Threats to Hope and the Motivated Reasoning of Product Information

GUSTAVO DE MELLO

DEBORAH J. MACINNIS

DAVID W. STEWART*

August 17, 2006

This article is written in memory of Gustavo de Mello, Ph.D., who was a student at the Marshall School of Business, University of Southern California and was to be a faculty member at the Tuck School of Business at Dartmouth University. This article is based on a dissertation submitted in partial fulfillment of the requirements of the Ph.D. Deborah J. MacInnis is the Charles and Ramona I. Hilliard Professor of Business Administration and Vice Dean of Research (macinnis@usc.edu) and David W. Stewart (david.stewart@marshall.usc.edu) is the Robert E. Brooker Professor of Marketing and Chair, Department of Marketing, both at the Marshall School of Business, University of Southern California, Los Angeles, CA 90089. The second and third authors are listed in alphabetical order. The authors thank Allison Johnson and Shashi Matta for their comments on this article.

ABSTRACT

Three studies find that when individuals become less confident that what they yearn for is possible (i.e., when hope is threatened) they engage in motivated reasoning related to products that purport to enable goal attainment. Specifically, they (a) selectively search for information from a product-favorable information source, (b) regard this information as more credible, and (c) are less discriminating of low credibility message arguments. They also (d) require more negative information before they feel that they are able to evaluate a product's effectiveness, and (e) are more likely to judge the product as effective at helping them attain their goal. Motivated reasoning appears to act as a coping mechanism for restoring confidence that what consumers hope for is possible. The implications of this research for theory on motivated reasoning, hope, confidence, consumers' vulnerability to sham products and scams, and public policy are discussed.

Sheila hoped to look good for her upcoming high school reunion. But when she stepped on the scale and found that she had gained weight she began to fear that this goal might not be possible. Her confidence shaken, she scoured weight loss magazines hoping to find a product that could restore her desired weight. She was particularly persuaded by one product that claimed to help people lose 10 pounds in 3 days. Although the ad offered numerous disclaimers and indicated potentially serious side effects, she disregarded them and decided to try the product for herself.

The example above illustrates a process called motivated reasoning, defined as the process of searching for, evaluating and weighing information, and forming judgments with a self-serving goal-affirming purpose (Kunda 1990, 1999). Prior research verifies that individuals engage in motivated reasoning when they wish to (a) perceive themselves as free from risk (Kunda 1987; Sherman and Kunda 1989; Lieberman and Chaiken 1992; Menon, et al. 2002), (b) perceive themselves in a positive light (Kunda and Santioso 1989; Dunning, et al. 1995), or (c) reduce cognitive and attitudinal inconsistency (Jain and Maheswaran 2000; Ahluwalia, et al. 2000).

Recent work links hope with motivated reasoning (MacInnis and de Mello 2005; de Mello and MacInnis 2005). To “have hope” is to believe that a goal one yearns for is possible (de Mello and MacInnis 2005). Having hope evokes positive feelings; consequently, individuals enjoy going through life believing that it is possible to attain one’s goals. However, hope can be threatened. Hope is threatened when consumers lose confidence that what they yearn for is indeed possible. Such threats may be particularly disconcerting when consumers are put in a state of hedonic loss (Tversky and Fox 1995, Lee and Aaker 2004). Threats to hope evoke a range of negative emotions and a need to cope with the concomitant

sense of loss of control. Under such circumstances individuals may engage in a range of actions that might not seem totally rational or objective. For example, a gambler who faces the prospect of a big loss might engage in superstitious behavior such as blowing on dice or standing next to a "lucky lady" (Clotfelter and Cook 1989).

We hypothesize that another set of actions designed to cope with threats to hope is to selectively focus on cues and process information in a way that restores confidence that the goal one yearns for is indeed possible. This type of processing has been described elsewhere as "motivated reasoning" (Kunda 1990, 1999). In the vignette described above, Sheila hope of losing weight was threatened when she stepped on the scale. To cope with this threat, she began to search for and process information in a way that allowed her to believe that the product would help her attain her goal. Through this conclusion her belief that her weight loss goal could be attained was restored.

We test the idea that when hope is threatened consumers will engage in motivated reasoning about the effectiveness of products that purport to help them achieve their goals. Arriving at a conclusion that a particular product is efficacious in attaining a goal produces the self-serving outcome of restoring confidence in the possibility of goal attainment. Through such a conclusion hope can be restored and negative feelings like fear and anxiety can be assuaged. While these ideas are interesting, empirical tests of their validity is limited. The objective of this article is to test their veracity.

This paper makes several contributions. First, we verify that reduced confidence in a hoped for outcome is a novel antecedent to motivated reasoning. In the three studies described below, motivated reasoning is indicated by (a) biased search for product supportive information, b) biased evaluation of the credibility of product claims, (c) less discrimination

between high and low credibility arguments, (d) less weight placed on negative information in judging product effectiveness, and (e) forming a self-serving conclusion regarding product effectiveness. We also add to a growing body of evidence that shows that motivated reasoning is a distinct process with unique effects on information search, information use, and decision-making. Finally, we contribute to the literature on goals by showing that motivated reasoning can restore confidence when hoped is threatened. The three studies that demonstrate these effects are presented next.

STUDY 1

Study one was designed to provide initial evidence for the proposition that when confidence in attaining a hoped for goal is threatened, consumers engage in motivated reasoning of products touted as facilitators of goal attainment. Motivated reasoning is indicated here by (a) selective information search, (b) biased information evaluation, and (c) forming a self-serving conclusion regarding product effectiveness.

Design and Procedures

Ninety-nine undergraduate students were randomly assigned to one of two conditions designed to manipulate perceived confidence about the possibility of attaining a hoped for goal—here, academic performance. Subjects, who were preparing for mid-term exams, were asked to judge the clarity, importance and informativeness of an abstract purportedly published in the *Journal of Educational Psychology*. The abstract suggested that stress either

impaired (enhanced) brain performance, inducing reduced (heightened) confidence in attaining the hoped for goal—good grades. Subjects next participated in a purportedly different study ostensibly conducted by the Office of Student Affairs. That "study" asked students to report on a variety of things, including how confident they felt about getting good grades by the term's end.

Subjects then participated in another purportedly differently study that asked them to evaluate a new product—a memory booster. Information about the product was minimal and was limited to a statement of product benefits. After seeing the product description participants were told that they could search for as much or as little product information as they wished from a manufacturer's brochure (a product favorable source) or a newspaper article written about the product (an objective source). A total of 15 pieces of information could be examined from each source, for a total of 30 pieces of information. Participants searched for pieces of information individually by clicking buttons on a computer screen that revealed the information from the selected source.

After completing the information search task, subjects evaluated the product, and then rated the perceived credibility of the arguments examined from each source. Several covariates, including mood, gender, and need for cognition were also obtained. They had no effects on the results reported in this study or those reported subsequently and hence are not discussed further.

Thirty pretest subjects verified that student subjects expected product information in a newspaper article to be less favorable toward a product, more objective than, and preferred over information found in a brochure.

Measures

Confidence in the Hoped for Outcome. Two manipulation check items (r= .71) which asked how (a) capable and (b) confident subjects were that they would actually get a good grade by the end of the semester (1=not at all; 9= very) were combined to form a confidence in the hoped for outcome scale. A t-test confirmed the success of the manipulation. Subjects reported feeling significantly less confident that they would achieve a good grade at the end of the semester in the lower (M = 5.94) versus the higher confidence condition (M = 6.83) (t (98) = 8.81, p < .01).

Indicators of Motivated Reasoning. The amount of information gathered from the brochure and the newspaper article respectively served as measures of information search. Subjects also used nine-point scaled items to evaluate the credibility of product claims in the brochure and the newspaper article, and the effectiveness of the product (all items were anchored by 1 = not at all; 9 = very).

Results

Consistent with the notion that reduced confidence in the possibility of attaining a hoped for goal induces motivated reasoning, we found that subjects searched for more information from the product favorable source in the lower (the brochure (M = 8.35)) versus higher confidence condition (M = 6.40; t (98) = 4.40, p < .05), though they did not differ in the amount of information they gathered from the impartial source (see Table 1). In other words, high confidence subjects searched for information from both sources equally, while

reduced confidence subjects searched for more information from the favorable source than the more objective source. Motivated reasoning was also revealed by the fact that subjects regarded the product's claims as more credible in the reduced (M = 4.61) versus the higher confidence condition (M = 3.86, (t (97) = 2.25 $p < .05$). They also regarded the product as more effective (M = 4.49 versus 3.74; t (97) = 5.67; $p < .05$) (See Table 1).

Insert Table 1 here

The continuous manipulation check measure of confidence enabled further assessment of how confidence impacted perceptions of product effectiveness. As expected, lower confidence was positively associated with claim credibility ($r = .23$, $p < .05$) and perceived product effectiveness ($r = .33$, $p < .01$). Claim credibility was also positively associated with perceived effectiveness ($r = .62$, $p < .01$). A Sobel test of the mediating role of credibility of product claim on the relationship between confidence and perceived product effectiveness was significant ($Z = 2.02$, $p < .05$). When the influence of claim credibility was controlled the relationship between confidence and perceived product effectiveness became insignificant. Hence the impact of reduced confidence on perceived product effectiveness appears to be mediated by claim credibility.

Discussion

The results of study one suggest that when confidence that what one hopes for is threatened, subjects engage in motivated reasoning of products touted as goal enablers. Reduced confidence results in greater search for information from a source perceived *a priori*

as providing favorable product information (the brochure) and more positive judgments about the credibility of the product's claims. Such judgments, in turn, enable the self-serving conclusion that the product is effective at attaining what one hopes for.

Interestingly, high and reduced confidence subjects differed only in information search for and evaluation of information from the product favorable source, not the impartial source (the newspaper article). Lack of effects here may be due to the fact that impartial sources can also provide favorable information. Lower confidence subjects may search such sources because they wish to find hypothesis confirming information that such sources may indeed contain. Higher confidence subjects may search such sources because they wish to find unbiased information. Though their motives differ, the amount of information they search may not differ.

STUDY 2

Study two further examined the link between reduced confidence in attaining a hoped for outcome and motivated reasoning. Here, motivated reasoning is indicated by reduced confidence subjects' showing less ability to discriminate between high and low credibility arguments (here from the same source*).* Biased processing is best demonstrated when information that is objectively weak is as viewed as persuasive as information that is objectively strong. As such, Study 2 was designed to show that reduced confidence consumers will cling on to weaker claims while high confidence consumers will reject them. Study 2 was also designed to demonstrate that such reasoning is due to confidence in attaining a hoped for outcome as opposed to other potential individual difference factors like intelligence or logical reasoning capabilities. We reasoned that reduced confidence

consumers should only show motivated reasoning for a product that is relevant to restoring confidence that what they hope for is possible. These same subjects (with the same traits and capabilities) should be able to discriminate between strong and weak claims (and hence not engage in motivated reasoning) when they are evaluating a product that is irrelevant to the threatened outcome.

Design and Procedures

Eighty-one undergraduates were randomly assigned to groups using 2 x 2 x 2 mixed factorial design. Confidence (low versus high) in attaining the hoped for goal and claim credibility (high vs. low) were manipulated as between-subjects factors. The product's relevance to the hoped-for goal, which served as a within subjects factor, was manipulated by asking subjects to evaluate a goal relevant (memory-booster) and a goal irrelevant product (stain remover). Presentation order of the two products was counterbalanced. It had no effect on the results and is not discussed further.

The manipulation and measures of confidence were identical to those described in study one. In a purportedly separate study participants were asked to sequentially consider two new products; one that claimed to boost memory and another that claimed to remove stains. Half of the subjects saw an ad in which the products claimed to be the only one on the market that produced the advertised benefit (better memory; removal of tough stains). The remaining half saw ads in which the products claimed to be one of many on the market that produced the benefit. Participants completed measures of claim credibility and product effectiveness and were debriefed.

Claim credibility was manipulated by claims that the product was the only one or one of many on the market to have the purported benefits. A claim made by many products on the market tends to be more credible than the same claim made by only one product on the market. This is closely related to the common heuristic, "if many believe it, it must be true" (e.g., Axsom, Yates and Chaiken 1987). In contrast, an uncommon claim is more likely to be seen as extraordinary, and thus less credible. To assess the validity of this assumption, a pretest with 50 individuals confirmed that subjects believed a claim was less credible if it was made by only one product on the market as opposed to many. They also regarded such claims of a unique benefit with more skepticism.

We anticipated that higher confidence subjects (who do not need to engage in motivated reasoning) would process message arguments in an objective fashion and hence would discriminate among high versus low credibility arguments. This discrimination would result in more favorable judgments of goal-relevant brands that use high versus low credibility claims. However, when confidence is low, subjects are motivated to believe that even weak message arguments are credible. Concluding otherwise would suggest that what they hope for is unattainable. They will therefore be less likely to discriminate between high versus low credibility arguments. In sum, we anticipated that reduced confidence consumers would buy into weaker claims, while high confidence consumers would reject them.

Measures

Confidence in Attaining the Hoped for Outcome. The two items used in study 1 to indicate confidence in the hoped for outcome were highly correlated (r = .72), and combined to form an index.

Motivated Reasoning. Subjects used a 9-point scale to indicate how credible they believed the product's claims were (1= not at all credible; 9= very credible). Brand evaluations were assessed with two nine-point measures that assessed evaluations of the product's effectiveness and quality (1= not at all; 9= very). A composite index of two items was created (r = .74 and .72 for the memory and stain remover respectively).

Results

Manipulation Checks. The confidence in the hoped for outcome manipulation was successful ($F(1, 76) = 9.03$, $p < .001$). Subjects reported significantly greater confidence in attaining the hoped for goal in the higher ($M = 6.77$) versus the lower confidence condition ($M = 5.80$).

The claim credibility manipulation was also successful. Subjects perceived that claims were more credible when the ad claimed that the product was one of many versus the only one on the market with the purposed benefit ($F(1, 76) = 3.00$, $p < .10$). However, as anticipated, this result was qualified by the interactions described below.

Test of Hypotheses. A 2 x 2 x 2 ANOVA using product relevance as the within-subjects factor showed that when confidence was high and the product was goal relevant, subjects were able to discriminate between high and low credibility claims; ads that claimed that the product was the only one on the market with the purported benefits were viewed as

less credible (*M* = 2.53) than those that claimed to be one of many on the market with the same benefit (*M* = 3.53); t (36) = 5.12, p < .05). As predicted, however, lower confidence subjects did not discriminate between high (*M* = 3.60) and low credibility claims (*M* = 4.14) (t (40) = 0.88, p = ns) when the product was goal relevant. Thus, high confidence consumers rejected weaker claims, viewing them as less credible. Reduced confidence consumers did not. Even weak claims were regarded as credible.

In contrast, when the product was not goal relevant, both high and reduced confidence subjects were able to discriminate between high and low credibility claims. That is, they were more likely to believe that the product's claims were credible when the product claimed to be one of many vs. the only product on the market with the purported benefits.

A 2 x 2 x 2 ANOVA on perceived product effectiveness also revealed the predicted interaction (F (1, 76) = 5.17, p < .05). When the product was goal relevant, reduced confidence subjects did not differ in their evaluation of the product regardless of whether it was the only one or one of many on the market making the claim (*M*'s= 4.5 and 4.07 for one versus many products; t (40) = 0.54, p = ns). This result would follow directly from the finding that these subjects did not discriminate between the high and low credibility claims. It is also consistent with the findings of Study 1 that demonstrated that beliefs about product efficacy are meditated by the perceived credibility of claims.

As expected, when confidence was high however, subjects judged the goal relevant product that claimed to be the only one on the market as less effective than those that claimed to be one of many (*M*'s = 2.86 versus 3.94, t (36) = 5.23, p < .05). When the product was not goal relevant, low and high confidence subjects did not differ in judgments of the product's

effectiveness (*M*'s = 5.57 and 5.51 for low and high confidence subjects) (t (78) = .03, p = ns).

The manipulation check measure of confidence in the hoped for outcome also enabled an assessment of how confidence impacted judgments of product effectiveness. There was no significant relationship between confidence and either the credibility of the claim for the stain remover or its perceived efficacy for subjects in the high confidence condition. Neither was there a significant relationship between confidence and either credibility of the claim for the brain booster or its perceived effectiveness in the case of the more confident subjects. However, among subjects in the reduced confidence condition there were significant relationships between measured confidence and credibility of the claim for the brain booster ($r = -.33$, $p < .05$) and its perceived effectiveness ($r = -.32$, $p < .05$).

As expected, the relationship between claim credibility and perceived product effectiveness was significant in all conditions. The relationship was especially strong for reduced confidence subjects evaluating the goal relevant product ($r = .89$, $p < .01$). A Sobel test examined the mediating role of perceived credibility on the confidence-product effectiveness relationship. As anticipated based on the results of study one, perceived credibility mediated the impact of confidence on judgments of product effectiveness ($Z = 2.09$, $p < .05$) for reduced confidence subjects evaluating the goal relevant product. This result supports the finding in study one that reduced confidence impacts product judgments through the mediating role of credibility.

Discussion

Study two further supports the link between reduced confidence in attaining a hoped for goal and motivated reasoning. When confidence is low, subjects fail to discriminate between high and low credibility arguments of a goal relevant product. This effect is not observed when confidence is high or when the product is irrelevant to the threatened outcome. Because they are less discriminating of argument credibility, reduced confidence consumers view goal relevant products with low credibility claims as effective. Study 2 also shows that the results are not attributable to individual differences across subjects. The same subjects do not engage in motivated reasoning when the product is irrelevant to the hoped for goal.

Study three was designed to examine to show further support for the reduced confidence-motivated reasoning relationship. Unlike study 1, which examined the *preferred source* for gathering product-relevant information, study 3 keeps the information source constant and instead manipulates information valence. This manipulation was designed to further support the reduced confidence-motivated reasoning relationship; here by examining whether and to what extent consumer discount the negative information to which they are exposed. We also examine whether motivated reasoning acts as a coping device to restore confidence in goal attainment.

Weight Assigned to Negative and Positive Information

A rather consistent finding in the literature is that consumers tend to weigh negative information more heavily than positive information because it is more diagnostic of product quality (e.g., Baumeister, Bratslavsky, Finkenauer and Vohs 2001; Rozin and Royzman

2001). Unfortunately, negative product information does not support the conclusion that the product can help one attain a hoped for goal. Indeed, research on motivated reasoning shows that when people wish to arrive at a particular conclusion they place *less weight* on (or discount) negative information that is at odds with the conclusion they wish to draw (Ahluwalia, et al., 2000; Schaller 1992, Ditto and Lopez 1992; Kunda 1987). Thus, additional evidence that reduced confidence in a hoped for outcome induces motivated reasoning would be found by showing that compared to their high confidence counterparts, reduced confidence consumers discount negative information in evaluating products that purport to help them achieve a hoped for outcome.

Restored Confidence

Motivated reasoning allows consumers to conclude that they can get what they hope for because there is a means (a product evaluated as effective) to do so. Such a belief should restore confidence that the hoped-for goal is possible. We therefore expect that exposure to a product that purports to facilitate goal attainment produces positive changes in perceived confidence for consumers for whom confidence is initially threatened, but not for consumers whose confidence has not been threatened.

Design and Procedures

One hundred and one undergraduate students participated in a 2 (high versus reduced confidence in the hoped for outcome) x 2 (exposure to positive versus negative product

information) between subjects factorial design study. Confidence in attaining the hoped for outcome was manipulated in a manner identical to study one.

Immediately after the confidence manipulation, participants were told that they were to evaluate a product that claimed to boost memory. Following Ditto and Lopez (1992), subjects were told to look at product information one item at a time and to indicate when they were ready to render a judgment about the product's effectiveness. Subjects were asked to make their decision based on as few of the items as possible, but to also use enough information to make a reasonably accurate decision.

Participants then proceeded to a computer screen that had two buttons: one to request an item of product information and another to indicate that they were ready to evaluate the product. In both conditions subjects could choose as many items of information as they deemed necessary to form an evaluation. Unbeknownst to subjects, half saw only positive product information while the other half saw only negative information, making information valence a between subjects factor. Information presentation order was randomized. When participants believed that they had seen enough information to decide whether the product was or was not effective, they stopped the information search task and evaluated the product. Finally, they indicated how confident they felt about attaining the hoped for outcome (i.e. good grades) by the end of the term (post-product exposure confidence).

Measures

Confidence and Change in Confidence. Confidence in attaining the hoped for outcome was measured twice; both measures were identical to the measures used in Study 1.

The measure taken first (r = .65) served as a manipulation check. The measure taken second (r = .61) (taken after exposure to information about the product) served as a measure of restored confidence.

Weight Given to Positive and Negative Information. The weight given to positive and negative information in evaluating product effectiveness was measured by two 9-point scaled items designed assess perceived product effectiveness (1 = not at all effective; 9 = very effective) and willingness to try to the product (- 4= not at all willing; +4 = very willing). We also conducted a count of the number of pieces of information subjects used to judge product effectiveness.

Results

Manipulation Checks. A 2 x 2 ANOVA on the confidence manipulation check supported the success of the manipulation ($F(1, 97) = 13.34$, $p < .001$). Subjects felt significantly less confident in the lower ($M = 6.35$) versus higher confidence condition ($M = 7.40$). The results did not vary by information condition.

Insert Table 2 here

Weight Assigned to Positive and Negative Information. A 2 x 2 between subjects ANOVA on willingness to try to the product produced main effects for valence ($F(1, 97) = 96.01$, $p < .001$), and confidence ($F(1, 97) = 11.95$; $p < .001$), and a significant interaction effect ($F(1, 97) = 4.31$, $p < .05$). Replicating Studies 1 and 2, reduced confidence subjects were more willing to try the product ($M = .36$) than were higher confidence subjects ($M =$ -

.82). Not surprisingly, subjects were more likely to try the product when they were exposed to positive (*M* = 1.44) versus negative information (*M* = -1.90). Lower confidence subjects exposed to positive information were more likely to try the product than their higher confidence counterparts (*M* 's = 1.68 versus 1.21, respectively).

Most relevant to the hypothesis regarding the discounting of negative information is that the difference between lower and higher confidence subjects' willingness to try the product was particularly great among subjects exposed to negative information (*M* = -.96 versus M= -2.85 respectively). This pattern of effects was replicated for subjects' evaluations of the product's effectiveness (see Table 2). These results are consistent with the idea that lower confidence subjects place less weight on negative information than do higher confidence subjects.

Additional evidence that reduced confidence subjects engage in motivated reasoning was found by examining the number of pieces of information subjects exposed to negative information gathered before they believed they could render a judgment on the effectiveness of the product. Strong evidence for motivated reasoning would be revealed by finding that reduced confidence subjects required more pieces of negative information than did their high confidence counterparts before being willing to judge the effectiveness of the product. To they extent that they discounted the negative information they encountered and decided to engage in additional information search, they were able to keep the hope alive that this product might help them achieve their goal. Because high confidence subjects have less of an incentive to discount negative information, they may be willing to judge the effectiveness of the product (or lack thereof) after gathering fewer pieces of negative information.

To explore this effect, we conducted a 2 (confidence) x 2 (information valence) between subjects ANOVA on the number of pieces of information subjects examined before they felt they could render a judgment regarding the effectiveness of the product. A significant valence by confidence interaction ($F(1, 97) = 4.59$, $p < .05$) revealed that subjects in the reduced confidence condition examined significantly more pieces of negative information before they felt they could judge product effectiveness ($M = 6.88$) than did those in the higher confidence condition ($M = 2.85$). There were no differences in the amount of positive information gathered by subjects in the reduced ($M = 7.96$) versus higher confidence conditions ($M = 8.21$) (see Table 2). The fact that they required more pieces of information before they could render a judgment (but still regarded the product as more effective) further supports the view that reduced confidence subjects placed less weight on negative information than did those in the higher confidence condition.

Change in Perceived Confidence Following Product Exposure. A 2 x 2 between subjects ANOVA on the difference between pre- and post-product exposure confidence revealed a significant main effect of confidence ($F(1, 97) = 5.17$, $p < .05$). Subjects experienced a significantly greater positive change in perceived confidence in the lower ($M = .43$) versus higher confidence condition ($M = .04$). Interestingly, this effect did not depend on whether subjects were exposed to negative or positive information. These results not only support the notion that motivated reasoning acts as a coping device, they further support the idea that when confidence is low, subjects weigh product disconfirming evidence less heavily in judgments. Specifically, even though reduced confidence subjects examined more pieces of negative information than their high confidence counterparts, they appeared to discount this information; they concluded that they were better able to achieve the hoped for outcome

after having read this negative information than they had before they encountered the product and the negative information they read about it.

Discussion

Study three demonstrates that when confidence is reduced, subjects appear to discount negative information. Even though they exposed themselves to more negative information about the product, reduced confidence subjects had more favorable attitudes about the product than did high confidence subjects. Mere exposure to a goal-relevant product seems to restore confidence in attaining a hoped for goal, even when subjects are exposed to only negative information. Interestingly, these judgments occur even though reduced confidence subjects gather more pieces of negative information about the product than do high confidence subjects. Presumably, additional information gathering allows them to keep alive that the product can help them attain their hoped for goal.

GENERAL DISCUSSION

Combined, the three studies provide relatively compelling evidence for the notion that when confidence that hoped for goal can be attained is threatened, consumers engage in motivated reasoning so as to conclude that products touted as goal enablers will indeed facilitate goal attainment.

Theoretical Implications. This research highlights the importance of confidence in attaining a hoped for goal as a construct relevant to consumption. The role of confidence in

directing behavior, though widely recognized in psychology, has received scant attention in the consumer behavior literature. In that context, the linkage between confidence in attaining a hoped for outcome and motivated reasoning suggests that consumers may acquire and use some products because they provide the illusion of control even if they do not provide or have a low probability of providing the stated or implied benefit. Weight loss products, alternative medicines, and dietary supplements, are examples of product categories for which reduced confidence may be relevant and for which this illusion of control may be highly prevalent. This research also contributes to the goals literature. Although research has focused on such goal dimensions as relevance and importance, we add to the goals literature by suggesting an under researched dimension—confidence in attainability (Austin and Vancouver 1996). Finally, these findings are consistent with recent theoretical arguments linking hope for goal attainment and motivated reasoning (MacInnis and de Mello 2005; de Mello and MacInnis, 2005).

Pragmatic Implications. The present article also has important implications for understanding consumers' marketplace behaviors. The dominant paradigms related to information use and decision-making in both economics and psychology suggest that consumers should be well informed and will make the correct, objective decision if (a) information is fully disclosed in a meaningful way and (b) consumers have the motivation, ability and opportunity to process it. This view has guided much of the practice and regulation related to labeling, disclosures and warnings (Stewart and Martin 1994, 2004). The findings here suggest that information disclosure alone need not culminate in objectively correct choices even when the information is meaningful and consumers process it. Disclaimers such as "not evaluated by the FDA" or warnings about possible side effects may

not have the intended effects. Public service announcements, warnings and other disclaimers may need to account for the lower "weight" placed by consumers on preference-inconsistent information. At the same time, there is a need to appreciate the important role that coping behavior, like motivated reasoning, plays in creating a sense of control and in maintaining motivation to achieve a specific goal. Disclosures designed to compensate for consumers' tendency to engage in motivated reasoning in specific situations may have unintended consequences related to increased anxiety and a sense of helplessness.

An additional implication relates to consumers' vulnerability to scams and fraud. Langenderfer and Shimp's (2001) review suggests that consumers are vulnerable to scams and fraud when (1) they have limited knowledge, making it difficult for them to categorize and offer as a scam or (2) they engage in limited information processing and hence fails to identify scam cues. Our research suggests a third possibility. The extent and nature of consumers' information processing are dictated by their hoped-for goals and consumers' confidence that they can attain them. As such, lack of consumer sophistication and unethical marketing practices may not always be the culprits of ill-advised consumption practices. Instead, threatened confidence about attaining a hoped for goal may induce a state of situational vulnerability. Given the many goals consumers may hope to achieve, even knowledgeable and sophisticated consumers may be subject to situational vulnerability.

Our studies also bear on protection motivation and self-efficacy theories (Block and Keller 1995; Bandura 1997; Floyd, Prentice-Dunn and Rogers 2000). Lowered confidence in goal attainment may impact one's sense of efficacy, at least with respect to the specific goal in question. Such a response is threatening and may induce a protection motivation response. The response we have identified here is motivated reasoning.

Limitations and Future Research. The limitations of these studies offer considerable opportunities for future research. First, although the present research finds that the impact of confidence on judgments is driven by biased perceptions of argument credibility, additional study of the processing mechanisms by which consumers form their desired conclusion is necessary. Future research that examines process measures, such as thought listing and reaction time, could be especially helpful in highlighting process mechanisms. Second, additional research is necessary to understand factors that may minimize or magnify the impact of confidence in attaining a hoped for outcome on motivated reasoning when this situational vulnerability is induced. Third, future research might focus on the role that motivated reasoning plays in maintaining or restoring a sense of self-efficacy and control. Fourth, the role of motivated reasoning in reducing cognitive dissonance and regret might be examined in order to determine whether these constructs are involved in eliciting motivated reasoning as a means for reducing feelings of dissonance or regret. Finally, additional research might further examine the process by which motivated reasoning restores confidence. The theoretical arguments here were that motivated reasoning reduces anxiety, induces hopefulness and provides a sense of control over goal attainment by suggesting the availability of a relevant external marketplace means to goal attainment. However, we these process variables were not examined

Finally, future research might examine the other aspects of hope and motivated reasoning. de Mello and MacInnis (2005) identified three facets of hope: (1) “to hope”, (2) “to have hope” and (3) “to be hopeful”. Although all have in common yearning for a goal congruent possible future outcome, they vary on different dimensions. The present study examined the *second* of these facets—to “have hope”, that is the belief that a goal congruent

outcome that consumers yearn for is possible. de Mello and MacInnis (2005) suggest that when consumer “have hope” for a goal congruent outcome and that hope is threatened, they engage in motivated reasoning. The present paper supported these ideas. However, in a different paper, MacInnis and de Mello (2005) also link the *first* facet of hope to motivated reasoning. “To hope” is to yearn for a possible goal-congruent outcome. They argue that the more consumers yearn for a possible goal congruent outcome, the more likely they will be to engage in motivated reasoning. Future research should test this facet of hope and its relationship to motivated reasoning as well.

The present article illuminates an important and infrequently examined dimension of consumer behavior. Consumer behavior is driven by the goals individuals hope to attain, and many products and services are purchased and consumed in the service of these goals. The proposition that threats to goal attainment induce information processing mechanisms that in turn reduce this threat represents a rich domain for future research.

REFERENCES

Ahluwalia, Rohini, Robert E. Burnkrant and H. Rao Unnava (2000), "An Integrative Model of Market-Related Negative Information Processing: The Context of Negative Publicity," *Journal of Marketing Research*, 37 (May), 203-214.

Austin, James T. and Jeffrey B. Vancouver (1996), "Goal Constructs in Psychology: Structure, Process, and Content," *Psychological Bulletin*, 120 (3), 338-375.

Axsom, Danny, Suzanne Yates and Shelly Chaiken (1987), "Audience Response as a Heuristic Cue in Persuasion," *Journal of Personality and Social Psychology*, 53 (1), 30-40.

Bandura, Albert (1997), *Confidence*, New York: W. H. Freeman and Company.

Baumeister, Roy, Ellen Bratslavsky, Catrin Finkenauer, and Kathleen D. Vohs (2001), "Bad Is Stronger Than Good," *Review of General Psychology*, 5 (4), 323-370.

Block, Lauren G. and Punam Anand Keller (1995), "When to Accentuate the Negative: The Effects of Perceived Efficacy and Message Framing on Intentions to Perform a Health-Related Behavior," *Journal of Marketing Research*, 32 (May), 192-203.

Clotfelter, C. T. and P. J Cook (1989), *Selling Hope: State Lotteries in America*, Cambridge: Harvard University Press.

de Mello, Gustavo and Deborah J. MacInnis (2005), "Why and How Consumers Hope: Motivated Reasoning and the Marketplace," in S. Ratneshwar and David G. Mick (eds.), *Inside Consumption: Consumer Motives, Goals, and Desires*, NY: Routledge, 44-66.

Ditto, Peter H. and David F. Lopez (1992), "Motivated Skepticism - Use of Differential Decision Criteria for Preferred and Nonpreferred Conclusions," *Journal of Personality and Social Psychology*, 63 (4), 568-584.

Dunning, David, Ann Leuenberger and David A. Sherman (1995), "A New Look at Motivated Inference - Are Self-Serving Theories of Success a Product of Motivational Forces?," *Journal of Personality and Social Psychology*, 69 (1), 58-68.

Floyd, Donna L., Steven Prentice-Dunn and Ronald W. Rogers (2000) "A Meta-Analysis of Research on Protection Motivation Theory," *Journal of Applied Psychology*, 30 (2), 407-429.

Jain, Shailendra and Durairaj Maheswaran (2000), "Motivated Reasoning: A Depth-of-Processing Perspective," *Journal of Consumer Research*, 26 (March), 358-371.

Kunda, Ziva (1987), "Motivated Inference: Self-Serving Generation and Evaluation of Causal Theories," *Journal of Personality and Social Psychology*, 53 636-647.

_____ (1990), "The Case for Motivated Reasoning," *Psychological Bulletin*, 108 (3), 480-498.

_____ (1999), *Social Cognition: Making Sense of People*, Cambridge, MA: The MIT Press.

Kunda, Ziva and Rasyid Sanitioso (1989), "Motivated Changes in the Self-Concept," *Journal of Experimental Social Psychology*, 25 (3), 272-285.

Langenderfer, Jeff and Terence A. Shimp (2001), "Consumer Vulnerability to Scams, Swindles and Fraud: A New Theory of Visceral Influences on Persuasion," *Psychology and Marketing*, 18 (7), 763-83.

Lee, Angela Y. and Jennifer Aaker (2004**), "**Bringing the Frame into Focus: The Influence of Regulatory Fit on Processing Fluency and Persuasion**"** *Journal of Personality and Social Psychology*, 86 (2), 205- 218.

Liberman, Akiva and Shelley Chaiken (1992), "Defensive Processing of Personally Relevant Health Messages," *Personality & Social Psychology Bulletin*, 18 (6), 669-679.

MacInnis, Deborah J. and Gustavo de Mello (2005), "The Concept of Hope and its Relevance to Product Evaluation and Choice," *Journal of Marketing*, 69 (1), 1-14.

Menon, Geeta, Lauren Block and Suresh Ramanathan (2002), "We're at as Much Risk as We're Led to Believe: Effects of Message Cues On Judgments of Health Risk," *Journal of Consumer Research*, 28 (March), 533-549.

Rozin, Paul and Edward B. Royzman (2001), "Negativity Bias, Negativity Dominance, and Contagion," *Personality and Social Psychology Review*, 5 (4), 296-320.

Schaller, Mark (1992), "Ingroup Favoritism and Statistical Reasoning in Social Inference: Implications for Formation and Maintenance of Group Stereotypes," *Journal of Personality and Social Psychology*, 63, 61-74.

Sherman, Bonnie R. and Ziva Kunda (1989), *Motivated Evaluation of Scientific Evidence*, Princeton, NJ: Princeton University.

Stewart, David W. and Ingrid Martin (2004), "Advertising Disclosures: Clear and Conspicuous or Understood and Used?," *Journal of Public Policy and Marketing*, 23 (Fall), 183-192.

_____ and _____ (1994), "Intended and Unintended Consequences of Warning Labels," *Journal of Public Policy and Marketing*, 13 (Spring), 1-19.

Tversky, Amos and Craig R. Fox (1995), "Weighing Risk and Uncertainty," *Psychological Review*," 102 (2), 269-283.

Vancouver, Jeffrey B. (2005), "The Depth of History and Explanation as Benefit and Bane for Psychological Control Theories," *Journal of Applied Psychology*, 90 (1), 38-52.

Table 1
Study 1: Impact of Confidence on Information Search and Information Evaluation

Dependent Variable	Confidence Condition	Means	t
Total Information Searched from Brochure	Reduced confidence	8.35	4.40*
	Heightened confidence	6.40	
Total Information Searched from Newspaper Article	Reduced confidence	6.77	0.38
	Heightened confidence	5.96	
Credibility of the Product's Claims	Reduced confidence	4.61	5.07*
	Heightened confidence	3.86	
Perceived Product Effectiveness	Reduced confidence	4.49	5.67*
	Heightened confidence	3.74	

* = $p < .05$

Table 2: The Impact of Confidence in Attaining a Hoped for Goal and Information Valence on Information Search and Product Evaluation: Study 3

				Main Effects		Interaction
Dependent Variable	**Information Condition**	**Confidence Condition**	**Means**	**Confidence (F)**	**Information Valence (F)**	**Confidence x Information Valence (F)**
Number of Pieces of Product Information Searched	Favorable	Reduced	7.96	3.58+	10.40***	4.59*
		Heightened	8.21			
	Unfavorable	Reduced	6.88			
		Heightened	2.85			
Evaluation of Product "worth a try" (minus 4 definitely not worth a try; +4= definitely wor a try)	Favorable	Reduced	1.68	11.95**	94.60***	4.31*
		Heightened	1.21			
	Unfavorable	Reduced	-0.96			
		Heightened	-2.85			
Perceived Product Effectiveness (1= not a all effective; 9= very effective)	Favorable	Reduced	6.52	7.46 **	160.89***	3.44*
		Heightened	6.25			
	Unfavorable	Reduced	3.52			
		Heightened	2.00			

[a]= p< .10
*= p< .05
** p< .01
*** p< .001