained that this information was very technical and could not be easily comprehended by the average lay consumer. Besides, the information is written in fine print making it hard to read, and many consumers would rather not strain their eyes to read this information. As a result, consumer groups and pharmaceutical companies advocated for reforms in the presentation of risk information in DTC ads.

In apparent response to these issues, the FDA issued draft guidelines for print DTC advertising in February 2004 in which it acknowledged that the professional labeling information, originally meant for healthcare professionals, may not be easily comprehended by consumers (FDA draft guidance, 2004). It also confirmed that the exhaustive information on minor risks tends to distract from retaining information on the major risks. To address these concerns, the 2004 draft guidelines recommended a modification of the requirements for presenting risk information. In place of the traditional brief summary information, the draft guidelines suggest that one of two alternatives could be used. These are the FDA-Approved Patient Labeling alternative, and the Highlights alternative. Each of these alternatives presents information on the most serious and most common risks, and leaves out less important information. However, the ads are to indicate that the risk information is not comprehensive and that consumers could get additional information through a toll free number or website address provided in the ad. The two alternatives are discussed in the next section.

FDA-approved patient labeling. The FDA recommends that the brief summary could be replaced with FDA-approved patient labeling. Patient labeling is less extensive than FDA-approved professional labeling and provides risk and benefit information that the consumer can use in deciding whether to use a particular drug. It also addresses the safety and effective use of the drug. FDA-approved patient labeling does not address each specific risk, but the most important information patients need to use the drug. It also focuses on the most serious and risks and frequently occurring adverse reactions. FDA-approved patient labeling can include information for the patient, a medication guide, patient information, or a patient package insert.

FDA-approved patient labeling may be used in DTC advertising in either of two ways: reprinted as approved or reprinted risk information only. With the reprinted as approved alternative, print ads may be seen as satisfying the brief summary requirement if they reprint the FDA-approved patient labeling in full, and if they include parts of the FDA-approved professional labeling that addresses all contraindications, warnings, major precautions and the 3-5 most common non-serious adverse reactions. With the reprinted risk information only alternative, print ads may use FDA-approved patient labeling that has been modified to communicate only risk information (e.g., by deleting instructions for use), and if it includes

information from the drug's FDA-approved professional labeling that addresses all contraindications, warnings, major precautions, and the 3-5 non-serious adverse reactions.

Highlights. The Highlights option presents information on the most common and the most serious risks of the drug and the safe and effective use of the drug. The Highlights alternative involves presenting the Highlights section of the drug's FDA-approved professional labeling that set forth the risk information (e.g., boxed warning, contraindications, warnings/precautions, most common adverse reactions). In other words, they could omit non-risk information such as drug dosage and administration. However, the risk information from the Highlights section should be written in non-technical language easily comprehended by the lay consumer. For example the FDA suggests that "contraindications" could be presented in layman's language such as "You should not take drug X if…." (FDA, 2004)

With such risk disclosure alternatives available to drug advertisers, the potential exists for consumers to be exposed to print DTC ads with different amounts of risk information, yet each alternative would still be fulfilling the requirement. This is against the background that there are concerns regarding the potential for DTC ads to place more emphasis on benefit information to the detriment of risk information. For example, a survey conducted by the FDA and Prevention magazine revealed that DTC ads did a better job at providing information on benefits than they did at providing information on risks. Also, some researchers found that the presentation of benefits and risk information together sometimes made consumers confused and made them process risk information inaccurately (Schommer, Doucette, & Mehta, 1998; Lyles, 2002). Therefore, it is important to examine whether some risk disclosure options are more effective than others in inducing recall. This paper therefore examines the effect of different amounts of risk information on recall of risk information and what role involvement plays in this. Very few published studies have examined the effects of different manipulations of risk information on recall, and these have based their findings primarily on vague operationalizations of "high" or "low" disclosure of risk information. As a result, there may be some external validity issues with those studies. Therefore, in order to achieve externally valid findings, the present study based the development of stimuli (ads used in the experiment) on FDA's guidelines (discussed previously), as they provide well-defined categorization of the risk disclosure alternatives.

The moderating role of individual differences (involvement) is examined in this study. It is important to examine the moderating role of individual differences because they tend to impact responses to ads (Putrevu, Tan, & Lord, 2004). This study focuses on how involvement (degree of perceived relevance) impacts DTC ad recall with different amounts of risk information. Advertising recall is very crucial in determining advertising effectiveness. From a public policy perspective, an emphasis on recall is warranted, as it would help determine which alternative has the optimum balance of risk and benefit information. Also, many DTC advertising researchers have used content analysis and survey methods (Harker & Harker, 2007). Not many studies have used empirical approach (Wilson & Till, 2007). This study uses an experiment to help gain insights into this important issue.

DTC Ad Recall

The importance of recall to advertisers cannot be overemphasized. It is a measure of cognitive responses to advertisements (Jeong, Kim, & Zhao, 2011) and is a very important measure of ad effectiveness (Rothschild & Churchill, 1988). It is well established that increased attention leads to higher recall (Rajaram, Srinivas, and Travers, 2001) and recall eventually

impacts purchase intention. Broadly, recall can be assessed via free/unaided recall or assisted/aided recall. Martin and Prince (2010) identified the different measures of recall that have been used by past researchers. These include 1) free recall where anything remembered about an ad is written down, 2) recognition of products, where subjects "accurately report which product types they saw out of a long list of product types, " 3) "cued recall of brand names" where subjects are asked to recall brand names after being given the product types, and 4) "recognition of brand names" where the brand names are given in a list and subject are required to recall "which brand it was in that product type." This study uses the free recall approach to determine what consumers recall from the ads even without any prompting.

There is very limited research on DTC advertising recall. Some have examined general ad recall and not necessarily risk information recall. With broadcast DTC advertising, there is some evidence that longer broadcast ads are among the most recalled. Drug manufacturers have been running longer ads (75 seconds) in order to adequately satisfy the fair and balance requirements (Arnold, 2006). According to Nielsen, several of these 75-second spots are among the most recalled DTC ads. For example, Flomax's 45 and 60 second ads were the most recalled ads in the 2008-2009 ad season, followed by 60 second spots for Cialis and Gardasil (Arnold, 2006). The studies cited by Arnold are mainly about general ad recall and do not report what specifically was recalled from or about these ads. There is however some preliminary evidence that suggest that in broadcast DTC advertising, risk information was more likely to be recalled when presented in audio format without distracting visuals (such as talking head). Distracting visuals tend to affect recall of risk information adversely (Iyer & Fang, 2011).

Morris et al., (1989) found that thorough disclosures resulted in greater risk awareness than shorter disclosures (Morris et al., 1989) and also lead to greater perceived potency of the medication (Morris, Ruffner, & Klimberg, 1985). They explained that participants perceived drugs that had more risk information as stronger than those that had less risk information. Another study found that drug type influenced the impact of variations in risk disclosure on credibility. For instance an ad for a high-risk drug (a pain reliever drug) with thorough disclosures was perceived as more credible than an ad for a low-risk drug (an acne drug) with thorough disclosures (Morris, Brinberg, & Plimpton, 1984). They explained that somehow consumers expect to see thorough disclosures for a high-risk drug. For a low-risk drug, thorough disclosures are perceived as overemphasizing the risks.

In examining DTC ad recall on websites, Davis (2009) examined the effect of how side effect placement on a drug manufacturer's website impacted recall. He found that prominently displaying side effects leads to higher side effect recall. Also, text based information was more effective in eliciting recall than audio based information.

The impact of specificity of risk information has also been examined and findings appear inconclusive. For instance, Morris et al (1989) examined ads containing specific risk information related to the particular drug versus general risk information related to all prescription drugs. They found that specific risk disclosures were more effective in informing consumers about risks and resulted in greater knowledge than general risk disclosures. Risk disclosures that were general were uninformative (Morris et al., 1989). However, other studies found that risk information that were more general resulted in more favorable reactions to the drug, while risk information of a specific nature was perceived as irritating and evaluated negatively (Morris et al., 1985; Tucker & Smith, 1987).

The effect of presentation format has also been examined. Simultaneous presentation of risk information in audio and video resulted in greater knowledge and awareness of risk information than did risk information presented in audio only (Morris et al., 1989). In print ads, the effect of risk disclosure format was influenced by drug type. When risk information was integrated in the ad copy, it resulted in increased believability and perceived value for a high-risk drug (pain relieving drug) than when risk information was separate. However, separating the risk information for a low-risk drug was seen as emphasizing the risks (Morris et al., 1984). They explain that a high-risk drug that does not incorporate risk information in the ad copy may be perceived as hiding that information.

Considering that there is evidence suggesting that risk disclosure format impacts consumer responses (Morris et al., 1989; Morris, Ruffner, & Klimberg, 1985; Morris, Brinberg, & Plimpton, 1984) we would expect that to be the case for print DTC ads. However, how print DTC ads with varying amounts of risk information impact recall of risk information is largely unknown. More importantly, it would be helpful to examine this using experimental stimuli developed based on FDA guidelines for external validity purposes. Considering that Morris et al., (1989) found that thorough disclosures resulted in greater risk awareness than shorter disclosures it is expected that:

> H1: There will be significant differences in recall of risk information between participants exposed to DTC ads containing different amounts of risk information, with ads containing high risk disclosures eliciting higher recall than ads with low or moderate disclosures.

In all the studies discussed so far, individual differences, were not factored into the research. However, individual differences can impact responses to ads (Putrevu, Tan, & Lord, 2004). The following section discusses involvement.

The concept of involvement can be ambiguous and vague at times. This is because there has been different applications of the term "involvement," such as, involvement with advertisements, involvement with products or involvement with purchase decisions, and each of these forms of involvement leads to different responses (Zaichkowsky, 1985). However, one type of involvement is issue involvement, which has been identified as a good predictor of motivation to process issue-relevant information (Celsi & Olson, 1988; Gotlieb & Sarel, 1991; Petty & Cacioppo, 1979). Generally, high issue involvement means personal relevance (Zaichkowsky, 1985). "High issue involvement occurs when an issue has intrinsic importance or personal meaning, when people expect the issue to have significant consequences on their own lives" (Petty & Cacioppo, 1979, p. 1916). Involvement would lead to positive thoughts and increased agreement with the message if the message enhances positive cognitions (Petty & Cacioppo, 1979). When consumers are highly involved with an issue, they are likely to acquire more information about the issue and engage in detailed processing of relevant messages (Zaichkowsky, 1985). In this study, involvement refers to the personal relevance of the advertised drug to the individual. It is expected that the high involving individual would be interested in adequate information to make a decision. It is also expected that the information should not be too overwhelming, too basic or too limited in enabling him/her make a decision. In addition, since recall is a very important measure of ad effectiveness and eventually influences purchase intention (Rothschild & Churchill, 1988). It is hypothesized that:

H2: There will be significant differences between high involving and low involving consumers on their recall of risk information from ads with varying amounts of risk information, with high involving participants recalling the most risk information.

As is described in the methods section of this paper, in the stimuli used for this study, only the risk information was manipulated across ad versions. The benefit information remained the same across ad versions. It is therefore expected that:

H3: There will be no significant differences in recall of benefit information between participants exposed to different amounts of risk information.

There is an established positive relationship between attitude towards the ad and brand interest, and this relationship is consistent in DTC advertising research as well (Wilson & Till, 2007). Ads with a high amount of side effects tend to be evaluated negatively than ads with a low amount of side effect (Davis, 2007; Davis, 2000). It is therefore expected that consumers would prefer ads with less amounts of side effect information. Therefore, it is hypothesized that:

H4: Overall, ads with lower amounts of risk disclosure will elicit more favorable consumer responses (ad credibility, attitude-toward-the-ad, brand interest, purchase intention) than ads with high or moderate risk disclosures.

Methods

Stimuli

Print ads for three fictitious drugs were developed with the help of a graphic designer. Three versions of each ad were developed for each drug based on three levels of risk information. Thus the three treatments for the ads were high, moderate, and low risk disclosure versions. FDA-approved patient labeling for real drugs were synthesized and adapted as risk information for the fictitious drugs. Using FDA guidelines, the patient labeling information was manipulated to suit three risk information disclosure versions recommended by the FDA. To ensure consistency, the risk information was positioned in the lower half of the ads. The design of the ads remained the same for each of the three versions within a drug category. The benefit information also remained the same for all three versions. The only change was in the amount of risk information provided in the different versions. These constituted nine different advertisement/risk disclosure combinations, resulting in a 3 (risk disclosure format) x 3 (product category) between-group factorial design. Manipulation checks for the three levels of risk information were conducted via a pretest with a sample of 15 respondents. A one-way analysis of variance revealed that the manipulations were effective as intended [$F(2, 12) = 15.75$, $p = .000$]. Tukey comparison of means for levels of risk information: low ($M=1.42$), moderate ($M = 2.25$), high ($M=3$).

Questionnaire and Measures

The questionnaire contained scales for measuring involvement, attitude-toward-the-ad, brand interest, purchase intention, ad credibility, and demographic information. Involvement was measured with a 10-item semantic differential scale developed by (Zaichkowsky, 1994). Cronbach's alpha obtained in this study was .89. The involvement item to which participants responded followed this question “How would you rate the advertisement you just saw?”: important/unimportant, irrelevant/relevant, means a lot to me/means nothing to me, valuable/worthless, interested/ uninterested, exciting/unexciting, appealing/ unappealing,

mundane/fascinating, not needed/needed, involving/not involving. The attitude-toward-the-ad items to which participants responded were measured with 7-point semantic differential scales (Cronbach's α = .85). They followed these questions "What is your overall reaction to the ad you just saw?": favorable/unfavorable, interesting/boring and "what is your overall feeling about using the drug mentioned in the ad?": favorable/unfavorable, good/bad, wise/foolish (MacKenzie, Lutz, & Belch, 1986). Brand interest was measured with a 4-item scale (Cronbach's α = .86). The items were "I am intrigued by the drug in the ad," "I'd like to know more about the drug in the ad," "Learning more about the drug in the ad would be useless," and "I'm a little curious about the drug in the ad." (Machleit, Allen, & Madden, 1993). These were assessed on a 7-point scale (1 = not at all, 7 = very much). A purchase-intention scale was adapted from a 7-point semantic differential scale used by MacKenzie et al. (1986). The items were, "what is the probability that you will ask your doctor to prescribe this medication," measured by three items, likely/unlikey, probable/improbable, and possible/impossible (Cronbach's α = .86). Perceived ad credibility was measured with six semantic differential scales (Cronbach's α = .69) used previously by Goldberg and Hartwick (1990). Participants were asked "Compared to most print ads I see, the ad I just saw was (1) deceptive/honest, (2) misleading/sincere, (3) dull/exciting, (4) unprofessional/professional, (5) unsophisticated/sophisticated, (6) boring/interesting?"

The recall measure sought to assess what participants freely recalled from the ad. Consistent with previous studies (Braun-LaTour, Heflin and Haygood 1985; Hornik, 1988; Braun-LaTour 2004; Norris and Colman 1994) and Using Baack et al (2012) "any recall" approach, participants were asked to write on a blank page of the questionnaire, a numbered list of any characteristics of the ad they remembered. Participants' open ended recall information was entered into SPSS. The researcher coded each participant's responses into risk information recall and benefit information recall. Consistent with (Lwin & Morrin, 2012) who measured recall by summing up the number of items correctly remembered per category for each participant, each risk disclosure item that was correctly recalled was given a score of one. Each benefit information that was correctly recalled was also given a score of one. The total risk information recalled per participant was summed up to indicate that participant's risk recall score. A similar approach was used for determining each participant's benefit recall score.

Participants

The sample was made up of 203 college students who were randomly assigned to one of the nine experimental conditions. Participants were informed that they were participating in a study that involved responses to print ads. They were each given a booklet that contained the questionnaire and the print ad. They were asked to go through the booklet sequentially and not skip ahead. They were also instructed that when they got to the print ad they should read it as they normally read print ads in real life. They began by answering the part of the questionnaire dealing with individual difference variables. After that, they were exposed to the ad, and then they continued to complete the measures related to the ad (i.e., ad involvement, attitude-toward-the-ad, brand interest, and purchase intention). After that, they were required to write out whatever they recalled from the ads.

Results

The first hypothesis suggested that there would be significant differences in recall of risk information between participants exposed to different amounts of risk information with the ads

having high risk disclosure eliciting the most recall. A one-way analysis of variance was conducted to explore the impact of different amounts of risk disclosure on recall of risk information. There was a statistically significant difference at the p<.05 level in risk disclosure recall scores for the three levels of risk disclosure [$F(2, 148) = 3.66$, $p = .028$]. Interestingly, post hoc comparisons using the Tukey HSD test indicated that the mean score for the moderate risk disclosure group (M=2.74, SD =1.69) was significantly different from high-risk disclosure (M =1.91, SD=1.06). So the moderate risk disclosure condition elicited the most risk information recall.

The second hypothesis explored the relations between different amounts of risk information on recall under high and low involvement. A one-way between groups Analysis of Covariance (ANCOVA) was conducted with risk disclosure recall as dependent variable, version as independent variable, and involvement as covariate. After controlling for the effect of involvement, there was a significant difference of version on recall of risk information [F (2, 147) =3.33, $p = .038$, $\eta p2 = .04$]. Version explained about 4% of the variability in risk recall in the presence of the other variables. The covariate, involvement was not significantly related to recall of risk information, although it was approaching significance [F (1, 147) = 3.59, $p = .06$]. So involvement was only marginally significantly related to recall of risk information.

The third hypothesis suggested that there would be no significant differences in recall of benefit information between participants exposed to different amounts of risk information. A one-way analysis of variance was conducted to explore the impact of different amounts of risk disclosure on recall of benefit information. As predicted, there were no statistically significant differences between the three levels of risk disclosure [$F(2, 156) = .328$ $p = .721$] on recall of benefit information.

The fourth hypothesis suggested that ads with lower amounts of risk disclosure would elicit more favorable responses (ad credibility, attitude-toward-the-ad, brand interest, and purchase intention) than ads with higher amounts of risk disclosure. Multivariate analysis of variance (MANOVA) was performed to investigate the effect of ad version on responses to the ad. Four dependent variables were used: ad credibility, attitude-toward-the-ad, brand interest, and purchase intention. These dependent measures have been found to be related. The independent variables were ad version and drug category. The assumptions for the use of MANOVA were tested and no serious violations were noted.

There was a statistically significant difference for the combined dependent variables (F [8, 396] = 3.43, $p = .001$; Pillai's trace =.130; $\eta p2 = .06$). It can be concluded that ad version had a significant effect on responses to the advertisements. Ad version explained about (6%) of the variability in ad response. When the results for the dependent variables were considered separately, only brand interest was statistically significant (F [2, 200] = 3.11, $p = .04$, $\eta p2 = .03$), although marginal significance was observed for attitude-toward-the-ad (p =.063). As predicted, post hoc comparison using the Bonferroni technique showed that the version with the least amount of information elicited the highest brand interest.

Discussion

This study aimed at examining the effect of different amounts of risk information in DTC ads on recall and the moderating role of involvement. This study ensured external validity by using stimuli designed based on FDA guidelines. Findings suggest that of the three different

versions tested (high, moderate, low), the ads with moderate amount of risk information elicited the most recall of risk information. This suggests that the risk information in these ads were comparatively easier to process leading to higher recall. It is likely that participants were not overwhelmed by risk information so as to negatively impact recall but sufficient enough to induce recall. The moderating role of involvement appeared inconclusive in this study. Although it suggests that there is likely an effect that warrants further examination. The results seem to suggest that there is a possibility that high involving individuals would be more likely to recall ads that have a moderate amount of risk disclosure.

A key finding from this research is that recall of benefit information did not seem to be affected by amount of risk information. This is an important finding because, as previously discussed, some have raised concerns about the potential for DTC ads to displace benefit information to the detriment of risk information. However, that was not the case in this study as there were no significant differences between the three risk disclosure groups on recall of benefit information. In other words, regardless of which risk disclosure option was used, benefit information recalled was similar across the three conditions [that is, *low condition* (M = 1.96; SD = .97), *moderate co*ndition (M=1.94, SD =.93), *high condition* (M = 1.82, SD = 1.0] out of highest possible recall score of 4. This finding suggests that pharmaceutical companies should not be too concerned about different alternatives for presenting risk information impacting recall of the benefit information, because no differences existed in benefit information recall across conditions. However, this needs to be explored further to be able to draw firmer conclusions.

MANOVA analysis revealed that overall, the different amounts of risk information influenced responses to the ad (attitude-toward-the-ad, brand interest, purchase intention, and ad credibility). When the results were considered separately for each dependent variable, ad version had a strong effect only on brand interest. Although ad version did not have an effect on attitude-toward-the-ad, it was approaching statistical significance. In this case, however, the ads with the least amount of risk information elicited the most favorable brand interest. Considering that brand interest refers to "the base level of approachability, inquisitiveness, openness or curiosity an individual has about a brand" (Machleit & Madden, 1993, p. 73), this finding suggests that the ads with the least amount of risk information made consumers inquisitive and curious about the brand. One possible reason why the ads with the least amount of information elicited the most brand interest is likely due to the way this ad was structured. Much of the information in this version was listed in bullet points making the information salient, concise, and straightforward, thereby making it easy to read and process the information in the ad. Thus participants possibly acquired information about the drug within a short period of exposure to the ad. However, having been exposed to the minimal information, some amount of curiosity about the brand must have occurred, especially for high-involving individuals, making them curious about the brand.

Also fewer negatives were associated with the brand when it was in low risk disclosure version than when it was in the other versions. Participants possibly felt more comfortable with the drug, when it was presented in the low risk disclosure version, (considering the fewer negatives listed in the risk disclosure compared to the other conditions) and might have considered it as a drug they might use. On the other hand, there is also a possibility that some consumers felt that the information was inadequate and wanted to know more about what information was left out of the ad. In other words, they wanted to find out exactly what the ad might be hiding, if any. Either of these possibilities goes to the advantage of the advertiser, in that, the consumer is likely to be curious and would want to know more about the drug.

The implications of these findings are that although the ultimate goal of most prescription drug advertisers is to induce purchase intention (encourage consumers to request the medication from their doctors), it would be helpful to initially induce brand interest, which should eventually make participants want to know more about the drug. In fact, most drug ads indicate that patients should ask their doctors whether the drug is right for them. Inducing brand interest would likely lead to asking about the drug.

Limitations and suggestions for further research

This research has provided some initial insights into recall of risk of information in prescription drug advertising research. These insights need to be examined further to arrive at more actionable conclusions. This study was conducted with a student sample that might not be the key decision makers in their health. This might have implications for some of the findings. It would be helpful to conduct a similar study among different demographics (such as baby boomers) that make their own decisions about their healthcare.

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