THE UNIVERSITY OF TEXAS AT SAN ANTONIO, COLLEGE OF BUSINESS

Working Paper SERIES

WP # 0012MKT-448-2010

Date May 10, 2010

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Abstract

This study examines the defensive attribution hypothesis in the context of a product-harm crisis. A high severity product-harm crisis results in more blame to the company and less blame to the consumer than does a low severity crisis, although this attributional pattern is more evident when the crisis is associated with an unfamiliar brand. A model then reveals personal vulnerability to be an antecedent of perceived severity, which in turn is an antecedent of blame to the company. The model further reveals blame to the company predicts negative attitudes to brand, decreased purchase intentions, and negative product recommendations.

The Antecedents and Consequences of Defensive Attributions in Product-Harm Crises

Product-harm crises, defined as "discrete, well publicized occurrences wherein products are found to be defective or dangerous" (Siomkos and Kurzbard 1994) can cause considerable damage to a company. In addition to the cost of a product recall and the legal liability associated with the crisis, erosion of consumer trust, loss of brand equity (Dawar and Pillutla 2000), reductions in consumers' willingness to purchase the brand in the future, and even potential drops in the firm's stock prices (Pruitt and Peterson 1986) represent additional consequences of the crisis that can severely damage the company.

Research suggests that one important determinant of the amount of damage a company suffers as a result of a product-harm crisis is the degree to which consumers blame the company for the crisis. The potential consequences of blame attributions to a company for product failure or product-harm crises can include reduced consumer satisfaction with the product (Oliver and DeSarbo 1988), increased consumer complaints (Richins 1983), desire for refunds and apologies (Folkes 1984), anger towards the company, negative word-of-mouth behavior (Folkes 1988), and potential reductions in the likelihood of purchasing the company's products (Siomkos and Kurzbard 1994). In addition, it is possible that company blame might have negative consequences beyond the product involved in the product-harm crisis. For example, in an experiment with two separate product-harm crises involving a hair drier and orange juice where the company was culpable for the crisis, Siomkos and Kurzbard (1994) found that customers' future purchase intentions of the troubled company's other products (not involved in the

product-harm crisis) were negatively affected as well. Based on these results, it is predicted that:

H1: Blame attributions to a company in association with a product-harm crisis will negatively predict attitudes toward the brand, which will in turn predict purchase intentions and recommendations relative to the company's products.

Despite the important consequences of blame attributions, however, few studies have examined antecedents of consumer blame attributions (Folkes 1988; Weiner 2000), particularly antecedents related to motivation. The limited research that does exist in this area has focused primarily on "self-protecting" causal attributions, whereby people deny personal responsibility and blame other parties for product failures. Thus, for example, Folkes and Kostos (1986) found that drivers blamed car mechanics for post-repair breakdowns, whereas mechanics were more likely to blame drivers. Similarly, Belk, Painter, and Semenik (1981) found that only about 3% of respondents attributed the cause of an energy crisis to themselves and people like them. This research has identified potential differences in how consumers and sellers view product failures (Folkes and Kostos 1986); however, a full understanding of reactions to product failures requires a more careful examination of the mechanisms underlying blame attributions and of consumer characteristics that might lead to different attributional outcomes. The purpose of the present research is to identify some of these mechanisms and how they contribute to blame associated with product failures.

The Impact of Severity on Blame Attributions

Although the marketing literature has largely ignored the mechanisms underlying blame attributions, social psychological research related to the *defensive attribution hypothesis* offers some potential insights into these mechanisms. The defensive attribution hypothesis posits that when an incident results in a more severe outcome, more blame will be attributed to a potentially responsible party (Shaver 1970), and this proposition has received substantial empirical support (see Burger 1981; Robbennolt 2000 for reviews). Outcome severity is also likely to have important implications in marketing contexts where product failures and product-harm crises can vary dramatically in terms of severity. For example, relatively minor product defects like a scratched shoe (cf. Su and Tippins 1998) involve only mild inconvenience to the consumer, whereas incidents such as the Ford Explorer-Firestone tire product-harm crisis can potentially result in serious injuries or even death.

To our knowledge, only one study has examined the impact of the severity of product failure on consumer attributions of blame to a company; Su and Tippins (1998) examined the effect of the severity of a defect in an athletic shoe on blame attributions to the manufacturer, and did not find support for the defensive attribution hypothesis. In fact, these researchers found a reversal of the pattern predicted by the defensive attribution hypothesis, such that a major defect (a deep scratch in the leather) was viewed as less likely to be the fault of the manufacturer than a minor defect (a frayed shoelace). However, these researchers themselves suggested that this finding might have resulted from methodological weaknesses in their study. In particular, their operationalization of severity is potentially flawed because: (a) the product defects they used pertained to the appearance of the product and no real consequences (e.g., physical harm) resulted from

these defects, and (b) both the major and minor shoe defects used in this study were extremely mild compared to the serious problems that can result from a product-harm crisis, potentially resulting in a restricted range problem with regard to the severity variable. The severity construct in the defensive attribution hypothesis literature is typically operationalized by varying the degree of physical harm caused in an accident rather than by reducing consumption utility due to product failure (see Burger 1981; Robbennolt 2000). It is quite possible for physical harm to occur in consumer settings as well, such as in the context of a product-harm crisis where the severity of the crisis extends beyond the reduction of consumption utility due to product failure. Examples of brands involved in recent high profile product-harm crises include the Coke contamination crisis in Belgium and Ford Explorer-Firestone tires, where consumers were injured as a result of using the products. In order to create a judgment context similar to that used in most previous research involving the defensive attribution hypothesis, as well as to more accurately represent the catastrophic consequences associated with a serious product-harm crisis, the present experiments involve product-harm scenarios in which consumers incurred physical harm as a result of using various types of products.

Based on a consideration of the methodological limitations of Su and Tippins' (1998) study, together with the facts that the defensive attribution hypothesis has received substantial empirical support in the psychology literature, and that two meta-analyses (Burger 1981; Robbennolt 2000) have found a reliable positive relationship between severity of negative outcomes and measures of responsibility and blame, it is predicted that:

H2: The greater the severity of the outcome of a product-harm crisis, the more blame will be assigned to the company associated with the crisis.

Furthermore, considering that previous research has found an inverse relationship between blame to the victim and blame to the company (Creyer and Gurhan-Canli 1997), it is predicted that:

H3: The greater the severity of the outcome of a product-harm crisis, the less blame will be assigned to consumers of the product associated with the crisis.

Although research on the defensive attribution hypothesis indicates a general relationship between outcome severity and blame, research also suggests that brand familiarity could moderate this effect. Specifically, consumers have *a priori* beliefs and attitudes associated with familiar brands, and pre-existing beliefs are highly resistant to change (e.g., Anderson 1983; Davies 1997), possibly because people tend to seek and interpret information in a biased fashion that supports these beliefs (e.g., Jonas et al. 2001; Zuckerman et al. 1995). Similar effects have been observed in the marketing literature, as increased brand familiarity has been shown to increase consumers' confidence in their brand evaluations (Laroche, Kim, and Zhou 1996), to make consumers' attitudes toward brands more resistant to change due to advertising (Winter 1973), and to protect companies against reductions in perceived quality based on production in lower quality countries of origin (Jo, Nakamoto, and Nelson 2003). Based on these findings, it is predicted that:

H4: A product-harm crisis involving a highly familiar company will result in less blame to the company and more blame to the consumer than a product-harm crisis involving an unfamiliar company.

The primary explanation for the association between outcome severity and blame is motivational in nature and relates to harm protection. According to Walster (1966) and Shaver (1970), people assign responsibility for an accident in order to believe that such an accident would not happen to them. Fiske and Taylor (1991, p. 85) describe this motivational explanation of the impact of perceived outcome severity on blame attributions as follows: "As the consequences of an action become more severe, they become more unpleasant, and the notion that they might be accidental becomes less tolerable: The fear that the same thing might involve the self becomes a realistic possibility. Seeing the actions as avoidable and blaming a person for their occurrence makes the actions more predictable and hence avoidable by the self." This explanation was supported by Burger's (1981) meta-analysis, which concluded that people only make defensive attributions when accidents are relevant to them. The role of personal vulnerability in the motivational explanation of the defensive attribution hypothesis leads to the following prediction:

H5: Personal vulnerability will be positively associated with blame to the company in relation to a product-harm crisis.

Consistent with the preceding argument concerning personal vulnerability, research has also identified the similarity of the victim as a potential moderating factor in blame attributions. Personal similarity has been examined in a number of ways in the defensive attribution hypothesis literature, including similarity between observers and

victims in age, values (Shaver 1970) and gender (Shaw and McMartin 1977). The results of these studies have generally been consistent with the personal vulnerability perspective – people tend to make attributions that protect others who they perceive to be similar to themselves. A variable associated with personal similarity that has not been examined in the defensive attribution literature but might be particularly relevant in marketing contexts is the nationality of the victim relative to that of the observer – victims of a product-harm crisis can be from the same country as the observer or from another country. For example, drivers of Ford Explorers were injured in accidents involving Firestone tires in Saudi Arabia, Venezuela and the United States. It seems reasonable that accidents involving victims from one's home country might have more personal impact than accidents involving victims from other countries. For example, social categorization theory (Turner 1987) posits that when social identity is salient, individuals act and think like group members (Brewer 1991) and rely on the ingroup as a guide for their thoughts and behaviors (Terry and Hogg 1996). In other words, observers might see themselves as extensions of the harmed in-group and subsequently make harsher blame assessments to the company. Therefore we would expect that:

H6: More blame will be attributed to the company when the victims of a product-harm crisis are from the same country than when victims are from another country.

Study 1

Method

Participants. Participants were 70 students (40 male, 30 female) at a major southwestern university who participated on a voluntary basis. The mean age of

participants was 21.21 years (*SD* = 3.34). Previous studies on country of origin suggest that there are cultural variations in attributions (Choi, Nisbett and Norenzayan 1999), so to control for these differences only respondents that indicated they were American citizens and spent their childhood in the United States were included in the experiment.

Product-harm crisis scenario. Participants were presented with a scenario in the form of a newspaper article describing a fictitious product-harm crisis relating to illness after drinking orange juice (see appendix A). A product-harm crisis relating to orange juice was chosen because college students are considered an important consumer segment for this product. In fact, over 95% of the respondents in experiment 1 indicated that they drink orange juice. In addition, beverage products have been involved in product-harm crises over the past few years, with Coca-Cola in Belgium being a recent example.

The scenario included two manipulations, resulting in a 2 (Severity: high or low) x 2 (Brand Familiarity: high or low) factorial between-subjects design. Based on Kouabenan et al's (2001) suggestion that severity of an outcome should be based on objective criteria such as the number of victims injured or the severity of their injuries, severity of the product-harm crisis was manipulated by either reporting that 100 consumers complained of upset stomachs (low severity) or that 100 consumers were hospitalized for severe abdominal pain (high severity). Brand familiarity was manipulated by indicating that the orange juice brand associated with the product-harm crisis was either a well-known brand (Tropicana; high brand familiarity) or a relatively unknown brand (Juice Tree; low brand familiarity). Both of these brands are sold in a large supermarket chain in the southwest.

In addition to describing the nature of the product-harm crisis, the scenario included brief descriptions of six causal factors that might have contributed to the crisis. This information was included in order to provide a more realistic depiction of an actual product-harm crisis, where culpability is typically not known and a number of possible explanations might be offered when the product-harm crisis is initially reported in the media. The causal factors were selected such that three pointed toward the company's culpability in the product-harm crisis and three indicated that consumers were primarily responsible for the product-harm crisis. A set of 20 causal factors (10 suggesting company culpability and 10 suggesting consumer culpability) was originally developed, based on reports about problems with beverage products in *Consumer Reports* and other periodicals as well as discussions with consumers of orange juice. These 20 causal factors were then used in a pre-test (n = 42) in which participants rated the degree to which each causal factor indicated company versus consumer culpability. The three causal factors that most clearly indicated company blame and the three causal factors that most clearly indicated consumer blame in the pre-test were selected for inclusion in the scenario used in experiment 1.

Dependent measures. After reading the scenario, participants were asked to complete the dependent measures. These measures included demographic information as well as manipulation checks for perceived severity of the product-harm crisis and brand familiarity of the product involved in the crisis. The primary dependent measures were the degree to which participants blamed the company and blamed consumers for the consumers' illnesses after drinking the orange juice. This type of measure for consumer blame attributions has previously been used in product failure studies (See Creyer and

Gurhan 1997; Su and Tippins 1998). In this experiment, blame was measured on an 11-point scale with zero representing no blame whatsoever and 10 representing full blame to the company (or consumer).

Procedure. Participants were given an experimental packet including the scenario and the dependent measures. After reading the scenario, participants completed the dependent measures in the presence of the experimenter and returned the experimental packet when it was completed. Upon completion of the materials, participants were informed that the product-harm crisis scenario was fictitious**.**

Results

Manipulation checks. Two t-tests were conducted as checks for the severity and brand familiarity manipulations. As expected, participants in the high severity condition ($M = 5.76$, $SD = 2.84$) rated the product-harm crisis as more serious than did participants in the low severity condition ($M = 4.46$, $SD = 2.51$), $t(68) = 2.03$, $p < .05$, and participants in the high brand familiarity condition ($M = 6.15$, $SD = 3.10$) rated the brand as more familiar than did participants in the low brand familiarity condition ($M = 0.32$, $SD = 1.11$), $t(68) = 10.69$, $p < .001$.

Tests of experimental hypotheses. Blame to the company was submitted to a 2 (severity: high or low) by 2 (brand familiarity: high or low) ANOVA. This analysis revealed a significant main effect for severity, such that the company was blamed more for a high severity product-harm crisis ($M = 5.33$, $SD = 2.27$) than for a low severity crisis ($M = 4.22$, $SD = 2.36$), $F(1, 66) = 4.50$, $p < .04$, and a marginally significant main effect for brand familiarity indicating a trend for the company associated with the low

familiarity brand to be blamed more (M = 5.14, SD = 2.59) than the company associated with the high familiarity brand (M = 4.30, SD = 2.04), $F(1, 66) = 3.04$, $p < .09$. The interaction between severity and brand familiarity was not significant, $F(1, 66) = 1.11$, $p > .25$. The significant main effect for severity supports H2 and the marginally significant main effect for brand familiarity is consistent with H4.

Blame to the consumer was also submitted to a 2 (severity: high or low) by 2 (brand familiarity: high or low) ANOVA. This analysis revealed a marginally significant main effect for severity, such that there was a tendency for the consumer to be blamed more for a low severity product-harm crisis (M = 6.27, SD = 1.85) than for a high severity crisis (M = 5.52, SD = 2.11), $F(1, 66) = 3.24$, $p < .08$, and a significant main effect for brand familiarity such that consumers were blamed more when the product was associated with a high familiarity brand (M = 6.48, SD = 1.84) than with a low familiarity brand (M = 5.41, SD = 2.02), $F(1, 66) = 6.93$, $p < .02$. There was also a marginally significant interaction between severity and brand familiarity, $F(1, 66) = 3.01$, $p < .09$. Simple effects tests showed that consumers were blamed significantly more for low rather than high severity product-harm crises for the low familiarity brand, $t(35) = 2.56$, $p < .02$, but that severity had no effect on consumer blame when the brand was high in familiarity, $t < 1$ (see table 1). The marginally significant main effect for severity is consistent with H3 and the main effect for brand familiarity supports H4, in addition to which the interaction between severity and brand familiarity suggests that the impact of severity on blame to consumers might only occur for low familiarity brands.

Insert table 1 about here

Discussion

Experiment 1 provided support for the defensive attribution hypothesis by demonstrating that increased severity of a product-harm crisis predicted increased blame to the company and decreased blame to the consumer. However, highly familiar companies appeared to be somewhat buffered against these effects, as (a) blame to the company was less for a high familiarity company than for a low familiarity company, (b) more blame was assigned to the consumer when the product-harm crisis was associated with a high familiarity rather than a low familiarity company, and (c) increased severity of the product-harm crisis did not reduce blame to the consumer for the high familiarity brand.

Although the results of experiment 1 support the defensive attribution hypothesis, there are several issues that remain to be addressed in experiment 2. First, considering the scarcity of previous consumer research examining the defensive attribution hypothesis, it would be desirable to conceptually replicate these findings in a different product domain. Second, although experiment 1 demonstrated an association between severity and blame attributions, it did not examine the relationship between personal vulnerability and blame attributions. Considering that previous blame research examining this relationship has been done in non-marketing contexts, the association between personal vulnerability and blame attributions needs to be established empirically. Third, experiment 1 did not examine the role of the nationality of the victims on blame attributions. Previous research has found that people tend to make attributions that protect others who they perceive to be similar to themselves. It is therefore important to establish empirically

whether the nationality of the victims can be considered a personal similarity variable that impacts blame attributions. Fourth, although previous research has demonstrated that blame attributions can lead to negative consequences for companies (e.g., Folkes 1984, 1988), a model connecting antecedents and consequences of blame attributions is desirable in order to clarify our understanding of the blame phenomenon. Since these negative consequences of blame are conceptually linked to attributions of blame to the company (as opposed to attributions of blame to the consumer), we focus on this variable in study 2.

Study 2

Method

Participants. Participants were 110 students (68 male, 42 female) at a large midwestern university who participated on a voluntary basis. All participants indicated that they had spent their childhood in the United States. The mean age of participants was 21.53 years (*SD* = 2.23).

Product-harm crisis scenario. Participants were presented with a scenario in the form of a newspaper article describing a fictitious product-harm crisis in which drivers with Michelin tires were injured in car accidents (see appendix B). A product-harm crisis relating to tires was chosen because almost all college students use this product category.

The scenario included two manipulations, resulting in a 2 (Severity: high or low) x 2 (country of victims: United States or Mexico) factorial between-subjects design. Severity was manipulated by reporting either that 100 victims were mildly injured (low severity) or 1,000 victims were seriously injured or killed in accidents (high severity).

The country of the victims was manipulated by reporting that the victims came either from Mexico or from the United States.

As in experiment 1, the scenario included brief descriptions of causal factors that might have contributed to the crisis. Seven causal factors were selected such that three pointed toward the company's culpability in the product-harm crisis, three indicated that consumers were primarily responsible for the product-harm crisis, and one indicated that situational factors unrelated to either the consumer or the company (road conditions) caused the problem. A preliminary set of 18 causal factors was originally developed, based on reports about problems with tires in *Consumer Reports* and other periodicals as well as discussions with drivers. This preliminary set of causal factors was then used in a pre-test (n = 19) where participants rated the degree to which each causal factor indicated company versus consumer culpability. The three causal factors that most clearly indicated company blame, the three causal factors that most clearly indicated consumer blame, and the situational causal factor that produced the most balanced blame ratings in the pre-test were selected for inclusion in the scenario used in experiment 2.

Dependent measures. After reading the scenario, participants were asked to complete the dependent measures, which included demographic information as well as manipulation checks for severity of the product-harm crisis and nationality of the victims. As in experiment 1, blame to the company was measured on an 11-point scale with zero representing no blame whatsoever and 10 representing full blame to the company.

Personal vulnerability was measured using the following questions: (1) how likely is it that a tire blowout would occur to you; (2) how concerned are you that a tire blowout would occur to you; and (3) how worried are you that a tire blowout would occur to you.

Each of these items was measured on an 11-point scale with zero indicating not likely, not concerned, or not worried and 10 indicating very likely, very concerned, or very worried. The scale based on these three items showed satisfactory internal reliability (α = .82), and the items were thus combined to form a single index of personal vulnerability. Perceived severity was measured using the following seven-point semantic differential scales: not at all serious/very serious; not at all important/very important; not at all severe/very severe; and not at all critical/very critical. The scale based on these items showed satisfactory internal reliability (α = .94), and the items were thus combined to form a single index of perceived severity.

Attitude toward the Michelin brand was measured using the following seven-point semantic differential scales: very unfavorable/very favorable; very bad/very good; very negative/very positive; not at all trustworthy/very trustworthy; not at all dependable/very dependable; and not at all reliable/very reliable. The scale based on these items showed satisfactory internal reliability (α = .95), and the items were thus combined to form a single index of attitude toward the brand. Brand outcomes were measured using five questions on 11-point scales where low values indicated disagreement or low probability and high values indicated agreement or high probability. Three of these questions measured purchase intentions: (1) how likely would you be to consider buying Michelin tires in the future; (2) I plan on buying Michelin tires in the future; and (3) In the future, I will not use Michelin tires (reverse coded). The other two questions concerned whether participants would recommend Michelin tires to friends: (1) How likely would you be to recommend Michelin tires to your friends, and (2) If my friends were interested in buying

tires, I would tell them to consider Michelin tires. The scale based on these five items showed satisfactory internal reliability ($\alpha = .88$), and the items were thus combined to form a single index of brand outcomes.

Procedure. Participants were given an experimental packet including the scenario and the dependent measures. After reading the scenario, participants completed the dependent measures in the presence of the experimenter and returned the experimental packet when it was completed. Upon completion of the materials, participants were informed that the product-harm crisis scenario was fictitious**.**

Analyses. Some of the results will be presented using Structural Equation Models (SEMs) developed in AMOS 4.0 (Arbuckle and Wothke 1999). Because SEM analyses in AMOS and other structural analysis programs are designed to use continuous rather than dichotomous variables, the perceived severity index was used rather than manipulated severity in these analyses. Although the present sample falls below the ideal size of 200 for SEM analyses, Monte Carlo simulations have shown that acceptable results can be obtained with samples as small as 100, especially for models that include relatively few variables (i.e., less than 10; Loehlin 1992). In addition to the Chi-squared measure of absolute fit, the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) were used as measures of relative model fit. Even for models with poor absolute fit, research suggests that CFI values of .95 or higher (Hu and Bentler 1999) and RMSEA values of .08 or lower indicate reasonably good overall model fit (Browne and Cudek 1993). The symbol β will be used to denote standardized path coefficients.

Results

Manipulation Checks. A t-test verified the effectiveness of the severity manipulation, as participants in the high severity condition ($M = 5.32$, $SD = 1.08$) scored higher on the perceived severity index than did participants in the low severity condition ($M = 4.89$, $SD = 1.43$), $t(108) = 1.79$, $p < .05$. All participants correctly identified the country of origin of the victims in the product-harm crisis; however, the manipulation of country of origin had no effect on participants' ratings of their similarity to the drivers described in the scenario, $t(106) = 1.34$, $p > .15$, indicating that this manipulation was unsuccessful.

Effects of severity and similarity. A 2 (severity: high or low) by 2 (country of origin of victims: Mexico or USA) ANOVA was conducted to predict blame attributions to the company. In support of H2, this analysis revealed a significant main effect for severity such that participants in the high severity condition blamed the company more ($M = 5.85$, $SD = 2.83$) than participants in the low severity condition ($M = 4.89$, $SD = 2.32$), $F(1, 106) = 4.90$, $p < .03$. H6 was not supported, however, as neither the main effect for country of origin ($F < 1$) nor the interaction between severity and country of origin ($F(1, 106) = 1.64$, $p > .20$) achieved statistical significance. The failure of H6 is not surprising considering that the country of origin manipulation also did not influence participants' perceptions of similarity to the victims in the product-harm crisis. As an alternative test of the role of similarity in blame attributions, a Pearson correlation indicated a significant positive association between participants' perceptions of similarity to the victims and participants' blame attributions to the company, $r(108) = .20$, $p < .04$. This suggests that similarity might still play an important role in blame attributions

despite the fact that country of origin did not influence perceived similarity in the present experiment.

Correlational Analyses. Zero-order correlations between the primary measures in experiment 2 are shown in table 2. These correlations are consistent with all of the relevant hypotheses (H1, H2, and H5), although the hypotheses can be more precisely tested using a Structural Equation Model.

Insert table 2 about here

Structural Equation Models. Based on our hypotheses, a structural equation model was created in which personal vulnerability and perceived severity predicted blame to the company, blame to the company predicted attitude toward the brand, and attitude toward the brand predicted brand outcomes. In addition, based on the results of the zero-order correlations, a direct path was added from perceived severity to attitude toward the brand and a new path was added in which perceived similarity of the victims predicted blame to the company. This original model had unacceptable absolute fit and relative fit. In addition, the paths between personal vulnerability and blame to the company ($\beta = .14$, $p > .10$), between perceived severity and attitude toward the brand ($\beta = -.10$, $p > .30$), and between similarity to the victim and blame to the company ($\beta = .11$, $p > .20$) all failed to achieve statistical significance. The model was thus modified as follows: (a) the path from perceived severity to attitude toward the brand was removed; (b) the path from similarity to the victim to blame to the company was removed; and (c) personal vulnerability predicted perceived severity rather than predicting blame to the

company. This revised model (see Figure 1) showed good absolute fit ($\chi^2(6) = 4.27$, $p > .60$) and good relative fit (CFI = 1.00, RMSEA = 0.00). In addition, all of the path coefficients were significant at $p < .01$ (Figure 1 shows the standardized path coefficients).

The results of this model are very similar to those from the zero-order correlations, with the exception that the associations between personal vulnerability and blame and between perceived severity and attitude toward the brand disappear when the other variables are taken into consideration. Thus, the model suggests that instead of personal vulnerability predicting blame to the company independently of the effects of perceived severity (H5), personal vulnerability only influences blame indirectly through its relationship with perceived severity. The model also failed to support H6, as perceived similarity of the victim was not related to blame to the company. Otherwise, the model is consistent with our hypotheses, as perceived severity predicted blame to the company (H2), which negatively predicted attitudes toward the company (H1), which in turn predicted brand outcomes (H1) in the form of intentions to purchase or recommend the brand.

Insert figure 1 about here

General Discussion

The primary findings from the present experiments were that (a) increased severity of a product-harm crisis was associated with increased blame to the company (H2) and decreased blame to consumers of the product (H3), (b) blame to the company

was negatively related to brand familiarity (H4) and positively related to participants' feelings of personal vulnerability in relation to the product-harm crisis (H5); and (c) blame to the company was negatively related to attitudes toward the brand, which were in turn positively related to intentions to purchase and recommend the company's products (H1). The hypothesis that participants' perceived similarity to the victims, in particular with regard to country of origin (H6), was not supported by the data.

Defensive Attributions

These results suggest that the defensive attribution hypothesis plays a key role in blame attributions related to product-harm crises by demonstrating the importance of outcome severity in predicting blame attributions associated with two different product-harm crises in relation to two unrelated product categories (beverages and tires), and with both familiar and unfamiliar brands. These findings extend the existing literature and expand our understanding of blame attributions in several ways.

First, we believe that the present experiments represent the first demonstration that outcome severity is associated with blame attributions in a consumer context. Previous work examining blame attributions in the context of minor product defects (Su and Tippins 1998) did not find evidence for this relationship. It should be noted, however, that the product-harm scenarios used in the present research are substantially different than scratched shoes and frayed shoelaces (cf. Su and Tippins 1998); in particular, the product-harm crises were more severe, related to physical rather than non-physical harm, and presumably evoked stronger feelings of personal vulnerability in participants. It is possible that some or all of these conditions are necessary to create the

motivational antecedents that appear to set the defensive attribution hypothesis in motion, and future research should attempt to clarify these potential boundary conditions.

Second, the inclusion of possible explanatory factors in the scenarios that indicated consumer versus company culpability increases the applicability of the defensive attribution hypothesis to product-harm crises that are likely to be high profile and receive substantial media coverage. Previous research in this domain has focused on relatively low profile events (e.g., responsibility for car accidents) and we believe this is the first research in which participants have been presented with a variety of possible explanations for the outcome. The fact that media presentation of possible explanations for high profile product-harm crises can confuse or alter consumer judgments is a potential threat to the generalizability of previous research to product-harm contexts, and the present research addresses this concern.

Third, although previous research has investigated negative consequences for companies that can potentially result from blame attributions, the present research is unique in that it establishes a chain of associations between perceptions associated with a product-harm crisis (personal vulnerability and perceived outcome severity), through blame attributions, and to important outcome variables for the company (negative attitudes toward the company and reduced intentions to purchase and recommend the company's products).

Finally, the present research examined the role of brand familiarity in blame attributions. Although the positive relationship between outcome severity and blame to the company was found for both a familiar and an unfamiliar brand, blame to the consumer was only negatively related to outcome severity for the unfamiliar brand.

Perhaps most importantly, we found that blame to the company was less for a familiar brand than an unfamiliar brand, suggesting that brand familiarity can be a buffer against blame resulting from a product-harm crisis.

Antecedents of Blame: Similarity and Personal Vulnerability

The only experimental hypothesis that was not at least partially supported in the present research was the predicted relationship between country of origin of the victims of the product-harm crisis and blame to the company. Based on previous research indicating that personal similarity serves as a moderator for blame attributions, it was expected that blame to the company would be higher when victims were of the same nationality rather than a different nationality, but no relationship between victim nationality and blame to the company was observed. The most obvious explanation for the lack of any relationship is that our manipulation of nationality of the victims failed to influence participants' perceived similarity to the victims. The fact that previous defensive attribution studies did not manipulate similarity through nationality but rather through gender, age, or common values suggests the possibility that our manipulation failed simply because Americans are not sufficiently nationalistic to feel similarity based on country of origin. If this is the case, the country of origin manipulation might be more effective either in countries that are more nationalistic or more collectivist (Hofstede 1997) than the United States. However, we are inclined to doubt the proposition that Americans generally lack nationalistic sentiments, especially considering the recent surge of American patriotism in the wake of increased international terrorism. A more likely explanation is suggested by social categorization theory's (Turner 1987) proposition that social identity must be salient to influence behavior – perhaps if nationality was made

more salient to participants, the nationality of the victims would have influenced perceived similarity and blame to the company. Another possible explanation for the failure of our manipulation is that the scenarios were designed such that participants were similar to the victims on the most relevant dimension – they were users of the product type and easily could have selected the brand associated with the product-harm crisis. This suggests the possibility that similarity in the context of product-harm crises might best be examined by comparing users and non-users of the involved product class. Future research should investigate whether alternative approaches for manipulating similarity influence blame attributions or whether similarity simply is not a relevant variable for predicting blame attributions in marketing contexts.

It should also be noted that the role of personal vulnerability in determining blame attributions was only partially consistent with the experimental predictions. Although previous research proposes that personal vulnerability should be a direct predictor of blame attributions, this proposition was not supported in the Structural Equation Model for experiment 2. Instead, personal vulnerability predicted outcome severity, which in turn predicted blame attributions. Although our model is consistent with the harm protection motivation that has been proposed as a mechanism for blame attributions, the structural differences between our model and the results of previous defensive attribution research suggest that personal vulnerability might influence how consumers interpret the product-harm crisis itself (i.e., severity) rather than influencing consumer judgment processes associated with the causes of the crisis (i.e., blame attributions). This possibility is necessarily tentative prior to replication in other product-harm contexts, but

this difference between our results and those of previous research in non-marketing settings is worthy of further investigation.

Implications

The relevance of the defensive attribution hypothesis in a consumer context has important implications for companies involved in product-harm crises. Since severity plays a key role in consumer blame attributions, it is important for companies to understand how severe a crisis is perceived by the public in order to better predict and prepare for consequent damage to a brand. We found that damage to the company can be caused not only by reduced purchase intentions by the crisis observer, but also through negative word of mouth. Therefore, individuals who would not typically fall into the category of potential users of the product can cause considerable damage to the company as well.

Our findings regarding the lack of a relationship between the country of origin of the victims and blame to the company suggest that a product-harm crisis may have adverse affects on firms in a market even if the crisis occurs in another market. As company response can mitigate brand damage (Dawar and Pillutla 2000), multinational firms may need to develop a global response even if a crisis only occurs in one country of operation.

Finally, the key role of personal vulnerability to harm in forming impressions of the severity of a product-harm crisis also has important implications for companies in determining how to respond in the media. Since observers to the crisis are most concerned about potential harm to themselves, it is important for companies to address this issue when communicating to the public. This suggests that strategies associated

with minimizing the perceived damage caused by a product-harm crisis might be particularly effective in controlling damage to a company, whereas strategies that highlight how the company treats victims of the crisis (e.g., in terms of compensation) might be less effective.

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Table 1

CONSUMER BLAME AS A FUNCTION OF SEVERITY AND BRAND FAMILIARITY IN EXPERIMENT 1[a].

	Brand Familiarity	
	High	Low
Severity		
High	6.47 (1.74)	4.50 (2.03)
Low	6.50 (2.00)	6.10 (1.76)

a. Standard deviations are shown in parentheses.

Table 2

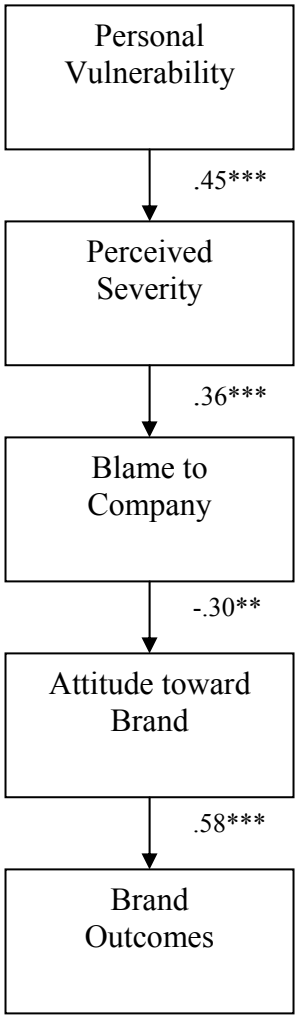
ZERO ORDERED CORRELATIONS BETWEEN PERCEIVED SEVERITY, PERSONAL VULNERABILITY, BLAME TO COMPANY, ATTITUDE TOWARD THE BRAND, AND BRAND OUTCOMES.

	Perceived Severity	Company Blame	Brand attitude	Brand outcomes
Personal vulnerability	.45***	.29**	-.10	-.10
Perceived Severity		.36***	-.19*	-.08
Company Blame			-.30**	-.18
Brand attitude				.58***

* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 1

STRUCTURAL EQUATION MODEL PREDICTING BRAND OUTCOMES FROM PERSONAL VULNERABILITY, PERCEIVED SEVERITY, BLAME TO COMPANY, AND ATTITUDE TOWARD BRAND.



***$p < .001$, **$p < .01$

Appendix A

Consumers Become Ill (Are Hospitalized) After Drinking Orange Juice

The consumer protection agency has begun an investigation of Tropicana (Juice Tree) orange juice after about 100 consumers complained of upset stomachs (were hospitalized for severe abdominal pain) after drinking the brand purchased in supermarkets. The orange juice is both processed and packaged in Mexico (Florida) and the oranges are also grown in Mexico (Florida). In a survey recently conducted by Consumer Reports, Tropicana (Juice Tree) orange juice was rated satisfactory in taste and texture and ranked average in its product category in terms of customer satisfaction.

Preliminary results from the investigation have uncovered a number of possible factors that might contribute to the problem. Pesticides were sprayed on the orange groves used by the company. Some consumers drank the orange juice despite suffering from allergic reaction problems with other citrus products. The orange groves were genetically altered in order to produce more oranges. Several consumers mixed the orange juice with an alcoholic beverage prior to drinking it. A new type of carton was used for packaging the orange juice. A number of consumers admitted to drinking the orange juice out of infrequently washed glasses at their offices.

In light of these findings the consumer protection agency will continue its investigation by interviewing more company employees as well as consumers in the coming weeks.

Appendix B

(Serious) Accidents Associated with Tire Blowouts in the United States (Mexico)

The consumer protection agency has begun an investigation of Michelin tires after reports of 100 (1000) accidents involving Michelin tires. These accidents were associated with tire blowouts and occurred to drivers throughout the United States (Mexico). A number of people sustained minor injuries as a result of these accidents (Deaths and serious injuries have resulted from these accidents).

Preliminary results from the investigation have uncovered a number of possible factors that could have contributed to the tire blowouts. Some of the tire blowouts occurred on old roads. The tires involved in the accident were a new product introduced by Michelin. Some of the drivers did not check the tread on the tire as recommended by Michelin. Fewer workers were employed in quality control at the plant producing the tires compared to other comparable plants in the industry. Some of the drivers exceeded the recommended weight load of the vehicle as specified by Michelin. The tire blowouts occurred across different models of cars. Some of the drivers did not replace the tire after the recommended mileage lapsed as specified by Michelin.

In light of these findings the consumer protection agency will continue its investigation by interviewing more Michelin employees as well as drivers in the coming weeks.