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Threat Perception in Older Customers

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Do Older Consumers Feel More Vulnerable? The Impact of Secondary Control Processes on Threat Perception

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Abstract

Previous research indicates that older consumers have a reduced capacity to engage in primary control behaviors that involve active responses to counteract threats, and thus compensate with secondary control processes that involve perceiving negative events as less threatening. Two studies were conducted to examine secondary control processes in older vs. younger consumers in relation to product harm crises. In both studies, older consumers perceived themselves as less vulnerable to the product harm crisis and viewed the crisis as less severe than younger consumers. Older consumers also placed less blame on the company involved in the crisis than younger consumers, and had stronger intentions to purchase and recommend products associated with the involved company in the future. These results suggest that secondary control processes in older consumers can exert an important influence on how this consumer segment interprets negative marketing events.

Keywords: primary control, secondary control, product harm crisis, threat perception, elderly, blame attribution

Do Older Consumers Feel More Vulnerable? The Impact of Secondary Control Processes on Threat Perception

Age-related declines in physical and cognitive abilities are well-documented (Schneider and Rowe, 1991). These declines result in older adults having a reduced ability to actively cope with problems and being more susceptible to potential threats than younger consumers (Heckhausen, 1997). Although there is ample evidence that older adults experience an increase in *real* susceptibility to threat, there is relatively little evidence indicating that *perceptions* of susceptibility to threat increase similarly with age. Importantly, perceptions of susceptibility are likely to be of greater interest to marketers than real susceptibility to threat. For example, consumers might choose travel destinations based partly on their perceptions of the threat of terrorism, choose restaurants based on their perceptions of the threat of indigestion, or choose to visit a doctor based on their perceptions of the threat of disease, but in each of these cases real susceptibility to danger is largely unknown and thus unable to substantially influence decisions. Based on issues such as these, Jones and Middleton (2007) argued that consumer perceptions of susceptibility to threat are inadequately understood and should be the subject of more research. The present research will investigate this important research domain by (a) examining how older consumers evaluate potential threats in relation to negative marketing events (e.g., media reports of potential dangers associated with using certain products), and (b) studying how threat perceptions influence marketing outcomes for companies involved in those negative events.

The importance of studying older consumers

Older consumers are a potentially interesting target group for two reasons. Firstly, the elderly market is growing in both size and importance. According to the Federal Reserve Board (Kohn, 2007), approximately 19% of the U.S. population are 62 years of age or older and this

percentage is expected to increase to more than 22% by 2015. Even more dramatic acceleration of population age is anticipated in Japan and Europe (Greenspan, 2003). Researchers have begun to recognize the growing size and economic importance of older (age 65 and over) consumers (e.g., Yoon, 1997), and research examining unique aspects of the psychology of older consumers has been steadily on the rise (e.g., Holbrook and Schindler, 1996; Euehun Lee, Moschis, and Mathur, 2001). Based on the current size and projected growth of the elderly market, Lumpkin and Hite (1988) argued that retailers need to work harder to understand and meet the needs of the elderly, and Moschis, Curasi and Bellenger (2004, p. 132) concluded that the "needs, wants, and expectations [of older consumers] will come to dominate marketing strategy."

Secondly, existing research demonstrates systematic differences in information processing based on age (for a review, see John and Cole 1986), suggesting that research conclusions based on results from young adult samples might not generalize to older adults. There is substantial evidence that older adults have information processing deficits relative to younger adults, including reduced information-seeking (Johnson, 1990), increased reliance on heuristic processing in preference to analytic processing (Park, 1999), declines in working memory (Salthouse and Babcock, 1991), reduced information processing speed (Salthouse, 1996), and problems encoding and retrieving information (John and Cole, 1986). The aging process is also likely to result in important changes in motivational processes that significantly influence information processing (Williams and Drolet, 2005).

Perceptions of susceptibility to threat

For purposes of the present research, the most important change in older adults' motivational processes is the tendency to become more motivated to engage in self-protecting cognitions, resulting in reduced perceptions of personal susceptibility to threat (Heckhausen and

Schulz, 1995). These self-protecting cognitions have been shown to influence health and psychological well-being of elderly care facility residents (Langer and Rodin, 1976), and facilitating these cognitions has been advocated as an important consideration in designing health care programs for older adults (Tangsrud and Smith, 2000).

The existing literature on threat assessment describes threat as having two components: (1) the *severity* of the threat, which indicates the degree of negativity of outcomes associated with the threat (e.g., death by lung cancer as a result of smoking vs. bad breath as a result of eating garlic); and (2) personal *vulnerability* to the threat, which expresses the likelihood that the negative outcome will affect the individual (e.g., a relatively low probability that smoking will result in lung cancer in the immediate future vs. a virtual certainty that eating garlic will cause bad breath; Rogers, 1975). Relatively little research has examined perceptions of susceptibility to threat outside the health care context, but the motivational concerns that lead to reduced perceptions of susceptibility to threat have been described as pervasive in nature (Heckhausen, 1997), and thus should influence information processing in other domains as well.

In relation to marketing contexts, perceptions of susceptibility to threat might be particularly relevant in relation to product harm crises, which have been defined as “discrete, well publicized occurrences wherein products are found to be defective or dangerous” (Siomkos and Kurzbard, 1994). Research has shown that perceptions of both threat severity and personal vulnerability to threat can exert a strong influence over the consumer’s tendency to blame the company for a product harm crisis (Dawar and Lei, 2009; Laufer et al., 2005; Laufer and Gillespie, 2004), and that increased blame is related to avoidance of the company’s products (Siomkos and Kurzbard, 1994) and negative word of mouth (Folkes, 1988).

The present research investigates whether older adults perceive themselves to be more or less susceptible to threat than younger adults in the context of a product harm crisis. The most straightforward prediction is that real increases in susceptibility to threat in older adults should be paralleled by increases in perceived susceptibility to threat. This perspective is implicit in the research literature examining ethical implications associated with marketing efforts that target "vulnerable" groups (e.g., Morgan, Schuler, and Stoltman, 1995; Crockett, and Wallendorf, 2005; Jones and Middleton, 2007), as real susceptibility to threat is described as a major consideration in determining whether particular marketing tactics should be viewed as ethical or unethical. Existing research examining product harm crises focuses on physical risk factors such as potential illness, injury, or death (Laufer, Silvera and Meyer, 2005), and a great deal of existing research demonstrates both increased vulnerability to physical harm (e.g., Grundy, 2006; Otte et al., 2005) and decreased recuperative abilities (e.g., Rosengren et al., 2006; Schneider and Rowe, 1991) in older adults. Heckhausen (1997) states that "the changes associated with advanced age confront the individual with increasing constraints and losses in the biological realm as well as with regard to social roles… aging-related losses eventually are inescapable for everyone (p. 177)." Moreover, research indicates that people of all ages are aware that mental, physiological, and psychological decline is generally associated with old age (Heckhausen and Baltes, 1991). These findings suggest that, because older adults are aware of the declines associated with old age, they should perceive themselves as particularly susceptible to threat.

An alternative prediction is that there is no difference in perceptions of susceptibility to threat in older versus younger adults. Despite the considerable evidence indicating declining mental and physical performance in the elderly (e.g., Heckhausen, 1997; Schneider and Rowe, 1991), some researchers suggest that there might be no mental decline associated with age in

certain consumer contexts (Smith and Phillips, 2001). However, better support is available for the proposition that, despite the fact that adults of all ages accept that old age is generally associated with decline, it is uncertain whether people acknowledge that this general pattern of decline applies to themselves. Older adults perceive less decline in themselves than in others of the same age, and do not admit to significant decline until they are very old (Heckhausen and Kreuger, 1993). Consequently, elderly individuals do not tend to view themselves as more personally vulnerable; Benet, Pitts, and LaTour (1993) reviewed the literature and concluded that "despite the pervasiveness of these perceptions of the vulnerability of the elderly, however, many authorities contend that today's senior citizens are actually not very different from younger adults, and that we should not presume that the elderly as a whole are a particularly vulnerable audience (p. 46)."

Primary and secondary control processes

Recent research suggests a third alternative, namely that older adults view themselves as *less* susceptible to threat than younger adults. Although this seems paradoxical given the numerous ways in which actual vulnerability increases in older adults, this prediction is consistent with recent theory and research in the psychology literature. Heckhausen and Schulz (1995) proposed that there are important age-related differences in primary vs. secondary control processes. Primary control processes are typically active and outwardly directed, and represent an effort to change the present or future environment to fit one's needs or desires; secondary control processes are primarily cognitive and inwardly directed, and involve "align[ing] the self with existing circumstances" (Morling and Evered, 2006, p. 270) or altering perceptions so that the reality one perceives seems more acceptable. Research suggests that, whereas the ability to engage in primary control processes declines across the adult lifespan, secondary control

processes become more prevalent with age. In other words, older adults are increasingly prone to engage in motivated reasoning processes that make their objective loss of primary control seem more acceptable (Heckhausen and Schulz, 1995). For example, older adults tend to show greater satisfaction with their present life situation and to downgrade their goals to accommodate limited resources associated with aging (Heckhausen, 1997). Thompson et al. (1998) also found that older adults exhibited less primary control and more secondary control than younger adults in response to aging-related appearance changes, and that secondary control served the function of reducing distress in individuals who had medium or lower beliefs in primary control.

Minimal research in the marketing literature has examined primary and secondary control processes, and no previous research has examined primary and secondary control processes in relation to product harm crises. To apply this theoretical framework to product harm crises, we must first define primary and secondary control within the product harm context. Primary control involves changing the present or future environment to fit the individual's needs. In a product harm crisis, changing the present environment is likely to involve physically overcoming the effects of the product defect, for example by surviving the effects of a toxic chemical based on a hardy constitution or by using superior reflexes to survive the blowout of a defective tire. This type of primary control relies on physical resources that typically decline with age. Changing the future environment is likely to involve attempts to avoid potential future problems associated with the brand involved in the crisis either by no longer purchasing the brand or by giving negative recommendations about the brand to friends and family members. This type of primary control relies on mental resources that typically decline with age (e.g., encoding and retrieval processes, and the ability to integrate new information into existing knowledge structures).

Secondary control involves altering one's own perceptions so that a problem (which typically can't be resolved via primary control processes) is viewed as less threatening and thus more acceptable to the individual. Protection Motivation Theory (Rogers, 1975; Tanner, Day, and Crask, 1989) describes threat perception as being derived from the perceived severity of a negative event and perceptions of personal vulnerability to negative outcomes associated with that event. In other words, reductions in perceptions of severity and personal vulnerability would be evidence for a stronger impact of secondary control processes on judgments related to a product harm crisis.

Unfortunately, declining physical and cognitive abilities often limit the ability of older adults to engage in primary control (John and Cole, 1986). Because older adults have a reduced ability to engage in threat protection via primary control processes, our prediction is that they will compensate by engaging in increased secondary control processes related to threat perception in order to protect themselves against perceptions of their own susceptibility to a product harm crisis. Floyd, Prentice-Dunn and Rogers (2000) argued that the same motivational processes apply to both components of threat perception (severity and personal vulnerability), resulting in the following hypotheses:

H1: Compared to younger adults, older adults will engage in less primary control and thus have stronger intentions to purchase and recommend the brand involved in a product harm crisis.

H2: Compared to younger adults, older adults will engage in more secondary control and thus view themselves as less personally vulnerable to a product harm crisis and view a product harm crisis as less severe.

Blame attributions and the process of evaluating product harm crises

Another important question is how primary and secondary control processes relate to blame to the company in relation to a product harm crisis. Existing research shows that blame attributions are an important factor predicting the damage companies suffer in relation to a product failure or product harm crisis, influencing outcomes such as word-of-mouth behavior (Folkes, 1988), and the likelihood of purchasing the company's products in the future (Siomkos and Kurzbard, 1994). Furthermore, research related to the defensive attribution hypothesis indicates that perceptions of personal vulnerability and severity can exert a substantial influence over causal attributions (see Burger, 1981; Robbennolt, 2000 for reviews), including attributions regarding whether the company or consumers are most blameworthy in association with product harm crises (Laufer and Gillespie, 2004; Laufer et al., 2005; Silvera and Laufer, 2005).

Based on this research, we predict that secondary control processes that result in reduced perceptions of personal vulnerability and severity will also result in reduced blame to the company, which in turn will lead to greater intentions to purchase and recommend the company's products (this theoretical model is shown in Figure 1). In addition, this reasoning leads to the following hypothesis:

H3: Older adults will place less blame on a company involved in a product harm crisis than younger adults.

Study 1

Method

Participants

A total of 89 individuals participated in this study. Thirty eight participants were older adults attending an event sponsored by a lifelong learning program at a southeastern university

(gender: 25 male, 13 female; age: range 60-82, *M* = 68.53, *SD* = 5.08) who participated as volunteers. Fifty one participants were students at a southeastern university (gender: 21 male, 30 female; age: range 20-27, *M* = 21.96, *SD* = 1.37) who participated for course credit.

Procedure

All participants were given a survey packet stating that the purpose of the study was to better understand how consumers respond to information reported in the media. Preliminary instructions noted that participants would be asked to read a short newspaper article about a television manufacturer. Participants were also told that the company name was blacked out in the article due to legal concerns related to the pending investigation. Participants were asked to read the article carefully, then to respond to a series of questions related to the article.

Materials

A fictitious newspaper article described an investigation by the Consumer Protection Agency involving consumers injured by electrical shocks after purchasing televisions. It was noted that a conclusive link between the electrical shocks and the televisions had yet to be found. This article was designed to simulate a product harm crisis, similar to previous research using hypothetical scenarios to investigate consumer reactions to product harm crises (Van Heerde et al., 2007). After reading the article, participants were asked several questions related to the product harm crisis described in the article.

Perceived severity of the product harm crisis was measured with the following four items: how serious it was (1 = not at all serious to 7 = very serious), how important it was (1 = not at all important to 7 = very important), how severe it was (1 = not at all severe to 7 = very severe), and how critical it was (1 = not at all critical to 7 = very critical). These four items

showed good internal reliability (α = .96), and were averaged to form an index measuring perceived severity.

Participants' perceptions of vulnerability in relation to the product harm crisis were measured with the following four items: the likelihood that shocks would happen to them if they owned the television in the crisis (0 = not likely to 10 = very likely), how concerned they were that they would be affected by electrical shocks if they owned the television (0 = not concerned to 10 = very concerned), how worried they would be about electrical shocks if they owned the television (0 = not worried to 10 = very worried), and the amount of risk involved in buying the television (0 = no risk to 10 = extremely serious risk). These items also showed good internal reliability (α = .91), and were averaged to form an index measuring perceived vulnerability.

Blame to the company was assessed by asking participants to rate the degree to which they felt the company was to blame for the events described in the article (0 = no blame to 10 = full blame). This item has been used as a measure of blame to the company in earlier studies investigating product harm crises (Laufer and Gillespie, 2004). Finally, behavioral intentions toward the product were measured with two items, one assessing intentions to purchase the television involved in the product harm crisis (0 = low probability to 10 = high probability), and the other assessing intentions to recommend the television (0 = low probability to 10 = high probability).

In addition to the preceding measures that directly relate to the experimental hypotheses, a number of additional variables were also included in the survey to examine other potential predictors of primary and secondary control processes. These additional variables included perceived similarity of the victims (0 = not similar to 10 = very similar), perceived company control over the events described in the article (0 = no control to 10 = full control), how

frequently the participant watches television (0 = never to 10 = very often), beliefs in a just world (General Belief in a Just World Scale; Dalbert, Montada, and Schmidt, 1987; Dalbert, 1999; α = .65), and participant gender. Previous research has shown that each of these additional variables can potentially impact product-related judgments, judgments in relation to negative events, or judgments in relation to a product harm crisis. After completing the experimental materials, participants were thanked and debriefed.

Results

Hypothesis tests

To test H1 and H2, a 4 x 2 ANOVA was conducted with control type (purchase intentions, recommendation intentions, perceived severity, personal vulnerability) as a within-subjects variable and age (older, younger) as a between-subjects variable. As noted earlier, purchase and recommendation intentions are primary control mechanisms (avoidance of similar problems in the future), whereas perceptions of vulnerability are secondary control mechanisms (altered perceptions that make the problem seem less threatening). Because the four control measures were not measured on the same scale, each of these measures was standardized prior to conducting the ANOVA. This analysis revealed the predicted interaction between control type and age, F (1, 83) = 21.21, $p < .001$. The main effect for control type was not significant (as should be expected, considering that the variables had been standardized), and the main effect for age was marginally significant, F (1, 83) = 3.65, $p < .06$ such that older participants engaged in less control overall. To further clarify the interaction between control type and participant age, a series of planned comparisons was conducted predicting each control measure from participant age. Supporting H1, older participants engaged in less primary control than younger participants, as older participants (M = 4.00, SD = 2.40) were more willing to purchase products manufactured

by the company involved in the product harm crisis than younger participants (M = 2.98, SD = 1.80), $F(1, 84) = 5.07$, $p < .05$, and older participants (M = 3.36, SD = 2.49) were more willing to recommend the company's products than younger participants (M = 2.33, SD = 1.74), $F(1, 85) = 5.15$, $p < .05$. Supporting H2, older participants engaged in more secondary control than younger participants, as older participants (M = 3.20, SD = 1.78) perceived themselves to be significantly less vulnerable than younger participants (M = 5.49, SD = 2.31), $F(1, 86) = 25.38$, $p < .001$, and older participants (M = 4.32, SD = 1.57) perceived the product harm crisis as significantly less severe than younger participants (M = 5.45, SD = 1.04), $F(1, 87) = 16.72$, $p < .001$. Blame to the company was also subjected to a one-way (age: older vs. younger) ANOVA. Supporting H3, this analysis revealed that older participants (M = 5.72, SD = 2.78) placed significantly less blame on the company than younger participants (M = 6.89, SD = 1.97), F (1, 73) = 4.53, $p < .05$.

Alternative explanations

The preceding results are all consistent with the experimental hypotheses; nevertheless, it is possible that some factor other than age is responsible for the observed relationships. Although it is impossible to fully control for 50 years of life experience, a number of additional variables that previous research has shown might relate to primary and secondary control processes were included in this study. Each of these variables was examined as a possible alternative explanation for the age effects observed in the primary analyses above.

In order for a particular variable to provide a valid alternative explanation for the age effects observed in this study, it should satisfy 3 criteria. Firstly, in order to be confounded with age a variable must be significantly associated with age. Among the potential confounding variables, perceived similarity of the victims $F(1, 85) = 1.84$, $p > .15$, perceived company control over the events related to the product harm crisis, $F < 1$, and TV-watching frequency, $F <$

1, did not differ between the two age groups, and can thus be ruled out as alternative explanations for the observed age effects. Generalized beliefs in a just world were significantly higher in younger subjects (M = 3.86, SD = 0.57) than in older subjects (M = 3.55, SD = 0.86), F (1, 85) = 4.32, $p < .05$. Participant gender also differed across age group, with more females in the younger group (58.82%) than in the older group (34.21%), χ^2 (1) = 5.28, $p < .05$. Secondly, a confounding variable must be associated with one or more dependent measures. Neither gender nor belief in a just world was significantly related to company blame in the present study (and thus do not provide valid alternative explanations with regard to H3), but each of these variables was related to one or more of the control mechanisms. Thirdly, introducing a confounding variable into our primary analyses should significantly reduce the effect of age on our dependent measures. To test this possibility, we repeated the original 4 (control type) x 2 (age) ANOVA with beliefs in a just world and gender as covariates. The pattern of means and the strength of the control type by age interaction (F (1, 80) = 19.71, p < .001) were virtually identical to the original analysis. Thus, none of the potential confounding variables included in the present study provide valid alternative explanations for the age effects observed in our hypothesis tests

Relationships between variables

Pearson correlations were computed between the variables of interest in the study. Consistent with the theoretical model, perceived severity (r (75) = .58, $p < .001$) and perceived vulnerability (r (88) = .49, $p < .001$) were both positively related to blame to the company, and blame to the company was in turn negatively related to both purchase intentions (r (74) = -.51, $p < .001$) and recommendation intentions (r (74) = -.40, $p < .001$).

Model explaining the relationship between age and marketing outcomes

Structural equation modeling using AMOS 7.0 (Arbuckle, 2006) was used to test the theoretical model. This model was evaluated using the Chi-squared test of absolute fit and the Comparative Fit Index (CFI) measure of relative model fit. Previous research indicates that CFI values of .95 or higher indicate good overall model fit (Hu and Bentler, 1999). The theoretical model predicts direct paths between age and threat perception (personal vulnerability and perceived severity), between threat perception and blame to the company, and between blame to the company and both purchase intentions and recommendation intentions. Purchase intentions and recommendation intentions were allowed to correlate, as were personal vulnerability and perceived severity. The resulting model is shown in Figure 1. Consistent with our predictions, this model showed both good absolute fit (χ^2 (7) = 4.61, $p > .70$) and good relative fit (*CFI* = 1.00). All of the path weights were significant and in the predicted direction (all p's < .001) except the path between personal vulnerability and blame to the company ($\beta = .16$, $p = .13$).

Discussion

Consistent with our hypotheses, older adult participants in Study 1 perceived less threat in relation to a product harm crisis than their young adult counterparts, both in terms of personal vulnerability and perceived severity. These results are also consistent with Heckhausen and Schulz's (1995) proposition that older adults engage in increased secondary control (e.g., perceiving threats as less dangerous) to compensate for their reduced ability to engage in primary control (e.g., altering the environment to reduce or eliminate dangerous threats).

The only hypothesized relationship that was not observed in Study 1 was the association between perceived vulnerability and blame to the company, suggesting that perceived severity is the component of threat perception that has the greatest influence on blame to the company and

thus on purchase and recommendation intentions. An alternative possibility is that our choice of televisions sets as the product type resulted in an atypically weak association between perceived vulnerability and blame. A few possible factors supporting this alternative are that (a) most consumers are likely to expose themselves to shock only from their own television sets and they already know whether they are experiencing problems, and (b) televisions are relatively infrequent purchases and thus a defect in a recently released television model is unlikely to matter for a consumer who already owns a television set.

Another potential problem with Study 1 is that older adult consumers might reasonably expect to keep their current television sets for longer than college students, because college students will soon experience increased post-graduation incomes and an increased likelihood of purchasing new consumer goods like television sets. In other words, differences in perceptions of vulnerability could derive from different expected likelihoods of purchasing a new television set rather than from the influence of self-protective motivations on information processing. The objectives of Study 2 were to address these concerns and to replicate Study 1 using a different product domain to enhance the generalizability of our findings. To achieve these objectives, coffee was chosen as a product type both because coffee has a higher purchase frequency (relative to television sets) and because people often do not have direct control over the type of coffee they drink (e.g., when drinking coffee at restaurants or while visiting friends). Both of these factors should increase the real risk associated with a product harm crisis and thus increase the role of perceived vulnerability in determining marketing outcomes associated with that crisis.

Study 2

Method

Participants

A total of 80 individuals participated in this study. Forty participants were older adults attending an event sponsored by a lifelong learning program at a southeastern university (gender: 20 male, 20 female; age: range 49-89, $M = 67.40$, $SD = 7.87$) who participated as volunteers. Forty participants were students at a southeastern university (gender: 14 male, 26 female; age: range 20-28, $M = 21.70$, $SD = 1.47$) who participated for course credit. Because seven of the 40 older participants were less than 60 years old, analyses were also run excluding these seven younger members of the older adult sample; these analyses produced the same pattern of significant results as those reported below

Procedure

All participants were given a survey packet stating that the purpose of the study was to better understand how consumers respond to information reported in the media. Preliminary instructions noted that participants would be asked to read a short newspaper article about a coffee manufacturer. Participants were also told that the company name was blacked out in the article due to legal concerns related to the pending investigation. Participants were asked to read the article carefully, then to respond to a series of questions related to the article.

Materials

A fictitious newspaper article described an investigation by the consumer protection agency that involved consumers becoming sick after consuming coffee. The article mentioned that the coffee was a top-selling brand, and that a conclusive link between the coffee and the symptoms experienced had yet to be found. The article was designed to simulate a product harm

crisis. After reading the article, participants were asked several questions related to the product harm crisis described in the article.

Blame to the company, behavioral intentions toward the company, perceived severity of the product harm crisis (α = .89) and perceptions of vulnerability in relation to the product harm crisis (α = .91) were measured as they were in Study 1. The items measuring perceived severity and vulnerability showed good internal reliability, and were thus averaged to form composite indices of these constructs.

In addition to the preceding measures that directly relate to the experimental hypotheses, a few additional variables were included to examine other potential predictors of primary and secondary control processes. These additional variables were perceived company control over the events described in the article (0 = no control to 10 = full control), whether the participant is a regular coffee drinker (yes/no), and participant gender. After completing the experimental materials, participants were thanked and debriefed.

Results

Hypothesis tests

To test H1 and H2, a 4 x 2 ANOVA was conducted where control type (purchase intentions, recommendation intentions, perceived severity, personal vulnerability) was included as a within-subjects variable and age (older, younger) was included as a between-subjects variable. As noted earlier, purchase and recommendation intentions are primary control mechanisms, whereas perceptions of vulnerability are secondary control mechanisms. Because the four control measures were not measured on the same scale, each of these measures was standardized prior to conducting the ANOVA. This analysis revealed the predicted interaction between control type and age, F (1, 78) = 15.99, p < .001. Neither the main effect for control

type (as should be expected, considering that the variables had been standardized) nor the main effect for age achieved statistical significance, *F*'s < 1. To further clarify the interaction between control type and participant age, a series of planned comparisons were conducted predicting each control measure from participant age. Supporting H1, older participants engaged in less primary control than younger participants, as older participants (*M* = 3.58, *SD* = 1.43) were more willing to purchase the coffee brand involved in the product harm crisis than younger participants (*M* = 2.68, *SD* = 1.21), $F(1, 78) = 9.25$, $p < .01$, and older participants (*M* = 3.18, *SD* = 1.41) were more willing to recommend the coffee than younger participants (*M* = 2.43, *SD* = 1.32), $F(1, 78) = 6.03$, $p < .05$. Supporting H2, older participants engaged in more secondary control than younger participants, as older participants (*M* = 3.44, *SD* = 2.10) perceived themselves to be significantly less vulnerable than younger participants (*M* = 5.43, *SD* = 2.27), $F(1, 78) = 16.50$, $p < .001$, and older participants (*M* = 3.69, *SD* = 1.40) perceived the product harm crisis as significantly less severe than younger participants (*M* = 4.32, *SD* = 1.22), $F(1, 78) = 4.51$, $p < .05$. Blame to the company was also subjected to a one-way (age: older vs. younger) ANOVA. Supporting H3, this analysis revealed that older participants (*M* = 3.98, *SD* = 2.98) placed significantly less blame on the company than younger participants (*M* = 6.53, *SD* = 2.26), $F(1, 78) = 18.55$, $p < .001$.

Alternative explanations

The preceding results are all consistent with the experimental hypotheses. However, it is possible that some factor other than age is responsible for the observed relationships. As in Study 1, a number of variables that could provide potential alternative explanations for our results were included to eliminate these variables as confounds for our results. The potential confounding variables included in this study were (a) beliefs about company control over events described in

the product harm crisis, (b) whether participants were coffee drinkers and thus possible consumers of the involved product, and (c) participant gender.

The same steps were performed as in Study 1 to evaluate the impact of these potential confounding variables on our results. There were significant age differences on all of the potential confounding variables except gender; although non-significantly related to age, gender was also distributed in a way that favors our hypotheses (more women in the younger sample than in the older sample). Neither gender nor coffee consumption significantly predicted any of the dependent measures (the 4 control processes plus blame to the company) and could thus be ruled out as confounds. Perceived company control over events in the product harm crisis, however, was associated with all of our dependent measures. Consequently, the original analyses were re-run including perceived company control as a covariate. In the 4 (control type) x 2 (age) ANCOVA, the pattern of means and effects was the same as in the original analysis, although somewhat weaker. In particular, the predicted interaction between control type and participant age remained statistically significant, F (1, 77) = 4.27, $p < .05$). The one-way ANOVA predicting company blame from participant age also showed a weaker effect when company control was added as a covariate, but again that effect remained statistically significant, F(1, 77) = 4.13, $p < .05$).

Relationships between variables

Pearson correlations were computed between the variables of interest in the study. Consistent with the theoretical model, perceived severity (r (80) = .45, $p < .001$) and perceived vulnerability (r (80) = .67, $p < .001$) were both positively related to blame to the company, and blame to the company was in turn negatively related to both purchase intentions (r (80) = -.56, $p < .001$) and recommendation intentions (r (80) = -.54, $p < .001$).

Model explaining the relationship between age and marketing outcomes

Structural equation modeling using AMOS 7.0 (Arbuckle, 2006) was used to test the theoretical model. This model was evaluated using the Chi-squared test of absolute fit and the Comparative Fit Index (CFI) measure of relative model fit. As in Study 1, purchase intentions and recommendation intentions were allowed to correlate, as were personal vulnerability and perceived severity. The resulting model is shown in Figure 2. Consistent with our predictions, the model showed both good absolute fit (χ^2 (7) = 12.76, $p > .07$) and good relative fit (*CFI* = 0.97). All of the path weights were significant and in the predicted direction (path from age to perceived severity $p < .05$; all other p's $< .001$) except the path between perceived severity and blame to the company, which was marginally significant ($\beta = .17$, $p < .07$).

General Discussion

The present studies provide evidence supporting the conclusions that: (a) older consumers perceive negative marketing events such as product harm crises as less threatening (reduced severity and personal vulnerability) than younger adults, and (b) reduced threat perceptions in older adults result in less blame being attributed to the company involved in the product harm crisis and greater intentions to purchase and recommend that company's products in the future. These results provide empirical evidence for decreased primary control processes and increased secondary control processes in older consumers, and are thus consistent with Heckhausen and Schulz's (1995) contention that older consumers engage in increased levels of secondary control to compensate for a reduced ability to engage in more active primary control strategies. Our findings also support Benet, Pitts, and LaTour's (1993) claim that older adults do not view themselves as a particularly vulnerable audience; in fact, in the context of specific

negative marketing events such as the product harm crises examined in the present studies, it appears that older adults view themselves as *less* vulnerable than younger adults.

The model connecting age to marketing outcomes also provides support for the defensive attribution hypothesis, as threat perceptions were associated with blame to the company – the greater the threat posed by the product harm crisis, the more likely participants were to blame the crisis on the company. Furthermore, blame to the company was negatively related to purchase and recommendation intentions toward the company's products. Considering that older adults viewed the product harm crisis as less threatening, companies dealing primarily with an older target market might be more likely to receive the benefit of the doubt and suffer less negative consequences when compared with companies that have a younger target market. This has important strategic implications, in particular indicating that companies should not base their strategies either on the fact that older consumers have higher actual susceptibility to threat than younger consumers or on commonly held stereotypes that older adults are more susceptible to negative events than younger adults (Hummert et. al., 1994). For example, because older consumers perceive themselves as less susceptible to threat and place less blame on the company in relation to a product harm crisis, an involved company might be best served by waiting for the results of an investigation into the causes of the crisis before making a public response. Conversely, when dealing with younger consumers who are more likely to blame the company after learning about a product harm crisis, there is a more urgent need for a rapid public response to deflect blame from the company (e.g., through media campaigns).

One unexpected result of the present studies was that perceptions of severity and vulnerability differentially impacted blame to the company in the two studies. For the television product harm crisis, perceptions of severity strongly predicted blame to the company but

perceptions of vulnerability did not significantly predict blame. Conversely, for the coffee product harm crisis, perceived severity was only a marginally significant predictor of blame to the company but perceptions of vulnerability strongly predicted blame. Although older participants exhibited stronger secondary control processes with regard to both aspects of threat perception in both studies, this result suggests that different aspects of secondary control might be more relevant under different circumstances. A number of important differences between televisions and coffee might be causing the different results, including the facts that television purchases are likely to be more important and less frequent purchases, as well as the fact that coffee drinkers are likely to be exposed to coffee from a variety of sources (e.g., restaurants, friends) whereas people are less likely to interact with television sets they don't own. Future research should more systematically investigate different product types to identify factors that determine which aspects of secondary control have the greatest impact on consumer reactions to negative events such as product harm crises. This issue potentially has important practical implications for a company's communication strategy during a crisis. When blame attributions are primarily influenced by perceptions of vulnerability, company communications should be directed at minimizing the likelihood of risk (e.g., only 1 in a 100,000 patients complained of side effects when using a new drug); conversely, when blame attributions are primarily influenced by perceptions of severity, company communications are likely to be more effective when they minimize the magnitude of the danger (e.g., side effects from using this drug are typically mild, involving only minor headaches).

Another area for future research is to examine other age-related differences that might influence consumer reactions to negative marketing events. For example, in addition to differing from younger consumers in relation to secondary control processes, do older consumers differ in

terms of the information they use in making their judgments? As previously mentioned, extensive research has demonstrated declines in cognitive performance as a result of the aging process. In particular, the amount of available cognitive resources appears to decline in old age, resulting in an increased use of less resource-intensive processing strategies such as the use of heuristic processing in preference to detailed processing (Yoon, 1997). Consequently, older adults are likely to exhibit greater use of schema-based information processing (Reder, Wible and Martin, 1986) and to rely more heavily on their pre-existing knowledge structures than younger adults (Laufer et al., 2005). In the context of a product harm crisis, information about brand or country of origin could function as a category-level knowledge structure that older consumers might be more likely to rely on in their decision making. Although age-based differences in the use of brand and country of origin information have not previously been researched, each of these information sources has been shown to influence judgments about product harm crises (Dawar and Pillutla, 2000; Laufer, 2002).

Considering the rapid growth of the elderly population, understanding the behavior of older consumers is becoming increasingly important. Although research using younger adults can provide valuable information about a wide array of consumer behaviors, the present research suggests one area in which older consumers are systematically different than their younger counterparts. Enhanced secondary control processes in older adults can potentially influence several domains of consumer behavior, including responses to health messages and health services, complaint behavior, and the effectiveness of certain types of advertising messages such as fear appeals. Companies and consumers can both potentially benefit from a better understanding of these processes and their impact on how older consumers interpret and respond to negative information, and the present research represents a step toward that understanding.

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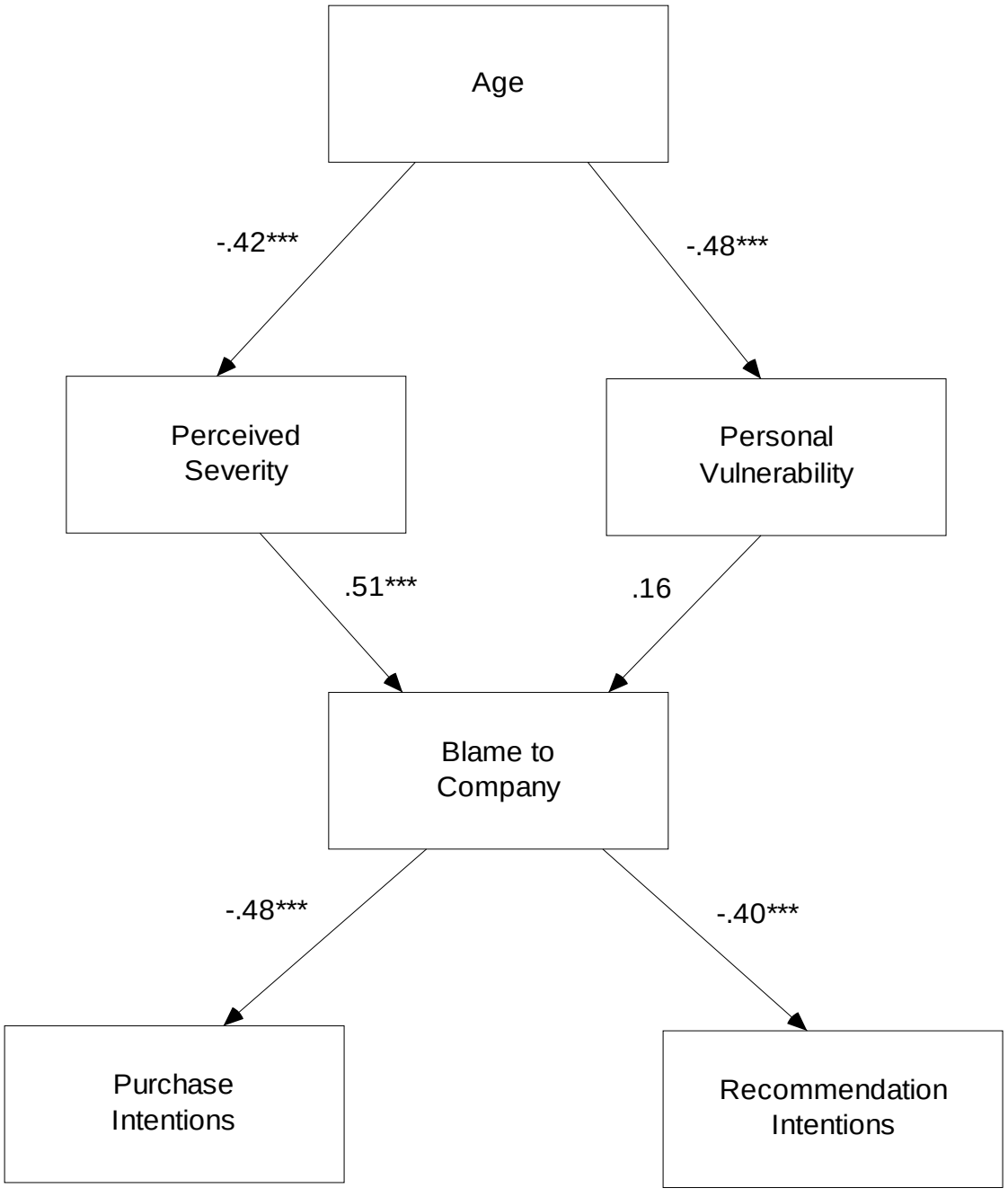
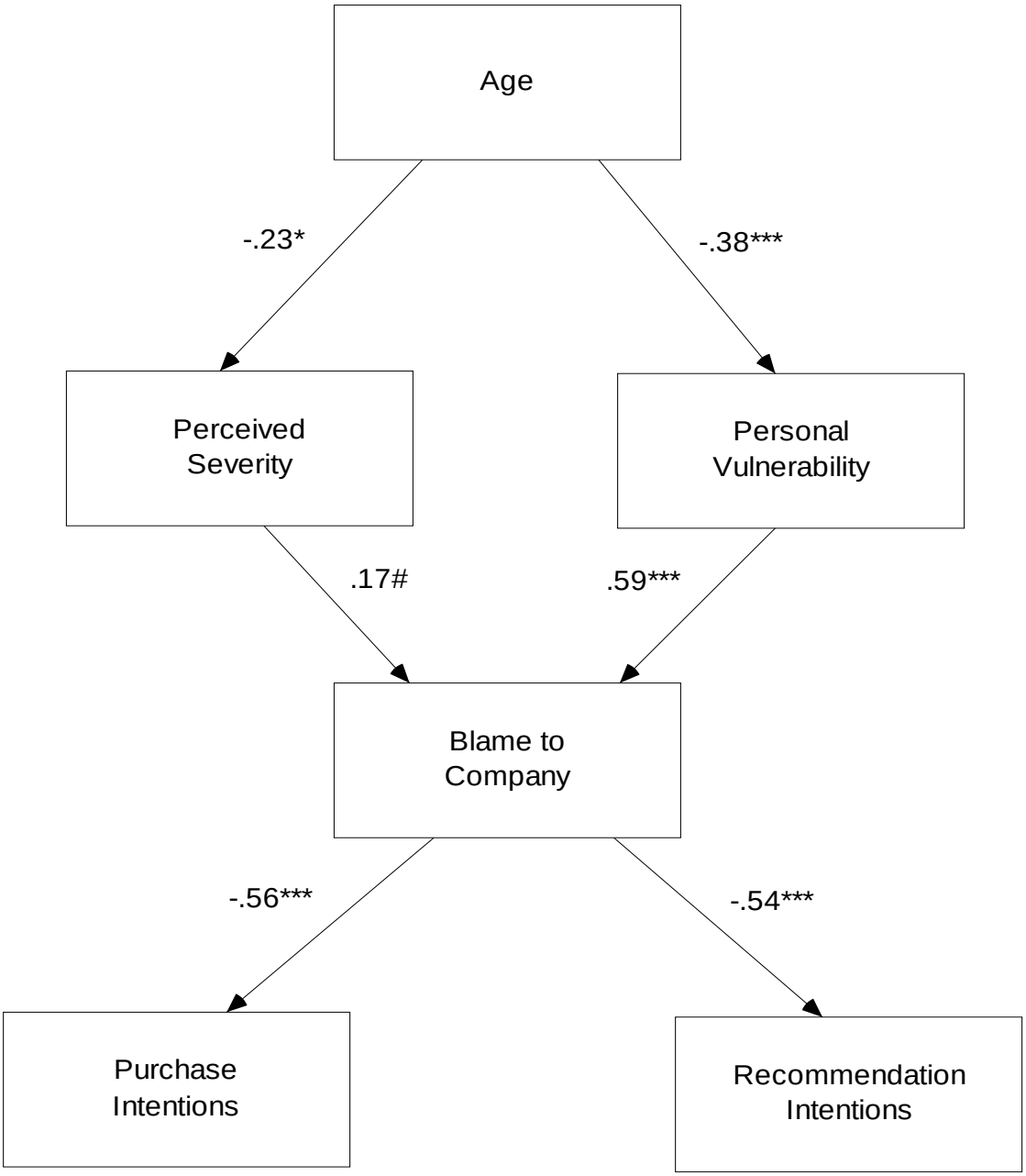
Figure 1. Empirical model predicting marketing outcome variables from participant age, personal vulnerability, perceived severity, and blame to the company in Study 1.



*** p < .001

Figure 2. Empirical model predicting marketing outcome variables from participant age, personal vulnerability, perceived severity, and blame to the company in Study 2.



*** p < .001; * p < .05; # p < .10