

## ABSTRACT

Title of Dissertation: PREDICTING PSYCHOLOGICAL RIPPLE EFFECTS OF CRISIS COMMUNICATION: INVESTIGATING THE JOINT EFFECTS OF MESSAGE AND MESSAGE RECEIVER ATTRIBUTES

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In the event of an incidence of workplace violence, organizational post-crisis communication and media coverage of the incident typically provide details about the identity of the perpetrator and possible motivations for the act in an effort to facilitate the sense-making process for message receivers and to mitigate the organization's role in the crisis. In an increasingly globalized world, these messages are read by stakeholders of different nationalities with different cultural orientations. This dissertation examined the interacting influence of crisis message attributes such as the group membership (in-group, out-group) of the perpetrator, attributions of blame in the message (personal dispositional, situational) and message receiver attributes such as nationality (American, Indian) and cultural cognitive style (analytical, holistic) on psychological ripple effects in stakeholders and therefore on implications for an organization in crisis. Results indicated that Indian message receivers measured more holistic than American message receivers.

Outcomes for an organization that had experienced a crisis depended on crisis type with the more negative implications being associated with the more preventable crisis according to stakeholders. Further, group membership of the perpetrator did not appear to affect organizational blame. However, contrary to predictions, it was the American message receivers who made a clearer distinction between in-group and out-group perpetrators and this evaluation was tied to the type of crisis. As hypothesized, holistic thinkers blamed the organization more when situational attributions were used in the crisis message; analytical thinkers blamed the organization more when personal dispositional attributions were used in the crisis message. Finally, the psychological ripple effects model showed that organizational blame decreased organizational trust, and increased anger in stakeholders. Angry stakeholders expressed a higher intention to engage in negative word-of-mouth and lowered purchase intention. Overall, the results point to a more complex phenomenon of crisis communication comprehension than is currently understood. Implications for theory and practice are discussed as well as directions for future research.

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COMMUNICATION: INVESTIGATING THE JOINT EFFECTS OF MESSAGE AND  
MESSAGE RECEIVER ATTRIBUTES

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## Dedication

This dissertation is dedicated to my dad, mom, and *ajji*.

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## **Chapter I: Introduction**

In 2000, a software tester for a technology company shot seven people to death after the Internal Revenue Service ordered his wages to be seized to pay his pending tax (Hermann, 2000). In 2003, a Michigan supermarket recalled 1,700 pound of ground beef after an employee intentionally contaminated the supply with an insecticide, resulting in the illness of 92 people, allegedly over a feud with his supervisor (Veenema, 2007). On April 2, 2012, a Bay Area resident killed seven people on Oikos University campus while looking to settle a grudge against the school administrator (Onishi & Wollan, 2012). These incidents are examples of a larger phenomenon broadly referred to as workplace violence. Incidents of workplace violence represent a dialectical challenge for organizations: They can be perceived as both victims of and contributors to the attack. This dissertation examines the impact of such post-crisis communication on organizational outcomes.

The Occupational Safety and Health Administration define workplace violence as “violence or the threat of violence against workers” (U.S. Department of Labor Factsheet, 2002, p. 1). The rate of workplace homicides was estimated to have tripled in the decade prior to 1990 (U.S. Department of Health and Human Services, 1996). Although the rate of workplace violence has since registered a 35% decline, the phenomenon continues to be a cause for concern: 521 people, age 16 years and older, were victims of homicide at the workplace in 2009 (U.S. Department of Justice, 2011). Indeed, workplace violence, because of its dramatic nature, combined with the media’s propensity to engage in “body-count journalism,” receives extensive media coverage (Duwe, 2000, p. 364).

Two factors have been closely linked to workplace aggression: major changes in the workplace such as downsizing and salary cuts, and an increase in workplace diversity (Brockner, Grover, Reed, & DeWitt, 1992; Tsui, Egan, & O'Reilly, 1994). These two factors have resulted in higher levels of anger and frustration among employees making workplace violence more likely (Zillmann, 1994). In recent times, both precipitating trigger factors have seen an increase: The declining economy has caused more organizations to lay off workers in an effort to downsize (Recession.org, 2009), and increases in the immigrant and ethnic minority populations have changed the face of the American workforce (USA Today, 2008). Other factors, such as the increasing complexity of the workplace, coupled with the individual's limited ability to understand and adapt to complicated systems, have also contributed to increased stress and the risk of workplace violence (Perrow, 1999).

### **Purpose of Study and Significance**

When a seemingly random act of violence happens, sense-making becomes a high priority for the public (Seeger & Ulmer, 2002; Sellnow & Seeger, 2001). Stakeholders, even those who are not directly affected by the crisis, depend on the media for information about the crisis (Coombs, 2007). Stakeholders are people who are affected or can be affected by an organization's behavior and include customers, employees, stockholders, and community members (Agle, Mitchell, & Sonenfeld, 1999; Bryson, 2004). Although it is well established that media messages help audiences make sense of public events (Entman, 1993; Price, Tewksbury, & Powers, 1997), it is important to note that audiences are not homogeneous. With increasing racial and cultural diversity, especially in the United States, audiences are more multi-cultural now than ever before;

experts project that by the year 2042, U.S. minorities will be the majority within America (America.gov, 2008). In order to gauge audience reactions to a public issue, it is therefore important to know the general perceptions as well as reactions of specific audience segments (Freimuth, Hammond, Edgar, & Monahan, 1990; Perelman & Olbrechts-Tyteca, 1971; Sellnow, Sellnow, Lane, & Littlefield, 2011). In light of the increasing diversity of American audiences, several scholars have stressed the need to include culture as a segmentation variable when formulating crisis and risk messages (Anagondahalli & Turner, in press; Chess, 2001; Seeger, Sellnow, & Ulmer, 2003).

However, there has been limited research investigating the effects of crisis communication on minority publics such as publics with different cultural cognitive patterns on crisis message processing (Faulkheimer & Heide, 2006; Lee, 2004; Ulmer, Sellnow, & Seeger, 2011; Waymer & Heath, 2007). In the wake of a crisis, media messages often provide details of *who* did *what* to *whom*. Given the importance of audience segmentation in risk and crisis communication, an additional factor should be “*Who is the audience of the message?*” It is worth investigating if the message attributes discussed earlier (i.e., *who* did *what* and to *whom*) cause message receivers from different cultures to interpret and respond to crises differently (i.e., *who is reading what*, and about *whom*).

Anagondahalli and Turner (in press) examined the differences between Americans and Asians in their cognitive and affective responses and behavioral intentions after reading a hypothetical press release of an organization whose food had been intentionally contaminated by a former employee. A 2 (culture of the message receiver) x 2 (race of the perpetrator) x 2 (attribution in the message) experimental design

provided partial support for their interaction hypotheses on dependent variables that measured psychological ripple effects such as the cognitive and emotional reactions in message receivers. Notably, culture of the message receiver interacted with the attribution in the message such that Asian message receivers blamed the organization more and trusted it less when a situational attribution was made in the message than when a personal attribution was made in the message; the opposite was true for American message recipients. However, hypotheses involving the race of the perpetrator on organizational blame were not supported. Finally, the study found that perceptions of increased blame and decreased trust correlated with future purchase intentions of the contaminated product ( $r = -.161, p < .01$ , and  $r = .451, p < .01$ , respectively).

Although this study was the first of its kind to explore the phenomenon of psychological ripple effects of a workplace related crisis, there were certain limitations in the study. First, culture of the message receiver was measured as the nationality of the participant. This operationalization of culture, although not uncommon (e.g., Nisbett & Miyamoto, 2005, Peng & Nisbett, 1999; Triandis, 1989), may be an over-simplification of the construct as it obscures the causal mechanism that contributes to differences among people from different countries. Second, the Asian sample consisted of participants from several Asian countries, including China, Korea, Japan, India, and Thailand. Combining the Asian participants makes the assumption that all Asians share the same characteristics. This sampling strategy may have also contributed to the absence of support for the hypotheses regarding race of the perpetrator. Finally, evidence for psychological ripple effects in message recipients, measured as the cognitive, affective,



and behavioral evaluations, was established using correlational analyses that do not allow for modeling the causal relationships among key variables.

The aim of this dissertation is to investigate the interplay of message and message receiver characteristics (e.g., the nationality of the message receiver, attributions communicated in a crisis message, and the identity of the perpetrator) on psychological ripple effects in the message receiver. In extending the work done by Anagondahalli and Turner (in press), two methodological goals are identified: (a) more rigorous operationalizations of the independent variables, and (b) causal modeling of the key variables of interest in the study. In an effort to meet the first goal, this dissertation moves away from the measurement of culture as the nationality of participants and instead focuses on their cognitive processing styles. Two cultural cognitive processing frameworks inform this dissertation: analytic and holistic processing (Nisbett, 2003) and dialectic and polarized thinking (Peng & Nisbett, 1999). Analytical thinking style is characterized by context or field independent thinking where processes of attention and perception are centered on a focal object (Nisbett & Miyamoto, 2005). Holistic thinking, on the other hand, is characterized by field dependent thinking where contextual cues play an important role in attention and perception (Nisbett & Miyamoto, 2005). Polarized thinking, related to the analytical thinking style, is marked by resolving contradictions by choosing between polar opposites, whereas dialectical thinking, related to holistic thinking, involves resolving contradictions by choosing a middle-ground option thereby accepting the co-existence of polar extremes (Peng & Nisbett, 1999).

Cognitive styles may be able to explain people's message processing styles better than their nationality. Existing research on cognitive styles is, however, not without

limitations, the primary drawback being that cognitive styles are mostly assumed to be synonymous with geographical regions or particular nations. Simply put, people from the East (notably from countries such as China, Japan, and Korea) are believed to exhibit holistic and dialectical thinking (Nisbett, 2003). People from the West (typically Americans) are believed to exhibit analytical and polarized thinking. However, given that some data suggest variations of thinking styles even within a country (Sinha, 1979, 1980; unpublished study by N. Knight et al. as cited in Nisbett & Miyamoto, 2005), this dissertation measures cognitive styles at the individual level rather than assuming that the style is based on the nationality of the participant. Further, although these cognitive frameworks are related conceptually, they could provide competing predictions with regard to psychological ripple effects. By testing the two frameworks, it may be possible to identify a framework that more closely captures cognitive processes and their consequences for members of different cultures. Additionally, although a large body of data has consistently provided evidence for the two styles of thinking (Masuda & Nisbett, 2001; Nisbett, 2003; Nisbett & Miyamoto, 2005), there has been very limited empirical work on the cognitive, affective or behavioral implications of being either a holistic or analytical thinker.

Post-crisis, organizations depend on their crisis communication to reach out to affected stakeholders in an effort to mitigate the fallout from the crisis. For crisis communicators, acknowledging the heterogeneity of their audiences is a first step toward creating more effective messages. Knowing exactly how members of an audience differ and the implications that these differences may have for an organization can greatly

reduce the tangible and intangible effects of a crisis (Anagondahalli & Turner, in press; Glik, 2007; Massey, 2001).

Chapter two outlines the process and the key considerations for an organization in responding to a crisis. This literature, along with the research on theories relevant to message and message receiver attributes to be presented in chapter three, will inform the predictions of this dissertation.

## **Chapter II: Organizational Crisis and Communication**

Workplace violence is a phenomenon that has received increased media attention in recent years (Brownstein, 2000; Duwe, 2000). Although workplace violence may take different forms, it is almost always enacted as a response to a perceived injustice or as revenge to right a perceived wrong (Adams, 1965; Skarlicki & Folgar, 1997). Given the increase in risk factors, such as major changes in the workplace, increased diversity in the workforce, and increased frustration among workers leading to such incidents, there is no organization that is immune to the possibility of workplace violence. With no easy way of predicting or profiling who or what will evolve into a workplace threat over time, workplace violence remains a tangible threat for organizations and stakeholders. In fact, workplace violence and the media coverage it has received have catapulted the phenomenon to the forefront of people's minds. Ames (2005) outlines several such violent crimes committed by employees against customers and co-workers at the workplace triggered by extreme anger, stress, and dissatisfaction.

In addition to gun-related incidents, workplace violence has had another outlet: product tampering or marketplace terrorism (Doeg, 2005; Rosette, Yablonski, Mancuso, & Kale, 2001). This phenomenon has also had a steady increase, with malicious tampering incidents moving from single individuals to organized groups that disagree with company policies and use tampering as a form of protest (Doeg, 2005). The Tylenol crisis in 1982 remains an example of product tampering that had a devastating impact on consumers of the product (Stockmyer, 1996). In fact, the impact of product tampering is not limited to actual tampering; negative word-of-mouth communication that results even from false allegations or rumors can lead to large-scale losses for the organization both

directly, through reduced sales and falling market value, and indirectly, through reduced trust and high perceptions of risk (Richins, 1984). These kinds of incidents constitute a crisis for an organization.

### **Workplace Violence as Organizational Crisis**

Coombs (2012) described an *organizational crisis* as a sudden and unexpected event threatening to disrupt an organization's operations and posing both a financial and a reputational threat. Given this description, workplace violence constitutes an organizational crisis. Additionally, for an incident to affect the functioning of an organization and be considered an organizational crisis or failure, the incident must be significant enough to threaten the legitimacy of the organization (Anheier, 1999). Also, the incident or crisis should be perceived as a direct or indirect result of an organization's action or inaction (Gillespie & Dietz, 2009). Therefore, an organizational crisis can occur due to an organization's failure to (a) perform its fundamental duties or core responsibilities related to its mission, or (b) adhere to commonly agreed-upon ethical and moral expectations of stakeholders (Coombs & Holladay, 2011; Gillespie & Dietz, 2009; Heath, 2006). If organizations are seen as responsible for a crisis, "their legitimacy, credibility, reputation, and income are threatened" (Seeger, Sellnow, & Ulmer, 2003, p. 5). Such a crisis can affect not only the sale of the tainted product but also the sale of other products made or sold by an organization, thereby causing the organization's share value to plummet (Dawar, 1998). Stakeholder actions can directly cause these outcomes for an organization by personally reducing purchases or boycotting products from the organization or by influencing others to engage in negative word-of-mouth

communication (East, Hammond, & Lomax, 2008; McDonald, Sparks, & Glendon, 2010).

Historically, the perpetrators of marketplace terrorism have typically been disgruntled employees of supermarkets or food processing units who had access to and knowledge of the product and its storage (Zink, 2004). This attack from within, by a former or current employee, may have different implications for an organization than if the perpetrator were not connected to the organization. Further, the threat from angry and dissatisfied employees is not limited to the food industry because employee discontent is not a rare phenomenon, and criminal acts by employees invariably implicate the organization (Crino, 1994). Barling (1996) outlined a model of workplace violence that resulted from the interplay of workplace-related and personal factors. Other studies have traced the motive for many of the famous workplace violence incidents exclusively to organizational factors such as verbal abuse of superiors (Sofield & Salmond, 2003), job insecurity (Jick, 1985), and perceived procedural and distributive injustice at the workplace (Greenberg & Barling, 1999). In most cases of workplace violence, the organization is almost always implicated.

In the event of workplace violence, especially when the perpetrator of violence is an employee or a former employee, the organization, in its post-crisis communication, walks a fine line between explaining a crisis that happened while at the same time distancing itself from it. *Crisis communication* is defined as the “collection, processing, and dissemination of information required to address a crisis situation” (Coombs, 1995, p. 20). Coombs (2009) aptly likened a crisis to the tip of an iceberg and the job of crisis communication to connecting the visible parts of the crisis to the underlying, invisible

parts. In other words, crisis communication has to connect the dots for its stakeholders: linking information of what is known and visible to what is unknown and invisible to them.

There are two traits common to all kinds of crises: They are unexpected and negative (Coombs, 2007), a cause for anxiety among stakeholders. Stakeholders are therefore interested in information that would lessen the uncertainty they are experiencing due to the crisis. The primary ethical concern for an organization should be the welfare of its stakeholders, even before it begins to consider reputational repair (Coombs, 2012). Providing instructing information or giving stakeholders information they need to be safe is an important first step in an organization's post-crisis communication effort (Coombs, 1999; Sturges, 1994). This information can be disbursed directly to stakeholders or through the media. Warning consumers not to eat certain foods in the case of a food contamination or asking them to proceed to shelters in the case of a chemical contamination are examples of the primary steps taken by an organization (Coombs, 2007). Stakeholders typically look for reassuring cues from an organization indicating that preventive steps have been taken to keep the crisis from recurring (Sellnow, Ulmer, & Snider, 1998).

In addition to knowing how to stay safe in a crisis situation, stakeholders also want details about the crisis; questions such as what happened, who is responsible for the crisis, and what is being done about it need to be answered (Seeger, Sellnow, & Ulmer, 2003; Weiner, 1985). If organizations believe they are not to blame for the crisis, they have to build a case against another who they think is responsible for the crisis and communicate this information (Ulmer, Seeger, & Sellnow, 2007). Therefore, an

important function of crisis response is to predict how stakeholders will respond to crisis messages and attribute blame (Coombs, 2009).

Chapter three highlights theories that organizations and stakeholders rely on in their sense-making process of crises. This chapter also identifies attributes of messages and message receivers that have the potential to affect outcomes for an organization in crisis.



### Chapter III: Theoretical Rationale

#### Attribution of Blame: A Theoretical Look

A major part of the sense-making process for stakeholders involves understanding the cause of the crisis (Lee, 2004). As a process, *sense-making* is defined as the “retrospective development of plausible images to rationalize people’s actions” (Weick, Sutcliffe, & Obstfeld, 2005, p. 409). Sense-making is, therefore, all about the interpretation of the causal antecedents of events (Laroche, 1995). According to attribution theory, people look for causes in order to make sense of an event, especially an event that is negative and unexpected (Heider, 1958; Weiner, 1985). Heider (1958) believed that people were not passive observers of behavior. Instead, they actively perceived the behavior around them, making sense of it by assigning causes to the behavior, thereby determining their course of action. Heider referred to the assigned causes of behavior as *attribution*, a part of a people’s cognition of their environment. In his words, when “people cognize their environment, attribution occurs” (1976, p. 18).

Attribution theory seeks to answer the question of how people perceive another’s action. There are two goals associated with the process of attribution: “increased understanding of the surrounding social world, and increased ability to predict the actor’s future course of behavior” (Kelley, 1971, p. 5). Toward this end, Heider (1958) outlined three steps in the attribution process: perception of action (observing the action), judgment of intention (assigning motive to the actor), and attribution of disposition (connecting the temporary act to unchanging dispositional characteristics of the actor). Weiner (1974) further developed attribution theory by outlining three criteria by which to evaluate action. The first criterion is the locus of control of the cause of action. The cause

could be internal to the actor (dispositional) or external to the actor (situational). However, it is insufficient to know if the cause is internal or external to the actor; it is also important to know if this cause is stable or changing. Therefore, a second criterion was added: the stability of the cause or how likely it was that the cause would persist across time and situations. Causes considered stable were more likely to persist and be a recurring issue. Whether causes were classified as internal or external, stable or changeable, Weiner (1979) argued that actors were more or less capable of controlling these causes. Therefore, a final criterion of attribution, called the controllability of the cause, or the extent to which the cause could have been controlled by the actor, was added. This three-cause structure of attribution has been found to be consistent across a variety of situations (Weiner, 1979).

Weiner (1985) further stipulated that appraising causality for an event elicits emotional responses in individuals. Emotional responses could be influenced by the outcome of the event; positive emotions such as happiness result from successful or positive outcomes for cognizers, whereas negative emotions result from failures or negative outcomes to that individual. Additionally, emotional responses could also be a result of the three-cause structure of attribution. Controllability has also been linked to emotional responses; a crisis that resulted from a cause that was believed to be controllable produces different emotions from a crisis than that which was believed to have uncontrollable causes (Weiner, 1982). Although Weiner's original work was related to achievement motivation, attribution theory and its causal structure have applications in several disciplines, including crisis communication (e.g., Coombs & Holladay, 1996; 2004; 2007).

Stakeholders can observe an organization's role in a crisis and situate the causality for a crisis along the three factors discussed above. They could make either internal or external attributions for an organization's action, find the cause to be stable or unstable, and deem the cause to have been either controllable or not. On the one hand, stakeholders could evaluate an organization's role in the crisis and find that the organization was not responsible for the incident and sympathize with it. This evaluation would define the organization as a victim (Coombs, 2007). On the other hand, stakeholders could also evaluate the crisis and find that the organization responsible for the crisis and feel anger toward the organization (Weiner, 2006). Therefore attributions of responsibility and the resultant emotions could determine behavioral outcomes of the stakeholders, which in turn can affect reputational and financial outcomes for the organization (Coombs & Holladay, 2005).

Situational Crisis Communication Theory (SCCT), which draws on attribution theory, identifies three factors that have a bearing on organizational outcomes: (a) the initial evaluation of crisis responsibility, (b) the prior crisis history of the organization (whether the organization has experienced other such incidents in the past), and (c) the relational reputation preceding the crisis (stakeholder perception of how they believed the organization treated stakeholders in other contexts, Coombs, 2012). Of the three factors, the initial evaluation of crisis responsibility is of primary interest to this dissertation as it sets the stage for the way a crisis will be viewed by the organization and its stakeholders. The initial evaluation refers to the extent that stakeholders believe an organization's actions or inactions are responsible for a crisis (Coombs, 1995). Based on the initial evaluation, Coombs (2012) described three crisis clusters: the *victim cluster* in which an

organization has low crisis responsibility such as for natural disasters and workplace violence; the *accidental cluster* in which an organization has minimal crisis responsibility such as a crisis due to technical errors; and the *intentional cluster* where an organization faces high crisis responsibility such as a crisis due to human error or product harm, especially when the action is found to be intentional (Coombs & Holladay, 2002).

Although Coombs (2012) argued that organizational crises in the form of workplace violence place organizations in the victim cluster, this categorization has not been empirically tested, and it seems almost counter-intuitive that organizations would not be seen as responsible in some way for acts of violence that happen on its premises. For example, the Virginia Tech shooting, in which a student killed 32 people on campus before shooting himself, was viewed by some as a failure of the university's safety protocol and counseling services (Chapman, 2008; Flynn & Heitzmann, 2008). In fact, a jury also found the university guilty of not doing enough to protect the campus community on the day of the shooting (Maclauchlan, 2012). The traditional workplace violence literature has also traced the motive behind the perpetrator's action to one of revenge for a wrong committed typically by the organization or by a coworker (Aquino, Bies, & Tripp, 2001; Skarlicki & Folgar, 1997). Ultimately, the relationship between crisis type and organizational responsibility is a complex one and warrants further empirical investigation as it affects the reputation of organizations and their crisis response. Given this situation, organizations have to frame the crisis in a manner that minimizes their culpability.

### **Framing the Crisis**

An important task for an organization when a crisis unfolds is to determine the crisis type. *Crisis type* refers to the frame used by the public to interpret the event; determining crisis type helps the public evaluate the extent to which it believes an organization had control over a crisis and its resultant responsibility for the crisis (Coombs, 1995, 1998; Dowling 2002). By assessing the crisis type, an organization also chooses a response strategy that matches the demands of the particular way the crisis is framed (Coombs & Holladay, 2002). *Frames* refer to the elements of the issue that are made salient or are emphasized over other elements (Druckman, 2001). There are two types: frames in thought and frames in communication (Druckman, 2001). A *frame in thought*, also called an individual frame, is the cognitive schema or framework that a person uses to interpret information (Druckman, 2001). A *frame in communication*, or a media frame, has to do with how the information is presented by way of word and image choice that lends itself to a certain interpretation. The two framing components are related in that the communication frame, or how a message is presented, with some information highlighted and other information hidden, influences the way we think about the message or the issue or our frame in thought (Cooper, 2002).

The media's message frame is powerful as it defines the public's knowledge and understanding of public issues and concerns (Husselbee & Elliot, 2002). Media reports, with their stress on certain features of a story, shape people's individual reference frames, which are then used to interpret a crisis (Entman, 1993). The public's response to a crisis is therefore largely determined by how the media portrays the crisis (Coombs, 2007). Not only does media coverage of a crisis make certain aspects of the crisis salient, it also

helps define the crisis for message receivers (Heath, 2010). However, consumption of media frames is not a passive process by stakeholders; they analyze and combine media frames to make unique meaning of the situation by applying their morals and values and evaluating the crisis situation (Edy & Meirick, 2007). This retrospective sense-making process of people exposed to media messages has also been referred to as backward chaining (Quattrone, 1982).

In essence, crisis response strategies typically have the following three goals: (a) to shape the crisis attribution of responsibility, (b) to alter the perception of the organization in crisis, and (c) to mitigate the negative emotional response that is created by the crisis (Coombs, 1995). For stakeholders who are non-victims, media reports of crises serve as an especially important source of information (Carroll, 2004; Coombs & Holladay, 2009). Even if an organization believes that it is not to blame for a crisis, it still has to make an effective case against the individual it views as responsible (Seeger et al., 2003).

Once an organization decides how to frame a crisis, the frame has to be communicated promptly and accurately to the news media in order for them to convey the frame to the stakeholder public. It is important to point out that although media coverage of a crisis may be an important source for information, more comprehensive, recent research indicates that interpersonal communication with family and friends through telephone and online channels is also crucial in gaining information and making sense of a crisis (Dutta-Bergman, 2004; Jin & Liu, 2010; Liu, Austin, & Jin, 2011). Word-of-mouth communication seems to perform the function of triangulating

information received from traditional media outlets as well as personalizing the news to one's circumstances (Pew Research Center, 2011).

While acknowledging the importance of interpersonal communication in times of crisis, this dissertation focuses on the institutional responses of organizations and the media messages that aid in the sense-making process of stakeholders. Further, it is also important to point out that the crisis communication generated by an organization goes through several layers of processing, from institutional (e.g., the media) to the individual (e.g., the stakeholder; Kaspersen et al., 1988). Each of these levels of processing may generate cognitions and emotions that may mitigate or exacerbate organizational blame. Organizations may be aware that on an institutional level, negative media coverage of a crisis can cause stakeholders to distance themselves from the organization (Stephens, Malone, & Bailey, 2005). Organizations also need to be aware that individuals or stakeholders engage in a personal sense-making process that can influence their outcomes (Pearson & Clair, 1998).

### **Message and Message Receiver Characteristics**

Given that news stories are an important way for stakeholders to learn about a crisis, it becomes important to know who these stakeholders are. Audience segmentation is a process that allows a large, heterogeneous population to be divided into smaller subgroups whose members are more similar to each other than members of other subgroups (Grunig, 1989). Audience segmentation therefore facilitates efficient communication with audience members, in this case, the stakeholders (Slater, 1996).

Stakeholders can be segmented in different ways: for example, by gender, race, education, occupation, socio-economic status, or personality characteristics. On a meta-

social level, stakeholders may also differ in terms of their culture, specifically based on the culture-driven cognitive processes. Culture has been studied in different ways using different theories and frameworks such as individual-collectivism (Hofstede, 1984) or self-construals (Markus & Kitayama, 1991). As this dissertation is interested in the differences in message-processing patterns across cultures, it draws on two cultural cognitive processing frameworks: the polarized and dialectical thinking styles (Peng & Nisbett, 1999), and the analytic and holistic thinking styles (Nisbett, 2003). Typically, cognitive processing frameworks are associated with specific countries or regions of the world. So, people from the East (for example, from Asian countries such as China, India, and Japan) typically display holistic (Morris & Peng, 1994), and dialectic thinking (Peng & Nisbett, 1999) and members from the West (for example, typically represented by the U.S.) are more likely to display analytic (Morris & Peng, 1994) and polarized thinking (Peng & Nisbett, 1999). Below is a discussion of the polarized and dialectic thinking styles, highlighting their effect on stakeholders' perception of organizational blame.

### **Polarized and Dialectical Thinking**

One documented difference in cognitive processing styles between members of Eastern and Western cultures is the polarized thinking of the West relative to the dialectic thinking of the East. A polarizing cognitive style is marked by the rejection of contradiction and the picking of one alternative or pole as the solution to a problem with two contradictory solutions (Peng & Nisbett, 1999). A dialectic style is marked by an acceptance of contradictions and involves seeing both contradictory poles as possible solutions to an issue and opting for a middle way to settle the issue (Peng & Nisbett, 1999). Nakamura (1985), in his analysis of Eastern countries such as China, India, Tibet,



and Japan, posited that these thinking styles are based on folk wisdom or native beliefs about the nature of the world. For instance, although the Chinese (representative of Eastern cultures) believe that a unit cannot be understood except as being a part of a larger whole or context, Americans (representative of Western cultures) believe that a unit can be understood irrespective of the relationship the unit shares with the larger context it is embedded in (Nakamura, 1985). Although Americans recognize the presence of contradictions or opposing forces, their goal with regard to the contradiction is to reconcile it by making the solution non-contradictory. For the Chinese, the solution to a set of contradicting propositions is to devise a solution that is accepting of the contradiction (Peng & Nisbett, 1999).

Peng and Nisbett (1999) identified several principles explaining dialectic processing. For example, the *principle of change* states that nothing is constant and that reality is a process; change and contradiction go hand in hand. The *principle of holism* that Easterners subscribe to states that nothing makes sense in isolation; everything is connected and needs to be considered as connected to make sense. Even opposing forces such as the *yin* and *yang* are connected to each other in a state of balance; contradictions can co-exist. Similar principles exist that explain the polarized thinking style prevalent in Western society. Leibniz (1996), as a proponent of non-dialectic thinking, posited that everything was itself. Additionally, the *law of non-contradiction* states that if something is itself, it cannot simultaneously be “not itself” (Peng & Nisbett, p. 744). Finally, the *law of the excluded middle* states that it is not possible to be on the mid-ground that allows A to be equal to B and not equal to B at the same time. This law treats the categories as

being mutually exclusive. According to this law, there is no midpoint possibility of a proposition being equally true and false at the same time (Peng & Nisbett, 1999).

Historically, following from the Greek tradition, Western philosophy has emphasized stability over change (Fisher, 1964). Change implied contradiction as it meant transforming matter to non-matter; for Westerners something could not be matter and non-matter at the same time (Fisher, 1964). Hence, change as a process was rejected although this was not always the case. Earlier Greek philosophers acknowledged the constant state of change that existed. However, even when there was change, the focus was not on change but on stability (Fisher, 1964). Eastern philosophy, on the other hand, proposed that things could swing from one extreme to another (Gurevich, 1969). Western thought, associated with the belief that every action is associated with one cause and every cause with an action, makes Westerners disregard environmental factors and factors peripheral to the action as causes of the action. Easterners, are more likely to see factors as interrelated and as capable of producing the action in question (Ji, Peng, & Nisbett, 2000).

Although the majority of the research concerning cultural differences in cognitive styles has focused on China as representative of Eastern cultures, a limited body of writings also provides evidence for the presence of these cognitive traits in India. Dialectic thought has an ancient tradition in India and can be traced back to before Buddhism. The earliest mention of dialectic thought is found in the holy text of the *Rig-Veda* (Wu, 1986). Early dialectic thought concerned the nature of the universe and its origin. Wu (1986), in his essay regarding Indian dialectical thought, cited a verse that reads “Being is transformed out of emptiness” (p. 85). Wu likened this emptiness to the

Chinese concept of *qi* or energy, which was capable of producing matter. However, although emptiness was capable of producing being, emptiness was simultaneously considered non-being. In this way, being and non-being were opposite states that exist relative to each other.

Indian philosophy differs from western philosophy in several other ways. If the western notion of progress involves a march away from the past and towards the future, Indian philosophical thought considers history as a movement comprised of four stages, each bringing about a successive state of moral decline (Deshpande, 1979). The past is treated as the foundation and guide for the future; the ancient Indian texts of the *Upanishads* are believed to have eternal meaning that only needs to be reinterpreted as language and society change with time (Deshpande, 1979).

Dialecticism of thought is also apparent in other core Indian beliefs. The widely held belief is that human existence is at once timeless and situated in time (Misra, 1971). Multiplicity or multiple interpretations of world views is characteristic of Indian society. Dialecticism is also apparent in the belief that humans are simultaneously considered the agent or actor and also as the experiencer of the act (Misra, 1971). Similarly, the ancient law of *karma* that includes reincarnation is treated as both the cause and effect of an individual's action. To illustrate the Asian dialectic way, the Chinese term for crisis combines the ideographs for both danger and opportunity (Fink, 1986). In this example, a crisis simultaneously indicates the presence of two opposing constructs in its meaning: danger, that signifies the possible negative aspects of a crisis, and opportunity, which alludes to the positive aspects of a crisis.

The acceptance of change as a constant makes Asians more accepting and open-minded of people and events (Morris & Peng, 1994). The reliance on contextual factors make them believe that changing times could bring about changes in people, from good to bad and from bad to good. This could explain the Asian tendency to explain behavior based on situational factors and the pliability of personal dispositions across situations (Morris & Peng, 1994). The Western emphasis on stability could, in turn, cause Americans to see personal dispositions or personality attributes as constant across time and contexts (Norenzayan, Choi, & Nisbett, 2002).

Peng and Nisbett (1999) provided evidence for the presence of this divergent cognitive processing style. In their first study, Peng and Nisbett (1999) had Chinese and American participants indicate their preference for dialectical proverbs. Across several criteria, Chinese participants preferred dialectic proverbs (e.g., *too humble is half proud*) to non-dialectic proverbs (e.g., *for example is no proof*) and the opposite was found for the American participants (p. 744). A second study by Peng and Nisbett (1999) highlighted the implications of the polarized versus dialectical thinking on the resolution of social dilemmas. When asked to resolve a mother-daughter value conflict, Asian participants, in keeping with the dialectic tradition, were more likely to adopt the mid-path as their resolution strategy by citing both parties as being at fault and needing to work at a solution. American participants, in keeping with the polarized style, were more likely to attribute blame exclusively to one party or the other. Finally, Peng and Nisbett (1999) also found that the cognitive processing styles also exhibited themselves in argumentation styles, with Asians preferring dialectical arguments and Americans preferring non-contradicting arguments. The preference for argument styles was also

evidenced in the participants' preference for resolving scientific issues, with Asian participants preferring contradictory evidence to the Americans' preference for non-contradictory evidence (Peng & Nisbett, 1999).

In this dissertation, although participants were recruited from India (typically considered holistic and dialectic) and the U.S. (typically considered analytical and polarized), their cognitive processing style was measured to test the assumption of cognitive style based on nationality, leading to the following prediction:

H1: Nationality of the message receivers predicts their cognitive processing style such that Americans are more analytical than Indians, and Indians are more holistic than Americans.

H2: Holding the message of the crisis communication constant, there is a main effect for the cognitive processing style on the perception of organizational blame such that receivers who are prone to a dialectical cognitive style are more likely to blame both an organization and the perpetrator of the crime for the crisis, whereas those with a polarized thinking style are more likely to blame either the organization or the perpetrator for the crisis.

### **Message Characteristics and Crisis Communication**

Given that message receiver characteristics may influence attribution of organizational blame, it is also possible that message receiver characteristics may interact with the message characteristics to affect organizational blame. Two specific elements of the message are relevant: the identity of the perpetrator (the *who* element) and the attributions of blame communicated in the message (the *why* element). The identity of the

perpetrator, specifically whether the perpetrator is a member of the stakeholder's cultural in-group or out-group, will be considered first.

### **In-group/Out-group Distinction**

An often-investigated aspect in comparative cultural studies is the in-group/out-group distinction (Branscombe, Wann, Noel, & Coleman, 1993; Brewer, 1979, 1999; Gerard & Hoyt, 1974; Judd, Ryan, & Park, 1991; Tajfel, 1974). Cultural identities, by way of the ethnicity, religious affiliation, or nationality, often play a critical role in any type of crisis, both from the organization and stakeholder perspective (Arpan, 2003; Falkheimer & Heide, 2006; Lee, 2004; Ulmer, Sellnow, & Seeger, 2011). For example, the 9/11 attack is often portrayed in the media as a proxy for religious wars: Christianity versus Islam (Kam & Kinder, 2007). Portrayals of other incidents of terror also involve references to attributes that mark perpetrators as outsiders, such as their race, ethnicity, or religion to differentiate them from the majority. The media coverage of the Columbine shootings (Aitken, 2001), the Virginia Tech massacre (Chong, 2008), and the shooting at Fort Hood, Texas (MSNBC, 2009) provides examples of such depictions.

In-groups are classified on the basis of similarity (in demographic attributes, activities, preferences, or institutions) and influence social behavior to a greater extent when they are stable and impermeable (Triandis, 1989). Although the notion of an in-group exists only in comparison to the out-group, Allport (1954) described in-groups as being "psychologically primary," implying that positive feelings toward in-group members developed before any feelings were developed towards an out-group (p. 42). Although Sumner (1906) argued that positive feelings towards one's in-group are highly correlated with negative feelings or feelings of hatred towards an out-group, Allport

recognized that hostility towards an out-group was not required in order to feel positively towards one's in-group. One could have a range of feelings towards an out-group from mild approval, to indifference, to hatred. Strong bonds of loyalty towards one's in-group are based more on a categorization scheme and without feelings of hostility and negativity towards out-groups (Brewer, 1999; Hamilton, 1979). Therefore, even if no obvious hostility exists between two groups, in this case, between the cultural group of the message receivers and the cultural group of the perpetrator of the crisis, it is still possible to infer a preference for one's in-group over an out-group. This kind of ethnocentrism is marked by a feeling of superiority of one's own group or favoritism towards one's group irrespective of the merits of the other group (Brewer, 2007). The phenomenon of ethnocentrism needs to be differentiated from feelings of hostility towards the other group. When hostility exists, although merits of the other group may be recognized, the feelings of hostility constrain positive action towards the other group (Brewer, 1999).

Stephen and Rosenfield (1982) argued that race and ethnicity are central to social identities. For instance, ambiguous body contact such as a shove was viewed as more violent when it involved members of an out-group with historically known inter-group conflict (e.g., White Americans and Black Americans; Hindus and Muslims) than when it involved members where no such conflict existed. Further, participants tended to make more external or situational attributions when an in-group member exhibited negative behavior, whereas more personal dispositional attributions were made when an out-group member was involved (Duncan, 1976; Taylor & Jaggi, 1974). This finding implies that when an in-group member performed an undesirable task, participants were likely to

attribute the behavior to external causes that were beyond the control of an in-group member. If, on the other hand, the undesirable task was performed by a member of an out-group, then participants are likely to attribute the cause of that behavior to be internal (Duncan, 1976). For example, if an in-group member lost control of his or her car while driving and collided with another car, participants would be more likely to assign causality for losing control to an external or situational factor such as a slippery road. However, if a member of an out-group committed the same act, participants would most likely assign causality to an internal factor such as a bad or inexperienced driver.

As a cultural group, Asians tend to identify more strongly with members of their in-group and experience more loyalty towards in-group members when compared to members of Western or more individualistic cultures. This is because Americans, as members of a more individualistic culture, are more likely to associate with groups of their choosing and are more likely to drop in-groups when they perceive them to be too demanding (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). This research implies that, in the context of this study, stakeholders may view an organizational crisis differently depending on whether the perpetrator is a member of an in-group (e.g., with the same cultural identity) or out-group (e.g., with a different cultural identity). Given the tendency to make more dispositional attributions for out-group perpetrators and situational attributions for in-group perpetrators, message receivers will likely attribute the cause for an out-group perpetrator's actions to be caused by his or her internal characteristics. However, with an in-group perpetrator, message receivers are more likely to look for situational factors that could have caused the in-group member's violent act. If the incident in question is workplace violence, the organization becomes a likely target of



blame. This interplay of the message receiver and message characteristics leads to the following hypotheses:

H3: Nationality of the message receiver interacts with the group membership of the perpetrator of a crime (i.e., in-group/out-group) such that Indian message receivers blame the perpetrator more than Americans when the perpetrator is a member of an out-group whereas group membership of the perpetrator does not affect employee blame for the American message receivers.

H4: Conversely, nationality of the message receiver interacts with the group membership of the perpetrator of the crime (i.e., in-group/out-group) such that Indian message receivers blame the organization more than Americans when the perpetrator is a member of the in-group, whereas group membership of the perpetrator does not affect organizational blame for the American message receivers.

### **Attribution of Blame in the Message**

The second message characteristic of interest, the attribution of blame in the message, is also important as stakeholders from different cultures may process this information differently. Leading up to the 1980s, the understanding was that Easterners and Westerners shared similar cognitive processes, implying that different cultures used processes of causal judgment that would lead them to make similar causal inferences (Gardner, 1985). Heider (1958), in his explanation of the phenomenon of social perception, described in social perceivers a common inclination for the actor to overshadow the field. For example, Gilbert and Jones (1986; Jones, 1990; Jones & Davis, 1965; Kunda & Nisbett, 1986) found that people assigned causality for behavior to a

personal disposition, over-estimated trait consistency across situations, and relied heavily on personal traits to predict behavior across situations. Although this evidence was gathered mostly in North America, it was considered universal.

However, evidence from a wide range of studies suggests that individuals from the Eastern and West use different cognitive processes causing them to process the same information and reach very different and sometimes opposite conclusions (Miller, 1984; Morris & Peng, 1994; Nisbett, Peng, Choi, & Norenzayan, 2001). These studies suggest that cognitive patterns can be generalized based on geographical location to Eastern (or holistic cognitive patterns represented by China, India, Korea, and Japan) and Western (or analytical patterns typically represented by the U.S.). The differences are hypothesized to be a direct result of two related factors: view of the self in different cultures, and differing socio-ecological patterns existing in different cultures (Markus & Kitayama, 1991; Nisbett, 2003; Triandis, 1989).

**Self and other perspective.** Although earlier studies have focused on the universality of personality traits and overarching similarities with regard to the perception of self in different cultures, Markus and Kitayama (1991) showed that the sense of self was culturally determined. Geertz (1973) argued that people were born with a certain amount of information programmed into their brain but depended on cultural factors to fill in the blanks of information needed to survive. Over a period of time, people became adept at receiving and attending to the cultural meanings that surrounded them (Shweder, 1990). Therefore, universal biological functions that were hardwired into people took on specific meaning depending on the cultural context (Markus & Kitayama, 1998;

Shweder, Goodnow, Hatano, LeVine, Markus et al., 1998). Shweder (1990) summarized this relationship between the self and culture as being “mutually constituted” (p. 24).

Related to the concept of cultural self is the conception of self in relation to others. The Western view of the self considers individuals as separate from others and as an entity that is separate from the context. This cultural view considers the core of a being to be unchanging or constant (Markus & Kunda, 1986). In contrast to the Western view of self, members of Eastern cultures view the self as existing in context of a relational other, where the emphasis is on enacting role relationships and the associated obligations (Markus & Kunda, 1986). The self is sensitive to and aware of changes in the situation that could trigger different role expectations for the self. The ability to sense these differences and react appropriately to the changes is valued in these cultures as a sign of personal maturity and is even taught to students in schools (Bachnik, 1992; Tobin, Wu, & Davidson, 1989).

**The ecological perspective.** A second reason related to the conceptualization of the self in different cultures is the role of ecological factors serving to reinforce the sense of self. Specific ecological patterns that exist in different regions of the world lead these regions to adapt to the conditions and develop occupations that suited the geography (Nisbett, 2003). Agriculture, an occupation in flat plains, is often a group activity that requires coordination with others and a heavy dependence on climate which are beyond an individual’s control. Animal herding, practiced more in mountainous terrains, is considered more an individual activity (Nisbett, 2003). Occupation and terrain therefore reinforce people’s dependence on or independence from external factors. These social practices have, over the centuries, influenced and cemented cognitive patterns that

allowed people to adapt to their specific settings (Miyamoto, Nisbett, & Masuda, 2006; Nisbett, 2003). Therefore, people who live in individualistic societies that engage in individualistic occupations develop the habit of focusing on their own needs and less on things considered peripheral to their goals. Westerners therefore developed a cause-effect cognitive style. This analytical style of thinking is characterized by the focal object being detached from its contexts, a high dependence on formal logic, and a distancing from contradictions (Nisbett, 2003). On the other hand, people who live in interdependent societies that engage in collective occupations develop skills of attention and perception that allow them to focus on all situational factors (Nisbett, 2003). As a result, Easterners developed a holistic thinking pattern that is characterized by an emphasis on context, reliance on relationships to explain outcomes, favoring experience over logic, and acceptance of contradictory information. Institutionalized social, political, and religious practices, language, and even topography have played a role in cementing cultural differences in cognitive patterns (Hong, Morris, Chiu, & Benet-Martinez, 2000; Masuda & Nisbett, 2001; Miyamoto, Nisbett, & Masuda, 2006; Nisbett, 2003).

With regard to India, there are several examples from Hindu philosophy illustrating the holistic view. For example, the concept of *karma* continues to be a guiding principle of Indian society (Dalal, 2000; Keyes & Daniel, 1983; Paranjpe, 1998; Srinivas, 1952). As a core tenet of Indian philosophy, *karma* points to the unity of all life forms as manifestations of the ultimate and a transcendent truth (Keyes & Daniel, 1983). This view, in turn, reduces the significance of an individual's personality and other person-specific details. The individual is embedded in an intricately woven social, physical, and a cosmic network (Marriot, 1976). Being embedded makes the boundary or

differentiation between self and other rather indistinguishable (Tripathi, 1988). Even thought is considered context sensitive (Ramanujan, 1989). Space, time, and person are considered important factors in determining the course of action. The holistic approach of things being considered mutually dependent and devoid of meaning by themselves applies to Indian society. Humans are considered only one element in a natural world where social roles form the foundation. Indian culture is performed and reinforced not only by rituals but also by a firmly woven social structure. Social roles and obligations play an important part in determining behavior of people. All social relations, be it parent-child or husband-wife, are based on the principles of mutual dependence and reciprocity (Misra, 2003, p. 53). This spiritual and social set up firmly integrates the individual into his or her context (Daniel, 1984).

The Western mode of thinking offers sharp contrast to the Indian mode of thinking outlined above. Sampson (1988) identified certain tenets as characteristics of Western societies. For example, Western societies recognize logical processes to form the basis of knowledge. These societies also believe that the individual is the center of all activities, the primary actor. Thinking is conceptualized to be a context-free process and the individual is considered to be an unchanging entity. Members of such societies also share an internal locus of control. The differences in cognition can be traced back to differences in the concept of the individual in each of these cultures. The Western world has typically viewed an individual as self contained; the individual takes precedence over society (Markus & Kitayama, 1991; Sampson, 1988).

This difference in perception has been attributed to a cultural difference in paying attention to different elements in a focal field. Research has indicated that Easterners

engage in context or field-dependent information processing or that they rely on contextual cues to make inferences. Westerners, on the other hand, tend to disregard situational and contextual cues when making inferences as they engage more in field-independent processing. This attention pattern was supported for a single stimulus such as a pattern of blots (Abel & Hsu, 1949) as well as entire visual fields (Kitayama, Duffy, Kawamura, & Larsen, 2003). In research using visual settings, tracking eye-movements of participants from different cultures actually showed that they focused on different elements in the same picture. Although Americans looked at the focal object sooner and focused on it longer, Asian participants demonstrated rapid eye movements that took in the background specifically (Chua, Boland, & Nisbett, 2005). In another study by Masuda and Nisbett (2001), Asian participants who observed a focal object placed in a background made more statements than Westerners did about the contextual information and about the relationship between the focal object and the background. In a related finding, Asian participants made more errors in recalling information about the object when the focal object was presented with a novel background relative to the original background. This manipulation did not affect the recall pattern of the American participants.

The pattern also held outside of lab studies, in which participants were asked to describe everyday events; Americans focused significantly more on the central characters of their narratives than Asians (Chua, Leu, & Nisbett, 2005). Nisbett (2003), in a study using photographs, reported Japanese participants as noticing more background elements and identifying significantly more relationships tying the focal object to the background than the American participants. The findings caused Nisbett (2003) to conclude that the

difference in perception could be explained by “Asians using a wide-angled lens whereas Westerners used tunnel-vision” (p. 89). It should be noted here that the majority of studies that have investigated cultural cognitions have not reported the amount of variance explained by cultural cognitions. Where they are reported, they are relatively small ( $\eta^2$  ranging from .01 to .11). Despite the low level of explained variance, cultural cognitions have consistently explained differences in attribution in cross-cultural research.

In addition to causing differences in what is paid attention to, the difference in cognitive pattern also has implications for the inference process. The clearest manifestation of the difference in the inference process is that Westerners tend to concentrate on the focal object or the actor rather than on the surroundings and therefore attribute causality for action to factors that are internal to the actor such as personality traits, whereas Easterners are more likely than Westerners to attribute causality to causes that are external to the actor (Miller, 1984; Norenzayan & Nisbett, 2000). This phenomenon has also been referred to as lay dispositionism or correspondence bias and refers to the tendency to explain behavior more by internal traits and less by factors external to the actor (Gilbert & Malone, 1995; Ross & Nisbett, 1991). Ross (1977) earlier referred to this phenomenon of over-emphasis on internal traits when assigning causality and under-emphasis on situational factors as the fundamental attribution error (FAE), a tendency more prevalent among Westerners than Easterners.

This difference in attention and inference also has other implications such as for the process of categorization. For example, although Westerners are more likely to rely on formal rules and categorization schemata to process everyday information and

organize their environment, Easterners are more likely to favor information about relationships and similarities between the constituent parts in making those decisions (Norenzayan, Smith, Kim, & Nisbett, 2002). Early evidence for this view was offered by a study in which American children grouped pictures of adult males with those of adult females, utilizing the categorization rule of both being pictures of adults. Chinese children, on the other hand, grouped the adult female with the picture of a child emphasizing the relationship between the two (Chiu, 1972). This pattern held into adult life as well; studies have replicated these results in adult samples (Ji, Peng, & Nisbett, 2005; Monga & John, 2007).

The tendency to use external referents has also been studied extensively in psychology and has implications for interpersonal relationships. The theory of psychological differentiation has as one of its main features the extent to which the segregation of self from the surrounding is possible (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962). Segregation here refers to the differentiation by creating boundaries between the inner and the outer; certain attributes are recognized as being part of the self and everything else is recognized as being on the outside (Witkin & Goodenough, 1977). The extent to which this segregation is possible determines the extent to which the external is implicated as a referent for behavior. Research that began as work on visual fields was later expanded to explore the connection between perceptual dependence or independence and interpersonal dependence and independence (Witkin & Goodenough, 1977). Results suggest that visually field-dependent people also tend to be field dependent in information seeking or in relying on others to provide informational cues. Field-independent people (those who see themselves as separate from others and



the environment) are more likely to rely on internal referents for behavior (Witkin, Moore, Goodenough, & Cox, 1977). Field-dependent people (those who see themselves as being situated and connected to other beings in a larger social context) are more likely to perceive external referents to behavior (Witkin et al., 1977). However, Witkin and Goodenough (1977) maintained that field-dependent people's emphasis on external referents happens only when the situation to be interpreted is seen as ambiguous. If the situation is not perceived as ambiguous, field-dependent and independent people show no differences in their information processing. Among related behaviors characteristic of field-dependent people are attentiveness to social signals and the influence of interpersonal relationships (Witkin & Goodenough, 1977). Field-dependent people are also more aware of emotions experienced by others and make more references to emotions than field-independent people (Ancona & Carli, 1971; Kagitçibasi & Berry, 1989; Westbrook, 1974).

Another explanation exists to explain these cultural cognitive patterns in different cultures. Some researchers believe that person perception or attribution happens in at least two distinct stages (Gilbert & Malone, 1995; Quattrone, 1982). According to this perspective, in the first stage, all people, irrespective of their culture, make dispositional attributions. Evidence in support of this proposition is provided by Winter, Uleman, and Cunniff's work (1985) where participants found it easier to recall behavioral information about another when the information was presented as dispositional traits rather than in other types of behavior-related words. In the second stage, people make situational corrections to their automatic dispositional inference made in the first stage by considering salient contextual information.

The tendency among Asians to focus on situational factors is not limited to interpersonal interactions but can also be seen in mediated interactions. Morris and Peng (1994) demonstrated this tendency through a content analysis and comparison of news stories in leading Chinese and American newspapers. American news stories, in describing a crime, referred to the psychological traits of the perpetrator of the crime (e.g., having a violent temper, being darkly disturbed). In the Chinese newspapers, however, situational attributions (e.g., being recently fired) and relational factors (e.g., having a bad relationship with one's advisor) were stressed as being responsible for the tragedies. In a second study, Chinese participants weighed contextual factors as more likely to have caused a murder, whereas American participants rated psychological dispositions as being more likely to have caused it (Morris & Peng, 1994). Interestingly, the cultural difference in the pattern of assigning blame has been found irrespective of the gravity of the crime, from being knocked down on the street (Miller, 1984) to the act of murdering someone (Morris & Peng, 1994). It should be noted that in the studies reviewed here, there was no ambiguity in the scenarios that the person blamed for the incident was indeed responsible for it.

Based on this research, a two-way interaction between the cultural identity of the message receiver and the attribution communicated in the crisis message is predicted. Because holistic message processors weight contextual factors more in assigning causality, they will blame an organization more when contextual information is provided in a news story, especially given the context of workplace violence. On the other hand, analytic message processors, with their tendency to discount situational factors, will

blame an organization more when internal disposition information about the perpetrator is provided in the news story, leading to the following hypothesis:

H5: Cognitive style of the message receiver interacts with the attribution in the message such that holistic message processors blame an organization more when a situational disposition message is communicated in the crisis message than when a personal disposition attribution is communicated in the message, and analytic message processors blame an organization more when a personal disposition attribution is communicated than when a situational attribution is communicated in the message.

Finally, message recipients of different nationalities (either Americans or Indians) will likely read a news story in its entirety and will have information about the group membership (either in-group or out-group) of the perpetrator and the attribution in the message as to why the perpetrator committed the crime (either dispositional or situational). So, the question remains how the two message characteristics interact with the message receiver characteristic and how this interaction will impact organizational blame?

Research Question 1: Will organizational blame differ as a function of this three-way interaction between nationality of the message receiver, group membership of the perpetrator, and attribution in the message?

In measuring the impact of such crises, it is important to measure both the tangible and the intangible psychological ripple effects. In the event of a crisis, psychological ripple effects influence perceptions of the public in ways that can negatively affect sales and profit for an organization.

## Psychological Ripple Effects

*Ripple effect* is a term that is commonly used to describe a situation in which an effect from an initial state has the potential to incrementally affect subsequent, and sometimes, unrelated states (Kasperson et al., 1988). Ripple effects have been studied in several contexts. For example, early research on ripple effects considered the impact of disciplining one student on other students (Kounin & Gump, 1958). More recently, the term has been studied in economics (Hewings & Mahidhara, 1996), bureaucratic accountability (Bennett, 1997), mental illness (Wasow, 1995), and terrorism (Sheppard, 2004). Ripple effects have also been studied by risk communication scholars as the spread of risk from one party, location, or generation to another (Kasperson et al., 1988). Although ripple effects can be measured over a period of time (Sheppard, 2004), ripple effects typically refer to any condition where an initial incident has the potential to alter either subsequent or unrelated states. With reference to crises, the assessment of the situation goes beyond a technical assessment of risk (Sheppard, 2004); crises create ripple effects. This dissertation is interested in the intermediate psychological states created in the minds of message receivers. Psychological ripple effects of crises are operationalized here as the attribution of organizational blame, organizational trust, emotional reactions of fear and anger, perceptions of risk, negative word-of-mouth, and purchase intention. If stakeholders perceive that an organization is to blame for the crisis, the resultant psychological ripple effects could have long-term implications for organizations by way of falling market shares, reduced sales and profit, and erosion of goodwill and reputation.

## **Post-Crisis Stakeholder Psychological Ripple Effects**

**Organizational blame.** *Organizational blame* refers to the degree to which stakeholders blame the organization for the crisis or the extent to which stakeholders perceive the organization to be responsible for the crisis (Coombs, 2006; Griffin, Babin, & Dardin, 1992). Crisis responsibility also measures the degree to which the stakeholders believe that the organization could have prevented the crisis from happening (Coombs & Holladay, 2002). Therefore, crisis responsibility is the result of the organization being blamed for something it actively did, passively allowed, or for something it should have done but did not do (Benoit, 1997). Post-crisis discourse is often dominated by the blame game as organizations and other parties involved try to strategically position themselves so as to minimize their culpability. The post-crisis narrative is therefore characterized by accounts of sharing and shifting blame, creating a scapegoat, or other means that reduce the organization's responsibility (Benoit, 1995). Organizations need to keep in mind that as sense-making and evaluation of a crisis are socially constructed, it is the stakeholders' perception of reality that matters in shaping an organization's reputation (Benoit, 1997; Heath, 2010). Further, organizational blame is not experienced in isolation.

Organizational blame, for instance, has been found to be negatively related to organizational trust; when stakeholders attribute high blame to an organization, they report lower levels of trust in the organization (Gillespie & Dietz, 2009; Robinson, 1996).

**Organizational trust.** Several definitions of trust exist that capture its multi-dimensional nature. For example, Deutsch (1958) and Zand (1972) conceptualized trust as individual expectations underlined by the feeling of vulnerability. Golembiewski and McConkie (1975) called it the "reliance on or confidence in some event, process, or

person” (p. 133). In the context of crisis communication, organizational trust forms an important part of an organization’s reputation and character; it reflects the degree to which the source or the organization is responsive to the concern of others (Coombs & Holladay, 2002). For the purpose of this dissertation, a definition that combines the aspects of vulnerability and responsiveness to others is considered because the stakeholders may have no direct control over an organization’s response to a crisis and instead has to rely on the organization to act in the best interest of its stakeholders. Here, *organizational trust* is defined as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action that is important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer, Davis, & Schoorman, 1995, p. 712). Given this definition of trust, in the context of this dissertation, stakeholders should trust an organization to safeguard stakeholder interest by putting stakeholder concerns above its own, even though stakeholders have no way of ensuring such behavior from the organization. An organization’s response to a crisis should be perceived as sincere and in the best interest of the stakeholders.

Trust remains an important ingredient for the well-being of an organization both for its internal stakeholders such as employees and for its external stakeholders such as customers (Shockley-Zalabak, Ellis, & Winograd, 2000). Within organizations, workforces are more diverse than before; employees are more likely now to come into contact and interact with people from different cultural and ethnic backgrounds (Jackson & Alvarez, 1992). Given the diversity of the workforce, employees are less able to rely on similarity or shared experiences to build trust (Berscheid & Walster, 1978; Mayer,

Davis, & Schoorman, 1995). Mutual trust, therefore, is a valuable tool that can help build morale and productivity. External to an organization, trust between an organization and its stakeholders is especially important in times of a crisis. Organizational trust has been found to be a significant predictor of satisfaction for both internal and external stakeholders (Gilbert & Tang, 1998).

The process of assigning organizational blame often triggers emotional reactions in the stakeholders while at the same time causing reputational harm to the organization (Coombs, 2007). Stakeholders experience a wide range of emotions depending on the crisis type, their involvement, and the organization's response to the crisis. A functional account of emotions states that emotions facilitate adjustments to the problems regarding physical and social survival (Ekman, 1992; Keltner & Gross, 1999; Lazarus, 1991). To summarize, Scherer (1994) referred to emotional responses as processes that serve as adaptive responses to environmental stimulus. The process of coping with a crisis consists of an intricately woven network of psychological and behavioral components (Carver & Scheier, 1994; Lazarus & Folkman, 1984).

Given this role of emotion, emotional responses in stakeholders help them adapt to the crisis situation. The emotion that is experienced by stakeholders in a crisis is dictated by whether they blame the organization for the crisis or not. Coombs and Holladay (2005), in fact, advocated that crisis managers use stakeholder emotions to guide their choice of crisis response strategy. Strong negative emotions that were related to feelings of organizational control and responsibility would demand more accommodative strategies to diffuse the emotion whereas less accommodating strategies could be used for emotions that did not implicate the organization to the same degree. In

times of a crisis, the two emotions that are most commonly experienced are anger and fear (Coombs, 2007; Jin, 2010; Jin, Pang, & Cameron, 2007).

**Anger.** If stakeholders perceive that an organization is to blame for a crisis or has contributed in some way to the state of crisis, then they are likely to feel anger (Hearit, 2006). Lazarus (1991) described the core relational theme of anger as “experiencing an offense against me and mine” (p. 122). Anger is experienced if stakeholders feel that the actions of the other, in this case, the organization, “either intentionally or by neglect treats the stakeholders with disrespect” (Lindner, 2006, p. 275). This was especially found to be the case when stakeholders found a crisis to be personally relevant or found themselves to be involved in the issue (McDonald & Härtel, 2000). Anger against the organization was found to increase along with decreased trust as stakeholders attributed higher crisis responsibility to the organization (Coombs & Holladay, 2005; Dunn & Schweitzer, 2005). Anger was also reported to be high when the crisis was perceived as being highly preventable (Lerner, Gonzalez, Small, & Fischhoff, 2003). Anger can have detrimental effects on the stakeholder’s relationship with the organization both directly and indirectly. Appraisal-tendency theory posits that emotions are not only produced by cognitions, but they also produce cognitions (Lerner & Keltner, 2001). For example, on the one hand, anger has been associated with lowered risk perception (Lerner & Keltner, 2001), but on the other hand (Lerner et al., 2003), anger has also been known to stimulate retribution-oriented responses or a desire to take revenge such as reduced purchase intention (Coombs & Holladay, 2007; R. S. Lazarus & B. N. Lazarus, 1994). Therefore, as a direct effect of anger, three further ripple effects are expected in the form of



decreased risk perception, increased negative word-of-mouth, and decreased purchase intention (Folkes, Koletsky, & Graham, 1987; Jorgensen, 1996).

**Fear.** Fear has been described as a discrete, negative emotion whose core relational theme is “facing uncertain and existential threat” (Lazarus, 1991, p. 96). Fear is experienced when there is a definite threat of sudden physical harm or danger (Lazarus, 1991). This emotion is accompanied by high degrees of uncertainty of how to cope with the situation and unpredictability of how the situation will be dealt with (Lerner et al., 2003). Fear is most likely to be experienced when a crisis is perceived to have been unpredictable or with low or little control (Lerner et al., 2003). Fear, therefore, is related to appraisal themes that are associated with risk perception: uncertainty, unpleasantness, and situational control (Lazarus, 1991; Smith & Ellsworth, 1985). Fearful people were more likely to perceive uncertainty and situational control in new situations (Smith & Ellsworth, 1985) and as a result report higher risk (Lerner & Keltner, 2000) than people experiencing anger. Fear also influences decision-making choices as fearful people are more likely to choose risk-averse options (Lerner & Keltner, 2001). Fear is a commonly experienced emotion in times of an organizational crisis; individuals often make maladaptive decisions triggered by the extreme emotional arousal experienced during an organizational crisis (Seeger, Sellnow, & Ulmer, 2003).

**Risk perception.** Risk perception has been defined in different ways but the central elements in the definitions are common: the severity and susceptibility of an experienced threat (Slovic, Fischhoff, & Lichtenstein, 1982; Tversky & Kahneman, 1974). In this dissertation, risk perception is conceptualized as the likelihood of a crisis occurring again and can be considered similar to the risk susceptibility dimension. It

should be noted that the severity of risk or the magnitude of damage was the same across experimental conditions. In discussing the causal antecedents of risk perception, Slovic and Peters (2006) differentiated between *risk as emotion* and *risk as analysis*. *Risk as analysis* refers to a process of factoring in scientific and logical considerations when assessing risk, whereas *risk as emotion* refers to an individual's automatic, intuitive reaction to a threat. It is this instinctive risk assessment with its link to emotion that is of interest in this dissertation. Early research on risk perceptions traced a link between emotions and risk assessment; positive emotions led to optimistic risk appraisals and negative emotions led to more pessimistic appraisals (Johnson & Tversky, 1983). However, more recent research has led to a more nuanced understanding of the role of specific emotions in risk assessment such that even a negative emotion like anger can produce more optimistic risk appraisal when compared to the risk appraisal associated with feeling fear, also a negatively valenced emotion (Lerner & Keltner, 2001). This is because although fear is associated with uncertainty and situational control that tends to magnify risk perception, anger is associated with certainty and personal control that mitigates feelings of being at risk (Lerner & Keltner, 2001). Further, risk is perceived differently by different people; there is no "true or absolute risk" (Kasperson et al., 1988, p. 181). Kasperson et al. (1988) defined social amplification of risk as a phenomenon by which "information processes, institutional structures, social-group behavior, and individual responses shape the social experience of risk, thereby contributing to risk consequences" (p. 181). Through this process, messages containing a combination of factual, inferential, and symbolic meanings that are transmitted from the organization experiencing a crisis are affected by a number of factors such as institutional structures

like the media, and individual characteristics of the stakeholder to determine how the risk will be experienced (Heath, Lee, & Ni, 2009; Laswell, 1948).

### **Behavioral Intent**

The emotion experienced by assigning crisis responsibility and the subsequent altered reputational evaluation ultimately impact behaviors such as word-of-mouth communication, future purchase by stakeholders and brand loyalty (Coombs & Holladay, 2001; Siomkos & Kurzbard, 1994).

**Negative word-of-mouth (NWOM).** *Negative word-of-mouth* is defined as the negatively valenced, informal communication between private parties about goods and services and their evaluation thereof (Richins, 1983). Negative experiences with a company's products or services cause customers to retaliate by engaging in NWOM. However, not all negative experiences result in NWOM. For instance, although anger at a company is known to elicit active responses from customers in the form of NWOM, disappointment with a company is related to more passive responses in customers not related to NWOM (Bougie, Pieters, & Zeelenberg, 2003). The extent of the NWOM phenomenon has been found to be dependent on several factors such as the perceived justice or the customers' satisfaction with the company's response to the problem (Blodgett, Hill, & Tax, 1997), and the severity of the problem (Brown & Beltramini, 1989). Word-of-mouth communication (WOM), both positive and negative, is further known to influence purchase intentions with positive WOM increasing purchase intentions and negative WOM decreasing purchase intentions (Charlett, Garland, & Marr, 1995; East, Hammond, & Lomax, 2008).

**Purchase intention.** Purchase intention refers to the stakeholders' intention to purchase a product from the organization in the future. Marketing research has found that consumers construct accounts of blame and attribution of responsibility for harmful products (Folkes, 1984). In reaching these conclusions, consumers typically go beyond the product attributes that may be involved in regular purchase decisions and draw on knowledge about the corporate organization (Aaker, 1996; Folkes, Koletsky, & Graham, 1987).

Given that perceptions of organizational blame can hypothetically create other psychological ripple effects, it is critical for organizations to understand how proximal causes can produce distal ripple effects such as emotional responses and behavioral intentions that ultimately affect the organization. The extent to which stakeholders blame the organization for the crisis will determine their trust in the organization (Kim, Dirks, Cooper, & Ferrin, 2006; Krosgaard, Brodt, & Whitener, 2002) and determine stakeholders' emotional response in the form of anger and fear (Jin, Pang, & Cameron, 2007). Further, these emotional responses of fear and anger help determine stakeholders' risk perception (Lerner & Keltner, 2001; Slovic & Peters, 2006) that in turn will guide their behavior such as negative word-of-mouth communication and future purchase intentions (Loewenstein, Weber, Hsee, & Welch, 2001). From the above theoretical rationale, the following hypotheses are derived (see Figure 1 for hypothesized structural model).

H6: Organizational blame influences organizational trust such that as organizational blame increases, organizational trust decreases.

H7: Organizational blame influences anger such that as organizational blame increases, anger increases.

H8: Employee blame influences fear such that as employee blame increases, fear increases.

H9: Anger influences risk perception such that as anger increases, risk perception decreases.

H10: Anger influences NWOM communication, such that as anger increases, NWOM increases.

H11: Fear influences risk perception such that as fear increases, risk perception increases.

H12: NWOM influences purchase intention such that as NWOM increases, purchase intention decreases.

H13: Organizational trust influences purchase intention such that as organizational trust increases, purchase intention increases.

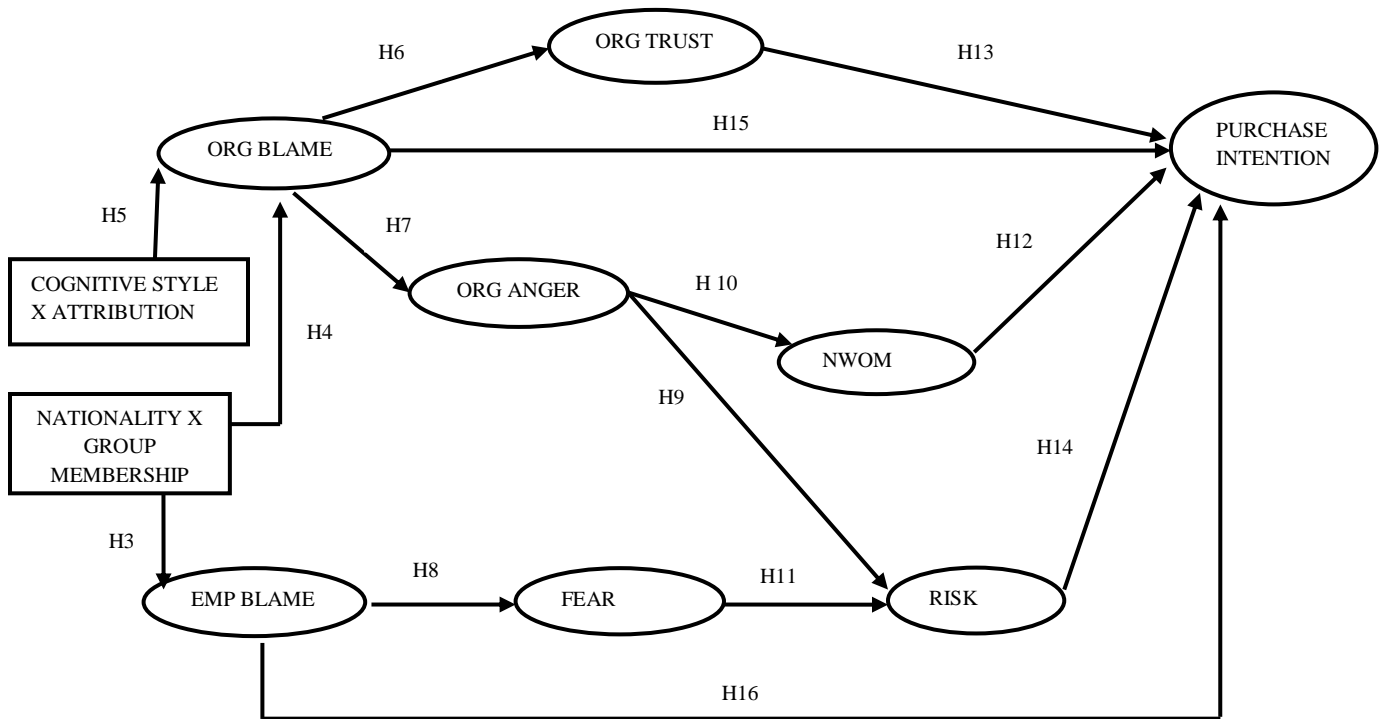
H14: Risk perception influences purchase intention such that as risk perception increases, purchase intention decreases.

H15: Organizational blame influences purchase intention such that as organizational blame increases, purchase intention decreases.

H16: Employee blame influences purchase intention such that employee blame increases, purchase intention increases.

Finally, the data are predicted to fit the hypothesized model.

H17: The data are expected to fit the hypothesized model.



*Figure 1: Hypothesized psychological ripple effect structural model. In the model, cognitive style refers to the cognitive style of the message recipient, attribution refers to the attribution in the message, nationality refers to the nationality of the message receiver, and group membership refers to the in-group versus out-group membership of the perpetrator relative to the nationality of the message receiver.*

## Chapter IV: Pilot Studies

This dissertation examined message effects caused by reading about a violent crime committed by a perpetrator for different reasons. Based on message effects research's recommendation to replicate messages to facilitate generalizability of findings (Jackson, 1992; Jackson, O'Keefe, Jacobs, & Brashers, 1989), two different crisis scenarios were employed in this dissertation. Pilot studies were conducted to arrive at the following message elements: the attributions in the message (personal and situational), the two types of crisis scenarios, and the type of food to be contaminated in the event that food contamination emerged as one of the crisis types based on the pilot study.

### **Pilot Study 1: Attributions in the Message**

The dissertation used the same message attributions as Anagondahalli and Turner (in press). For the purpose of Anagondahalli and Turner (in press), a pilot study had earlier been conducted to assess the effectiveness of the attribution manipulation in their experiment by measuring participants' self-report of attribution as a function of the attribution of blame communicated in the news story.

**Pilot study 1 participants.** Participants ( $N = 41$ ) were undergraduate students at a mid-Atlantic university recruited through an online participant pool; mean age was 19.73 ( $SD = 1.45$ ,  $Mdn = 20.00$ , Range = 6). A majority of the sample identified themselves as Caucasian (71%), 10% each as African American and Asian American, and the remaining 10% identified themselves as South Asians, Hispanic, or Middle Eastern. A little more than half the sample was male (56%). Freshman constituted 22% of the sample, 39% were sophomores, 25% were juniors, and 12% were seniors. All percentages are rounded off to the nearest whole number.

**Pilot study 1 procedure.** Participants who signed up for the study arrived at a pre-designated classroom and were randomly assigned to one of two experimental conditions: the dispositional or the situational attribution. After providing informed consent and demographic data, participants proceeded to read the experimental stimulus and answer questions about their perception of whether the perpetrator's actions were caused by his personal dispositions or were a result of his circumstances (see Appendix A for complete pilot study 1 protocol). On completion of the study, participants were debriefed, thanked, and received extra credit for their participation.

**Pilot study 1 results.** Pilot data indicated that message recipients who read the personal attribution message perceived the perpetrator's actions as being caused more by his personal attributes ( $M = 3.95$ ,  $SD = 0.77$ ) than those who read the situational attribution message ( $M = 2.46$ ,  $SD = 0.86$ ),  $F(1, 40) = 34.17$ ,  $p < .001$ ,  $\eta^2 = .47$ . Similarly, participants who received the message with a situational attribution saw the perpetrator's actions as being more controlled by his situation ( $M = 3.20$ ,  $SD = 0.66$ ) than those who read the message with the personal attribution message ( $M = 2.34$ ,  $SD = 0.82$ ),  $F(1, 37) = 12.38$ ,  $p < .001$ ,  $\eta^2 = .26$ . As the attribution manipulation worked and the same message attributions were used in this dissertation project, they were not pilot tested again.

### **Pilot Study 2: Food and Crisis Type**

A second pilot study was conducted to generate two comparable crisis types for the main study's experimental stimulus. In the event that food contamination emerged as one of the crisis scenarios, the pilot study further aimed to identify a food type that is comparably consumed in both countries. As the two countries where dissertation data



were collected, India and the U.S., have very different geographical, political, and social issues, the types of violence experienced by people in these countries could be different. Similarly, the foods commonly consumed in these two countries could also be different. For these reasons, pilot data were collected in both countries to find two comparable types of violence as well as to identify a potential food that could be contaminated.

**Pilot study 2 participants.** Data from the American participants ( $n = 38$ ) was collected through an online study at a mid-Atlantic university (average age  $M = 21.05$ ,  $SD = 1.95$ ,  $Mdn = 21.00$ , Range = 11). A majority of the sample was female (88%). Forty two percent self-identified themselves as Caucasian, 18% as African American, 26% as Asian American, and 13% of the population constituted other races. Half the sample consisted of seniors (50%), juniors made up 37% of the sample, and freshmen and sophomores made up the remaining 13% of the sample.

Indian participants ( $N = 44$ ), were recruited through snowball sampling from a university in a southern city in India where the dissertator had access to undergraduate students (average age  $M = 19.23$ ,  $SD = 1.29$ ,  $Mdn = 19.00$ , Range = 4). These students were recruited for the study who then recruited other students at the same university to participate in the study; all participants filled out a paper and pencil study. Over two-third of the sample was female (68%). Freshmen made up approximately 14% of the sample, sophomores 43%, juniors 10%, and seniors 34%.

**Pilot study 2 procedure.** After providing consent and demographic information, participants from both countries first generated a list of ten food and beverage items they frequently consumed. They then rated a pre-generated list of ten food and beverage items based on how frequently they consumed the item (where 1 = *Not at all* and 5 = *Very*). The

pre-generated list was provided for the participants to rate in the event that the free listing did not reveal foods that were comparably consumed in both countries. Participants also generated a list of five acts of violence most likely in their country. Finally, they rated a pre-generated list of three violent acts based on how probable these acts were in their country (where 0 = *Not at all Probable* and 100 = *Definitely Probable*, see Appendix B for pilot study 2 protocol).

For the American participants, the online study was designed such that the pre-generated list of the foods was displayed after participants had completed the section that asked for their independent listing in order to minimize the influence of their responses. American participants received extra credit for their participation. Indian participants were recruited through snowball sampling; existing contacts of the dissertator were recruited who, in turn, recruited their friends and classmates from the same college. The participants were not offered extra credit as their participation in the study was not related to their school requirements. Further, it was reasoned that the absence of extra credit or any other form of incentive would hamper completion rates if participants were given the flexibility of an online study. For this reason, Indian participants filled out a paper and pencil survey and returned the survey immediately upon completion. With the paper and pencil study, the pre-generated list of foods and beverages were provided on a separate sheet to minimize influencing participants' responses.

**Pilot study 2 results.** These data indicated two types of violence that did not differ in the probability of occurrence between the two countries: Food poisoning:  $t(79) = 0.72, p > .05, d = .16, (M_{AM} = 41.68, SD = 26.97; M_{IN} = 45.75, SD = 23.39)$ , and bombing:  $t(78) = 1.76, p > .05, d = .40, (M_{AM} = 42.41, SD = 32.36; M_{IN} = 30.88, SD = 25.10)$ .

The free listing by participants also identified food contamination as a type of violence equally probable in both countries,  $\chi^2(1, N = 24) = 1.50, p > .05$  ( $n_{AM} = 9, n_{IN} = 15$ ). The free listing by participants also identified the following types of crises as comparable in the two countries: drunk driving:  $\chi^2(1, N = 31) = 0.81, p > .05$  ( $n_{AM} = 13, n_{IN} = 18$ ), armed robbery:  $\chi^2(1, N = 11) = 0.82, p > .05$  ( $n_{AM} = 7, n_{IN} = 4$ ), car accident:  $\chi^2(1, N = 37) = 2.19, p > .05$  ( $n_{AM} = 23, n_{IN} = 14$ ), and arson:  $\chi^2(1, N = 20) = 1.80, p > .05$  ( $n_{AM} = 13, n_{IN} = 7$ ).

Of these, arson ( $n = 20$ ; 24% of all responses) and armed robbery ( $n = 11$ ; 13% of all responses) were not considered because of their relatively low frequencies. Similarly, although the category *car accident* seemed statistically suitable and had a higher frequency ( $n = 37$ ) relative to other categories, the category included a wide variety of coded responses from brake failure to texting while driving because of which it was not considered. Finally, although drunk driving seemed like a viable alternative, it was disregarded in favor of bombing because bombing is a more institutional problem than drunk driving. Bombing was chosen as the second crisis type despite the two samples differing statistically  $\chi^2(1, N = 43) = 5.233, p < .05$  ( $n_{AM} = 14, n_{IN} = 29$ ), because a relatively high number of participants from both countries ( $n = 43$ ) listed bombing in the self-generated list. The decision to include bombing as a scenario was also supported by the *t* test as mentioned earlier.

With food contamination being identified as one of the crisis types, the type of food to be contaminated also needed to be decided in order to make the contamination salient for the participants. Although several categories of foods emerged as being comparably consumed (carbonated drinks, fruit juice, pizza, potato chips, and popcorn),

carbonated drinks was the only food category that appeared both on the list generated by participants:  $\chi^2(1, N = 17) = 2.88, p > .05$  ( $n_{AM} = 5, n_{IN} = 12$ ), as well as on the list provided to the participants,  $t(80) = 1.30, p > .05, d = .29, (M_{AM} = 2.61, SD = 1.48; M_{IN} = 2.25, SD = .97)$ . Therefore, carbonated drinks were chosen as the type of food to be contaminated.

## Chapter V: Main Study

### Design

A 2 (nationality of the message receiver: American, Indian) X 2 (group membership of perpetrator: in-group, out-group) X 2 (attribution in the crisis message: situational, personal) independent groups post-test only experimental design was employed. Participants read a news story of approximately 300 words about a former employee of a food and beverage organization (either Indian or American) who had committed a certain crime (either bombing or food contamination) for a certain reason (either personal dispositional or situational). The location of the crisis was controlled for by purposefully not providing details about the location of the crisis. This was done in order to make the crisis seem proximal to the participants and thereby increase the risk salience (Heath, Seshadri, & Lee, 1998, Nickerson & Zhe, 2004). Message effects based on the source of the news were similarly controlled by omitting information about the source. Effects of using different channels (such as effect of the broadcaster in television news or the ability to leave feedback in online news formats) were also controlled by providing all messages in print form.

### Sample

To test the predictions of this dissertation, participants were recruited from two national groups. Undergraduate participants ( $N = 367$ ) were recruited from an American university in the mid-Atlantic region through an online participant pool. The average age of the participants was 19.71 ( $SD = 1.91$ ,  $Mdn = 20$ , Range = 15). More than half the sample was female (61%). The American sample consisted of Caucasians (61%), African

American (15%), Asian American (15%), Hispanic (3%) and other races (approximately 5%).

Indian participants ( $N = 341$ ) were undergraduate students from a college in southern India. The average age of the participant was 18.77 ( $SD = 1.06$ ,  $Mdn = 18$ ,  $Range = 12$ ). Approximately 57% of the sample was female. Although nearly half the sample consisted of freshman for the Indian sample (46%), the class standing was roughly evenly distributed for the American sample. A majority of the Indian and American samples were raised in an urban environment (approximately 95% and 89%, respectively). Similarly, a significant proportion of Indian and American participants self-assessed their family's socio-economic status to be middle (68% and 35% respectively) and upper-middle class (27% and 51%). The Indian sample was entirely from a commerce major, which approximately compares with the course work of the business major in the U.S. The American sample consisted approximately of 17% business majors ( $n = 71$ ), 40% communication majors ( $n = 145$ ), 10-15% from the behavioral and social sciences and from the letters and sciences majors ( $n = 88$ ), and approximately 5% each from other majors ( $n = 73$ ).

## **Procedure**

**American participants.** The recruitment call for the American participants listed two criteria: Participants should be 18 years old or over, and they should not have participated in the previous study (Anagondahalli & Turner, in press). American participants who signed up for the study arrived at the designated class room (approximately 25-30 students per session) and were randomly assigned to one of eight experimental conditions. After providing informed consent and demographic data,

participants answered questions about their cognitive styles (see Appendix C for complete experimental protocol). They then proceeded to read the experimental stimulus (see Appendix D for all experimental messages) and finally answered questions about their perception of the experimental stimulus. Their entire participation lasted approximately 20 minutes. On completion of the study, they were debriefed, thanked for their participation, and dismissed. American participants received extra credit for their participation in the research. Data were collected in November and December 2011.

**Indian participants.** Two colleges in a large south Indian city were approached for permission to conduct the study. These specific colleges were approached because of their location in the city and their easy accessibility by public transport. Data were collected from undergraduate students from the first college that consented to the data collection. The head of one of the departments accompanied the dissertator to classrooms in the morning while classes were in progress and introduced the researcher. The dissertator first stated the criterion for participation as being 18 years old or over and then explained the procedure to participate in the study. Each class had approximately 50-60 students. The experimental packages were distributed in the classes by randomly assigning participants in each classroom to one of the eight experimental conditions. Participants were instructed to return completed questionnaires to the department office where the dissertator had a desk. Data collection was conducted over three days in August, 2011.

### **Measures**

This dissertation hypothesized differences in ripple effects based on measured differences in cognitive processing styles. The latent constructs (psychological ripple

effects such as attribution of blame, trust; emotional responses such as anger, fear, negative word-of-mouth, and future purchase intention) were measured using a 5-point Likert type scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*). Confirmatory factor analyses (CFA) were conducted on all items to ensure that all constructs were unidimensional.

### **Data Analysis Strategy**

Bandolas and Finney (2010) recommended a combination of three fit indices (each representing a different criterion) to evaluate the fit of the latent factors and models: Absolute fit index (model  $\chi^2$ , and SRMR), a parsimonious fit index (RMSEA), and an incremental fit index (CFI). Absolute fit indices measure the difference between observed and implied matrices. The  $\chi^2$  test may not be a good index of fit especially for sample sizes of over 200 participants (Hu & Bentler, 1998; Kline, 2005). For this reason, even though the chi square statistic is reported in the results, the SRMR, with values of .08 or less, are considered indicative of good fit. Parsimonious fit indices also measure the discrepancy between observed and implied matrices but penalize model complexity. The RMSEA with values of .05 or less and its 90% confidence interval with values of .05 or less are considered good fit. However, for models with few degrees of freedom (such as the CFA for some of the latent variables in this dissertation), the RMSEA tends to be inflated and may not be an accurate reflection of fit (Kenny, Kaniskan, & McCoach, 2011). Finally, the incremental fit index considers the fit of the proposed model relative to the null model. The CFI, with values of .95 or greater, is considered indicative of good fit. In addition to these measures, as recommended by Hancock and Mueller (2001), factor reliability or coefficient *H* is also reported for latent constructs. Data from the



Indian ( $n = 341$ ) and American ( $n = 367$ ) samples were pooled for analysis ( $N = 708$ ).

Data were analyzed using SPSS (version 19) and LISREL (version 8.8).

### **Thinking Styles Constructs**

Analytic processing measures the extent to which participants focus on the focal object and attribute causality to internal dispositions (Nisbett & Miyamoto, 2005).

Holistic processing measures the extent to which participants focus on contextual cues or background information and attribute causality more to situational factors (Nisbett &

Miyamoto, 2005). Polarized thinking measures the extent to which participants choose polarized solutions or “either/or” solutions (Peng & Nisbett, 1999). Dialectic thinking

measures the extent to which participants avoid extreme solutions and prefer the midpath solution (Peng & Nisbett, 1999). Although thinking styles have formed the basis of a

large volume of research on cross-cultural differences, most of this research has assumed such differences based on the nationality of members of Eastern and Western cultures.

The only known effort to create and validate scales to measure these constructs has been by Choi, Koo, and Choi (2007). Choi, Koo, and Choi (2007), through a series of six studies, developed a 24-item scale ( $\alpha = .74$ ) using exploratory and confirmatory factor analysis.

In their study, the twenty-four items (six items per factor) loaded on four different factors: causality, attitude towards contradictions, perception of change, and locus of attention. Of these four factors, three factors are directly relevant to this dissertation: the causality and locus of attention subscales and were used to measure the analytical versus holistic thinking style whereas the attitude towards contradictions subscale was used to measure polarized versus dialectic thinking. The fourth factor, perception of change,

measuring the extent to which members of different cultures are sensitive to change in the environment was not included as it was not relevant to this dissertation. Six items representing each of the three factors were used to measure the three factors of interest. Representative items from the various subscales are “Everything in the world is intertwined in a causal relationship” (causality subscale); “It is more desirable to take the middle ground than go to extremes” (attitude towards contradiction subscale); and “It is more important to pay attention to the whole than its parts” (locus of attention subscale; see Appendix C for a list of all items). Higher scores on the causality and locus of attention subscales indicated holistic processing whereas lower scores indicate analytic processing. Similarly, higher scores on the attitude towards contradictions subscale represented dialectic thinking whereas lower scores represented polarized thinking. The CFAs for the exogenous constructs used in the dissertation are discussed next.

**Causality subscale.** In this dissertation, the six items used to measure *causality* resulted in an initial  $\alpha = .58$ . One item was dropped to increase the scale reliability. The dropped item contained a double negative, and it was reasoned that the wording of the item may have confused participants, resulting in low reliability. The five items were subjected to a confirmatory factor analysis (CFA) after allowing the error terms on two items to covary because of the similarity in wording. CFA confirmed the hypothesized single factor:  $\chi^2(4, N = 708) = 21.84, p < .05$ , RMSEA = .07, 90% CI [.046, .11], CFI = .96, SRMR = .04. The five items were averaged to create a scale ( $M = 3.86, SD = 0.64$ ). The scale demonstrated reliability of  $\alpha = .60$ , and coefficient  $H = .60$ .

**Locus of attention subscale.** Similarly, the initial analysis on the six-item subscale that measured *locus of attention* produced an initial  $\alpha = .71$ . Further analysis

suggested dropping one item to increase the alpha; this was done to create a five-item scale. A correlational diagnosis revealed that the correlation between two out of the five remaining items ( $r = .58, p < .01$ ) indicated linear dependency. One of these items was dropped to result in a four-item scale that measured Locus of Attention. CFA showed a reasonable fit of data to the single factor model:  $\chi^2(1, N = 708) = 2.88, p > .05$ , RMSEA = .05, 90% CI [0.0; 0.13], CFI = 1, SRMR = .01. The four items were averaged to create a scale ( $M = 3.41, SD = 1.07$ ) with reliability  $\alpha = .70$ , and Coefficient  $H = .63$ .

**Attitude toward contradiction subscale.** Finally, the six items that measured *attitude toward contradictions* were subjected to an initial reliability test and revealed an initial alpha of .59 for the six items. One item was dropped to increase the reliability. A CFA of the five items was conducted after allowing the error terms of two items to covary because of the similarity in their wording. Results indicated a good fit of the proposed single factor model of the five items to the data:  $\chi^2(4, N = 708) = 10.50, p < .05$ , RMSEA = .05, 90% CI [0.012; 0.084], CFI = .99, SRMR = .02. The five items were averaged to create a scale ( $M = 3.70, SD = 0.76$ ). Factor reliability was calculated at  $\alpha = .67$ , and Coefficient  $H = .71$ .

**Holistic scale.** Although the three subscales formed good factors, the real focus of this dissertation was the analytical and holistic factor that the three subscales represented. Two factor analysis approaches were tried to create a single factor. First, a second-order factor analysis was attempted, with the 14 items loading on the three sub-factors: causality, locus of attention, and attitude towards contradiction. These three sub-factors were then made to load on a second order factor, *AnHol*. Results indicated a reasonable fit for the second order factor:  $\chi^2(71, N = 708) = 171.34, p < .05$ , RMSEA = .05, 90% CI

[0.036; 0.053], CFI = .95, and SRMR = .04 with a reliability of  $\alpha = .73$ , coefficient  $H = .69$ .

As a second approach, the 14 items were loaded directly onto a first-order factor called *AnHol*. Fit indices indicated that the data did not represent an acceptable representation of a first-order factor model:  $\chi^2(74, N = 708) = 443.81, p < .05$ , RMSEA = .09, 90% CI [0.083; 0.098], CFI = .83, and SRMR = .07. The second-order factor model therefore provided a better fit for the data. This representation is in accordance with Choi, Koo, and Choi's (2007) conceptualized model. Further, comparing the Akaike Information Criterion (AIC) index for the two non-nested models revealed that the second-order factor model had a lower AIC (239.61) relative to the first order factor model (561.30), implying that the second order factor model fit the data statistically better than the first order model (Mueller & Hancock, 2010).

With the factor structure established, next a principal component analysis was conducted to derive scores for the *AnHol* variable. The unrotated solution revealed four components with eigenvalues greater than 1. The eigenvalue on component one was almost twice (3.19) that of eigenvalue on component two (1.74), three (1.53), and four (1.08). Additionally, a scale created by summing and averaging the 14 items that made up the second-order factor ( $M = 3.70$  and  $SD = 0.54$ ), *Cognition*, correlated highly with the first component,  $r = .99, p < .01$ , and to a lesser extent with the second component,  $r = .10, p < .05$ . Given the very high correlation of the variable *Cognition* with the first component, this variable was considered a good representation of cognition scores of participants. The scale demonstrated reasonable reliability of  $\alpha = .73$ , coefficient  $H = .69$ . A median split was performed on this variable creating a new variable where values

below the median on this scale indicated analytical thinking (coded 0 in the data file) and values above the median indicated holistic thinking (coded 1 in the data file). The median split divided the Indian subsample into approximately 70% of holistic thinkers ( $n = 218$ ) and 30% of analytical thinkers ( $n = 94$ ). The American subsample was divided into approximately 67% analytical thinkers ( $n = 244$ ) and 33% holistic thinkers ( $n = 120$ ).

Table 1

*Second-Order Cognitive Thinking Style Factor and First-Order Subscale factors with Indicator Loadings.*

Latent Variables	Unstandardized Loadings (Standardized)	$R^2$
<b>Analytic-Holistic Scale</b>		
Causality Subscale	0.59 (.59)*	.35
Locus of Attention Subscale	0.70 (.70)*	.49
Attitude toward Contradiction Subscale	0.64 (.64)*	.40
<b>Causality Subscale</b>		
Related	0.54 (.58)*	.34
Intertwined	0.51 (.48)*	.23
Small Change	0.61 (.58)*	.35
Number of Causes	0.32 (.31)*	.10
Number of Consequences	0.28 (.27)*	.07
<b>Locus of Attention subscale</b>		
Whole	0.83 (.68)*	.46
Whole is greater	0.92 (.70)*	.49
Pay Attention	0.71 (.54)*	.29

Understand Parts	0.50 (.41)*	.17
Attitude toward contradictions		
Middle Ground	0.48 (.41)*	.17
Compromise 1	0.60 (.57)*	.33
Compromise 2	0.91 (.76)*	.58
Harmony	0.58 (.52)*	.27
Avoid Extremes	0.42 (.33)*	.11

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Note. \*  $p < .05$ .

### Psychological Ripple Effects Constructs

**Organizational blame.** Organizational blame measured the extent to which the organization was deemed responsible for the crisis. Four items from Griffin, Babin, and Darden's (1992) scale were used to measure this construct. The four items are: (a) "Circumstances, not the organization, are responsible for the crisis" (reverse coded); (b) "The blame for the crisis lies with the organization"; (c) "The organization is responsible for this crisis"; and (d) "The crisis is not the organization's fault" (reverse coded). Past crisis studies using these scale items have demonstrated Cronbach's alphas ranging from .80 to .86 (Coombs, 1998, 1999; Coombs & Holladay, 2001).

In this dissertation, CFA results indicated that the four items loaded on a single factor:  $\chi^2(2, N = 708) = 8.63, p < .05$ , RMSEA = .07, 90% CI [0.027; 0.12], CFI = .99, SRMR = .02. The scale demonstrated reasonable reliability:  $\alpha = .71$ , coefficient  $H = .73$ . The four items were averaged to create a scale ( $M = 3.06, SD = 0.94$ ).

**Employee blame.** Employee blame measured the extent to which stakeholders believe the employee was responsible for the crisis. As there was no scale that

specifically looked at employee blame, the four items measuring organizational blame from Griffin, Babin, and Darden's (1992) scale were adapted to measure this construct. The four items were: (a) "The employee's circumstances are responsible for the crisis"; (b) "The employee is to blame for this crisis"; (c) "The responsibility for this crisis rests with the employee"; and (d) "The employee is at fault here".

In this dissertation, confirmatory factor analysis revealed that the four items loaded on a single factor:  $\chi^2(2, N = 708) = 11.58, p < .05$ , RMSEA = .08, 90% CI [0.043; 0.13], CFI = .98, SRMR = .03. The scale demonstrated reasonable reliability of  $\alpha = .71$ , coefficient  $H = .73$ . The four items were averaged to create a scale ( $M = 2.46, SD = 0.84$ ).

**Organizational trust.** This construct measured the extent to which participants trusted the organization to place the stakeholders' needs before their own. Four items measured this construct: (a) "I trust the organization to do the right thing"; (b) "I believe the organization has the employees and public's best interest in mind"; (c) "I trust the organization to handle this issue effectively"; and (d) "I have faith in the organization to resolve this issue effectively." These items were adapted from the McCroskey's (1966) ethos scale. The original scale items were: (a) "The organization is concerned with the well-being of its stakeholders" and (b) "I do not trust the organization to tell the truth about the incident." Previous crisis communication research that has used these items have demonstrated a reliable range of  $\alpha = .80 - .90$  (Coombs, 1998; Coombs & Holladay, 1996).

In this dissertation, the errors of two items were allowed to covary because of their similarity in wording. Confirmatory factor analysis on the four items indicated support for the hypothesized single factor model representing organizational trust:  $\chi^2(1,$

$N = 708$ ) = 0.69,  $p = .41$ , RMSEA = .00, 90% CI [0.0; 0.093], CFI = 1, SRMR = .01. The scale demonstrated reliability of  $\alpha = .79$ , coefficient  $H = .82$ . The four items were averaged to create a scale ( $M = 3.47$ ,  $SD = 0.93$ ).

**Fear.** This construct measures the extent to which participants experience fear because of the incident. Four items from Dillard and Peck's (2001) discrete emotions scale measured this construct: (a) "This news story scares me"; (b) "What happened in the news story makes me fearful"; (c) "The news story makes me afraid"; and (d) "This news story frightens me." Previous research using this scale has demonstrated a reliability of  $\alpha = .83 - .91$  (Dillard & Anderson, 2004).

In this dissertation, the errors of two items were allowed to covary because of their similarity in wording and confirmatory factor analysis on the four items indicated good fit of the hypothesized single factor model representing fear:  $\chi^2 (1, N = 708) = 3.08$ ,  $p = .08$ , RMSEA = .05, 90% CI [0.0 ; 0.13], CFI = 1, SRMR = .01. The scale demonstrated reasonable reliability of  $\alpha = .90$ , coefficient  $H = .91$ . The four items were averaged to create a scale ( $M = 3.32$ ,  $SD = 1.20$ ).

**Anger.** This construct measures the extent to which the participants experience anger. Four items from Dillard and Peck's (2001) discrete emotions scale that measure anger will be used: (a) "I am angry at the organization"; (b) "The organization's action irritates me"; (c) "I am mad at the organization for what it did"; and (d) "I am annoyed with the organization." Previous research using this scale has demonstrated a reliability of  $\alpha = .91$  (Quick & Stephenson, 2007).

In this dissertation, confirmatory factor analysis of the four items revealed a statistically significant  $\chi^2 (2, N = 708) = 9.22$ ,  $p < .05$ . However, the other fit indices



indicated a reasonable fit of the four items to the hypothesized single factor model representing anger at the organization: RMSEA = .07, 90% CI [0.028; 0.12], CFI = .99, SRMR = .02. The scale demonstrated reasonable reliability of  $\alpha = .76$ , coefficient  $H = .78$ . The four items were averaged to create a scale ( $M = 2.79$ ,  $SD = 0.98$ ).

**Risk perception.** Risk perception in this dissertation was operationalized as the likelihood of the crisis happening again. This operationalization of risk has been used by other risk scholars (Kahneman & Tversky, 1979) and is one of several ways to measure risk perception (see also Slovic, Fischhoff, & Lichtenstein, 1984; Slovic & Peters, 2006). The measures used here are adapted from Lerner, Gonzalez, Small, and Fischhoff (2003) who also measured the probability of crisis recurring. However, the four items used here described probability in words: (a) “This was a random act and most likely will not happen again” (reverse coded); (b) “Such an incident could very well happen again in the future”; (c) “It is quite possible that such an incident could happen again;” and (d) “It is very likely that this will happen again.”

Initial scale reliability analysis of the four items showed  $\alpha = .66$  and suggested dropping one item to increase reliability. This item was dropped and confirmatory factor analysis was conducted on the three items. As the single-factor model was just-identified or saturated, fit indices indicated perfect fit and are therefore not reported. The factor demonstrated reasonable reliability,  $\alpha = .74$ , coefficient  $H = .77$ . The three items were averaged and a scale created that reflected the risk perception ( $M = 3.71$ ,  $SD = 0.99$ ).

**Negative word-of-mouth (NWOM).** This construct measured participants’ intent to engage in negative word-of-mouth. Four items were adapted from the re-patronage intentions scale reported in Blodgett, Granbois, and Walters (1993): (a) “I would advise

my friends to not buy from this company”; (b) “If someone asked me about this organization, I would say negative things about it”; (c) “I would not recommend this organization or products to anyone”; and (d) “I would encourage my friends not to buy products from this company.” The scale has a previously reported reliability of  $\alpha = .87$  (Blodgett, Granbois, & Walters, 1993).

After allowing the errors of two similarly worded items to covary, the data showed a good fit to the hypothesized single factor model representing the participant’s intention to engage in negative word of mouth communication:  $\chi^2 (2, N = 708) = 1.04, p > .05$ , RMSEA = .01, 90% CI [0.0 ; 0.10], CFI = 1.00, SRMR = .004. The scale demonstrated reasonable reliability of  $\alpha = .85$ , and coefficient  $H = .84$ . The four items were averaged to create a scale ( $M = 2.52, SD = 1.11$ ).

**Purchase intention.** This construct measures participants’ intent to buy from the organization in future. Three items measured purchase intention: (a) “I will buy products from this organization in the future”; (b) “I will not buy from this organization in the future” (reverse coded), and (c) “The likelihood of my buying products made by the organization is quite high.” These items have demonstrated a reliability of  $\alpha = .80$  (Coombs & Holladay, 2007) and  $\alpha = .89$  (Anagondahalli & Turner, in press).

As the proposed single factor model representing the participants’ intention to purchase the organization’s products in the future was just-identified, the fit indices are not useful to evaluate fit. However, the scale demonstrated a reasonable reliability of  $\alpha = .74$ , and coefficient  $H = .82$ . The three items were averaged to form a scale ( $M = 3.25, SD = 1.09$ ). See Table 2 for indicator loadings and explained variance.

Table 2

*Psychological Ripple Effects Factors with Indicator Loadings.*

Latent Variables	Unstandardized Loadings (Standardized)	$R^2$
<b>Organizational Blame</b>		
Blame	0.61 (.49)*	.24
Circumstances (reverse coded)	0.81 (.60)*	.36
Not organization's fault (rev coded)	0.92 (.71)*	.50
Organization not responsible	0.84 (.66)*	.44
<b>Employee Blame</b>		
Blame	0.55 (.48)*	.23
Circumstances (reverse coded)	0.77 (.64)*	.41
Fault	0.79 (.72)*	.51
Responsible	0.64 (.58)*	.33
<b>Organizational Trust</b>		
Best interest	0.68 (.56)*	.31
Handle	0.86 (.74)*	.55
Faith	1.00 (.85)*	.72
Trust	0.87 (.73)*	.54
<b>Anger at Organization</b>		
Angry	0.83 (.63)*	.40
Mad	0.87 (.66)*	.43
Annoyed	0.94 (.76)*	.58
Irritated	0.79 (.63)*	.39

Fear		
Fearful	1.14 (.85)*	.72
Frighten	1.22 (.88)*	.78
Afraid	1.18 (.86)*	.74
Scares	1.01 (.74)*	.55
Risk Perception		
Happen Again	0.91 (.76)*	.58
Probable	0.88 (.76)*	.57
Likely	0.76 (.60)*	.36
NWOM		
Advice against	0.94 (.69)*	.48
Encourage not to	0.97 (.69)*	.48
Say negative things	0.90 (.71)*	.50
Not recommend	1.12 (.84)*	.70
Purchase Intention		
Purchase	1.22 (.88)*	.77
Buy	0.88 (.68)*	.46
Not Buy (reverse coded)	0.75 (.56)*	.31

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*Note.* \*  $p < .05$ .

## **Main Study Statistical Analyses**

### **Preliminary Analysis**

The data set was checked for data entry error by manually checking each participant's response after entering the data. The skew and the kurtosis statistics of variables were checked against a rule of thumb of absolute values below two for skewness and below seven for kurtosis (Kline, 2009). The presence of outliers was checked by examining a histogram and checking for standardized residuals with values greater than  $\pm 3$ ; no such cases were found.

### **Crisis Type and Major of Participants**

In addition to the different stimulus that participants were exposed to, they also differed on two other measures: the type of crisis mentioned in the message and their undergraduate majors. The two crisis types were included as part of the experimental manipulation to support replicability of the results across crisis types. Participants from the two national groups were comparable on several demographic variables such as age, gender composition, and family socio-economic status, but differed in the focus of their undergraduate program of study. The Indian subsample was entirely from a commerce background. The American subsample was distributed over several types of majors such as communication, business, behavioral sciences, and the humanities. Although both these variables were not believed to influence the results of the tests of prediction, they were included in all the analyses initially to check for main or interacting effects with variables of interest in the dissertation. Major of the participant was not found to be a significant predictor either by itself or in interaction with other variables of interest (see Appendix E for results). However, crisis type emerged as a significant predictor as in

some cases it had a main effect and in some cases an interaction effect (in combination with other independent variables) on the dependent variables of interest. For this reason, major of study was excluded and crisis type was included as an independent variable in all subsequent analyses involving differences between experimental conditions.

### **Test of Predictions**

**Hypothesis 1.** Hypothesis one predicted that nationality of the participant would predict the cognitive style of the participant such that Americans would be more analytical than holistic and Indians would be more holistic than analytical. The prediction was tested by conducting an independent sample *t*-test. These data are consistent with hypothesis 1:  $t(674) = 9.24, p < .001, d = .70$ . Overall, Indians ( $M = 3.89, SD = 0.55$ ) were more likely to display holistic cognitive styles than were Americans ( $M = 3.53, SD = 0.48$ ). This pattern of findings held across crisis types as well; Indians ( $M = 3.90, SD = 0.54$ ) were more holistic than Americans ( $M = 3.54, SD = 0.50$ ) in the food contamination scenario:  $t(344) = 6.41, p < .001, d = .69$ , as well as in the bombing scenario:  $t(328) = 6.61, p < .001, d = .73, M_{IN} = 3.89, SD = 0.56; M_{AM} = 3.52, SD = 0.45$ .

**Hypothesis 2.** Hypothesis two predicted that dialectical thinkers would be more likely to blame both the organization and the former employee whereas polarized thinkers would be more likely to split the blame and hold either the organization or the employee responsible. To test this prediction, a new variable called *BlameDiff* was created; this variable measured the absolute difference between organizational blame and employee blame. As per the prediction, for dialectical thinkers who would blame both the organization and the employee, the value on *BlameDiff* should be zero. For polarized thinkers who would blame either the organization or the employee, this value could either

be positive or negative (but, not zero). The *t*-test did not indicate support for the hypothesis. Both types of thinkers tended to blame the organization more. Moreover, when examining this outcome as a function of crisis type, the difference was not statistically significant for the bombing scenario ( $p > .05$ ), but it was for the food contamination:  $t(343) = -1.71, p < .05, d = .19$ . Results indicated that dialectic thinkers ( $M = 1.13, SD = 0.86$ ) blamed the organization marginally more than polarized thinkers ( $M = 0.98, SD = 0.74$ ) when the crisis was a food contamination.

### **Testing Underlying Assumptions for ANOVA**

Before testing the interaction hypotheses, the data were checked to see if they meet the underlying assumptions for the general linear model and if they had problematic data. For all of the interactions predicted, the data were first examined for the presence of outliers by examining the values and a histogram of the standardized residuals; data did not reveal the presence of outliers. A Q-Q plot of standardized residuals showed no marked deviations from linearity. The assumption of normality of distribution was examined by examining the standardized scores of skew and kurtosis; all values were within acceptable range ( $z$  scores  $< 3.3$ ). Also, a visual examination of the histograms and box plots of the dependent variables did not show deviations from normality. An analysis of the Mahalanobis Distance statistic for the hypothesized predictions did not reveal any multivariate outliers. The independence assumption was assumed to be met as the two samples were drawn independently and randomly from the population and participants were randomly assigned to experimental conditions. Finally, the assumption of homogeneity of variance across experimental groups was examined by the Levene's test<sup>1</sup>. With the underlying assumptions met, the hypothesized predictions are considered next.

**Hypotheses 3.** H3 predicted that nationality of the message recipient interacts with the group membership of the perpetrator such that Indian message receivers blame the employee more than Americans when the perpetrator is a member of the out-group; group membership of the perpetrator is not predicted to affect employee blame for American message receivers. This prediction was tested by conducting a 2 (Nationality of the message receiver: American, Indian) x 2 (Group membership of perpetrator: In-group, Out-group) x 2 (Crisis type: Food contamination, Bombing) analysis of variance (ANOVA).

Results indicated a main effect for nationality of the message receivers,  $F(1, 698) = 4.20, p < .05, \eta^2 = .01$ , with American message receivers blaming the employee more ( $M = 2.52, SD = 1.16$ ) than Indian message receivers ( $M = 2.40, SD = 1.11$ ). There was also a statistically significant main effect for crisis type,  $F(1, 698) = 4.20, p < .05, \eta^2 = .05$ , with message receivers blaming the employee more in the food contamination scenario ( $M = 2.64, SD = 1.14$ ) than in the bombing scenario ( $M = 2.28, SD = 1.14$ ). The hypothesized two-way interaction between nationality of the message receiver and group membership of the perpetrator was not statistically significant  $F(7, 691) < 1, p > .05$ . However, nationality of the message receiver and group membership of the perpetrator interacted with crisis type,  $F(1, 698) = 4.38, p < .05, \eta^2 = .01$ . In the food contamination scenario, surprisingly, Indian message receivers did not differ substantially in the amount of blame placed on the in-group perpetrator ( $M = 2.61, SD = 0.88$ ) versus the out-group perpetrator ( $M = 2.52, SD = 0.82$ ). However American message receivers blamed the perpetrator more when he was a member of the in-group ( $M = 2.82, SD = 0.83$ ) relative to when he was a member of the out-group ( $M = 2.60, SD = 0.80$ ).





*Figure 2.* Employee blame as a result of the interaction between nationality of the message receiver and group membership of the perpetrator in the food contamination scenario.

In the bombing scenario, Indian message receivers again showed a trend similar to the food contamination scenario and did not differ significantly in the amount of blame they placed on the in-group perpetrator ( $M = 2.20$ ,  $SD = 0.76$ ) versus the out-group perpetrator ( $M = 2.25$ ,  $SD = 0.76$ ). American message receivers blamed the perpetrator more when he was a member of the out-group ( $M = 2.41$ ,  $SD = 0.80$ ) than when the perpetrator was a member of the in-group ( $M = 2.25$ ,  $SD = 0.73$ ).



*Figure 3:* Employee blame as a result of the interaction between nationality of the message receiver and group membership of the perpetrator in the bombing scenario.

**Hypothesis 4.** H4 predicted that nationality of the message receiver interacts with the group membership of the perpetrator such that Indian message receivers would blame an organization more than the perpetrator when the perpetrator was a member of the in-group; group membership of the perpetrator was not predicted to affect organizational blame for American message receivers. This prediction was tested by conducting a 2 (Nationality of the message receiver: American, Indian) x 2 (Group membership of perpetrator: In-group, Out-group) x 2 (Crisis type: Food contamination, Bombing) analysis of variance (ANOVA).

Results indicated that there was a significant main effect for crisis type,  $F(1, 693) = 62.30, p < .001, \eta^2 = .08$ , with the organization being blamed more in the food contamination scenario ( $M = 3.33, SD = 1.26$ ) than bombing ( $M = 2.79, SD = 1.29$ ). The hypothesized interaction between the nationality of the message receiver and the group membership of the perpetrator was not supported; Indians did not blame the organization more when the perpetrator was a member of the in-group as compared to when the perpetrator was a member of the out-group:  $F(1, 693) < 1$ . The three-way interaction between nationality of the message receiver, group membership of the perpetrator and crisis type was also not statistically significant:  $F(1, 693) < 1$ . Therefore, it appears that group membership of the perpetrator did not affect organizational blame in any way.

Table 3

*Means (Standard Deviations) of Psychological Ripple Effects as a Result of the Experimental Manipulation (Nationality of Message Receiver x Group Membership of Perpetrator x Crisis Type)*

Nationality	American				Indian			
	Food Contam		Bombing		Food Contam		Bombing	
Crisis Type	In	Out	In	Out	In	Out	In	Out
Group Membership	In		Out		In		Out	
Org Blame	3.35 (0.84)	3.28 (0.97)	2.77 (0.79)	2.70 (0.76)	3.33 (0.98)	3.37 (0.94)	2.72 (0.95)	2.96 (1.00)
Emp Blame	2.82 (0.83)	2.60 (0.80)	2.25 (0.73)	2.41 (0.80)	2.61 (0.87)	2.52 (0.82)	2.20 (0.76)	2.25 (0.76)
Org Trust	3.25 (1.04)	3.78 (0.71)	3.29 (0.82)	3.69 (0.94)	3.66 (0.93)	3.30 (1.06)	3.66 (0.73)	3.19 (0.91)
Anger	2.81 (0.93)	3.04 (0.89)	2.31 (0.82)	3.10 (0.91)	3.39 (0.96)	2.72 (1.06)	2.79 (0.83)	2.30 (0.86)
Fear	3.53 (1.21)	3.40 (1.19)	3.22 (1.27)	3.16 (1.21)	3.51 (1.13)	3.44 (1.20)	2.94 (1.00)	3.31 (1.27)
NWOM	2.65 (1.16)	2.83 (1.09)	1.84 (0.84)	2.61 (1.09)	3.23 (0.97)	2.47 (1.07)	2.89 (1.08)	1.79 (0.75)
Risk Perception	4.01 (0.90)	3.57 (1.19)	3.88 (0.81)	3.43 (1.13)	3.35 (1.00)	3.99 (0.70)	3.41 (1.04)	3.98 (0.79)
Purchase Intention	3.23 (1.17)	2.92 (0.85)	3.88 (0.93)	3.04 (1.09)	2.73 (1.02)	3.32 (1.12)	2.92 (1.07)	3.87 (0.83)

*Note.* Nationality = Nationality of Message Receiver, In = In-group, Out = Out-group.

**Hypothesis 5.** Hypothesis five predicted that the cognitive style of the message receiver interacts with the attribution in the message such that holistic message processors blame the organization more when a situational disposition message (with a

focus on external or contextual factors) is used than when a personal disposition attribution (with a focus on internal or psychological traits) is made; analytic message processors blame the organization more when a disposition attribution is made than when a situational attribution is made in the message. This prediction was tested by conducting a 2 (Cognitive processing style: Analytical, Holistic) x 2 (Attribution in the message: Personal, Situational) x 2 (Crisis type: Food contamination, Bombing) analysis of variance (ANOVA).

Results indicated a significant main effect of crisis type on organizational blame  $F(1, 664) = 60.89, p < .001, \eta^2 = .09$ , with the organization being blamed more in the food contamination scenario ( $M = 3.33, SD = 1.24$ ) than the bombing scenario ( $M = 2.79, SD = 1.26$ ). The hypothesized interaction effect between the cognitive style of the message receiver and the attribution communicated in the message was statistically significant:  $F(1, 664) = 8.11, p < .01, \eta^2 = .01$ . Analytical processors blamed the organization more when personal attributions were made in the message ( $M = 3.17, SD = 0.88$ ) compared to when situational attributions were made about the perpetrator ( $M = 2.96, SD = 0.86$ ). As hypothesized, this trend was reversed for holistic processors who blamed the organization more when situational attributions were made about the perpetrator ( $M = 3.14, SD = 0.86$ ) than when personal attributions were made ( $M = 2.96, SD = 0.92$ ) about the perpetrator.

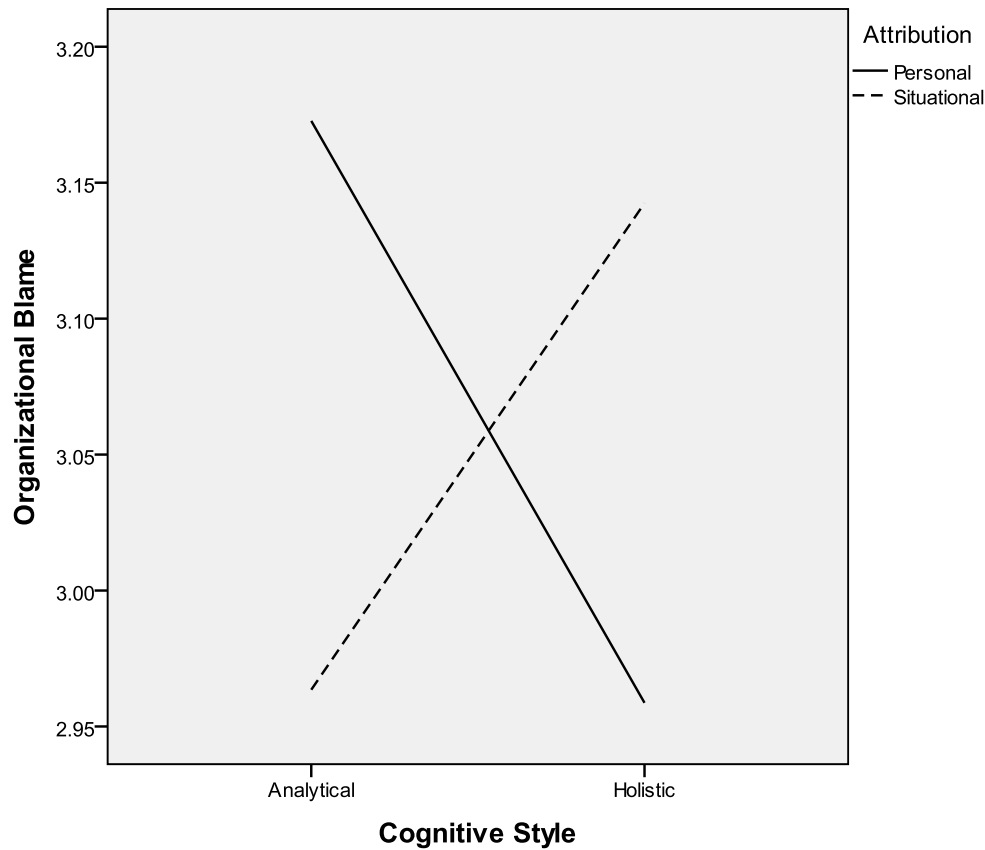


Figure 4: Organizational blame as a result of the interaction between cognitive styles of the message receiver and attributions in the message.

Type of crisis also interacted with attribution in the message:  $F(1, 664) = 4.22, p < .05, \eta^2 = .006$ , such that message receivers who read about a food contamination incident blamed the organization more when personal attributions were made about the perpetrator ( $M = 3.41, SD = 0.89$ ) compared to when situational attributions were made ( $M = 2.73, SD = 0.88$ ). Message receivers who read about a bombing incident blamed the organization more when a situational attribution was made about the perpetrator ( $M = 2.86, SD = 0.89$ ) compared to when a personal dispositional attribution was made about the perpetrator ( $M = 2.73, SD = 0.89$ ).

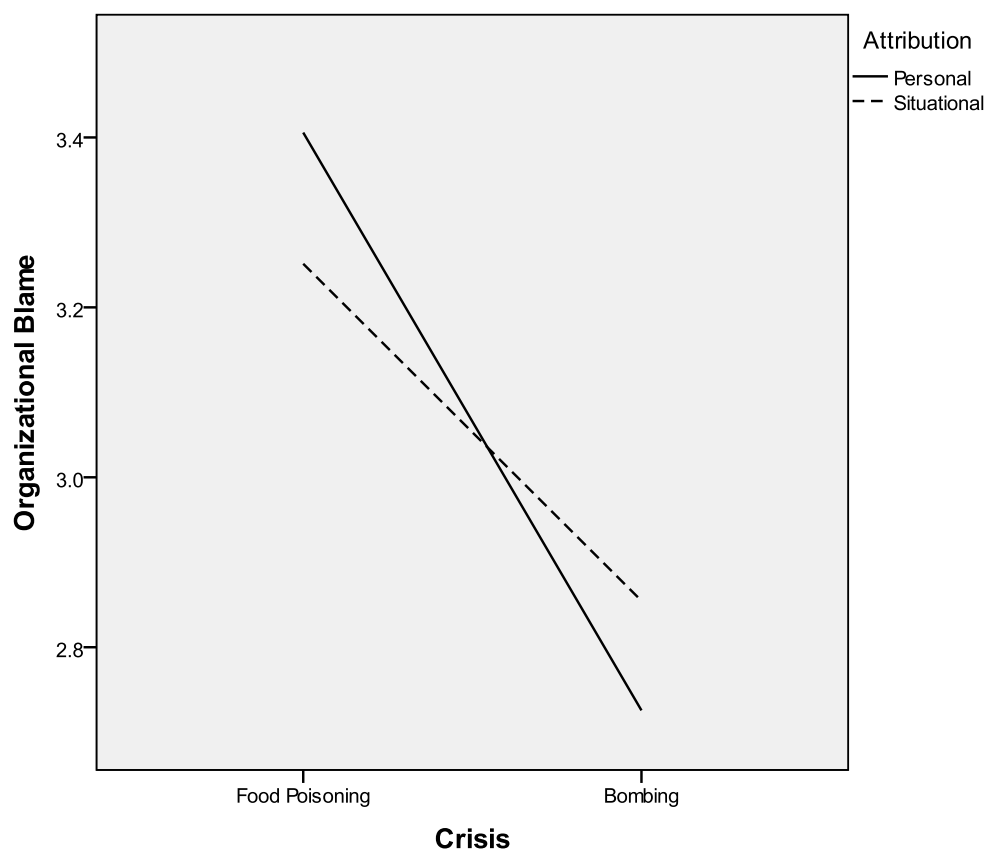
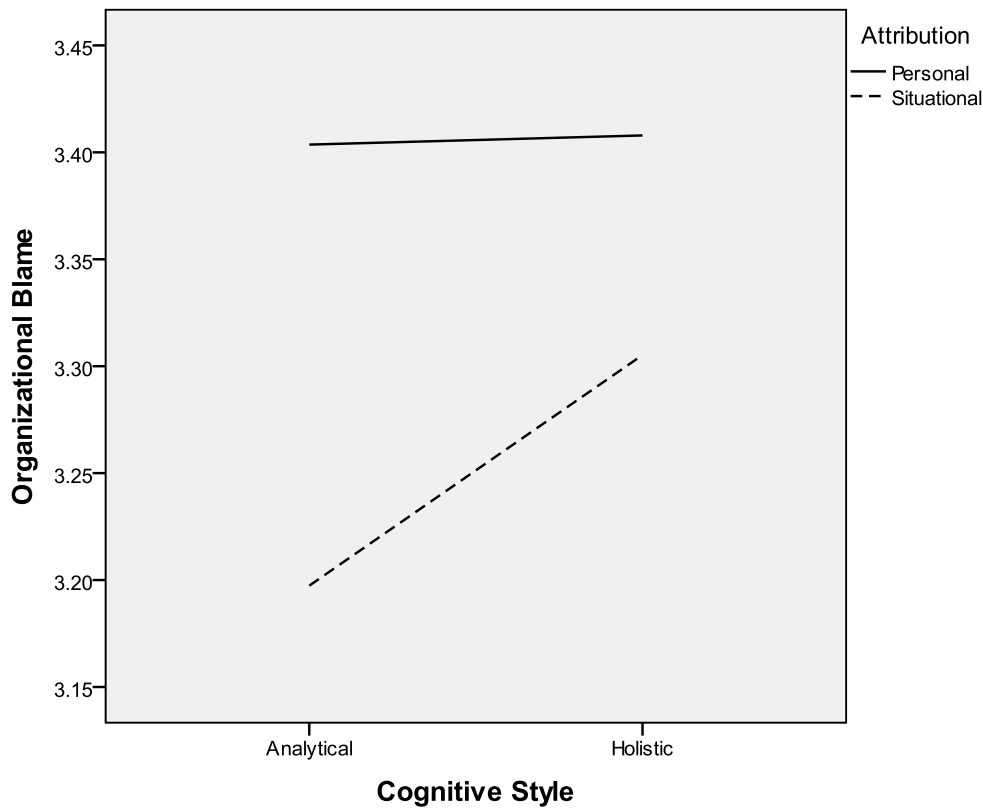


Figure 5. Organizational blame as a result of the interaction between crisis type and attributions in the message.

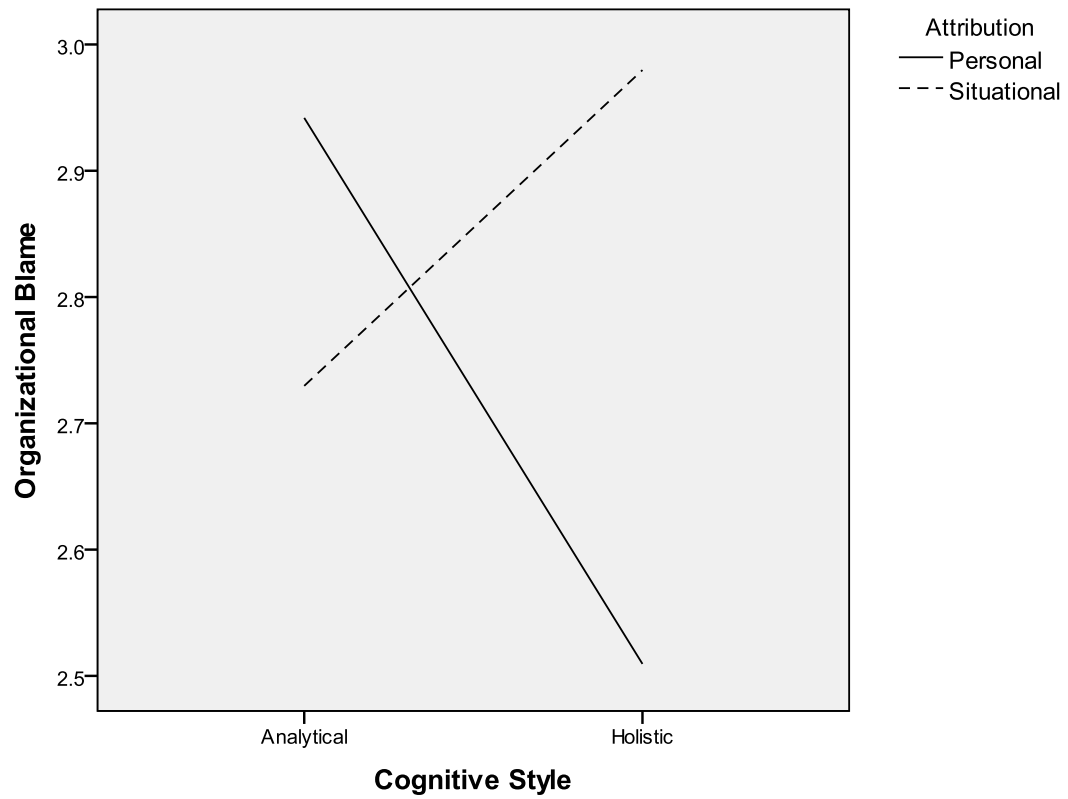
A statistically significant three-way interaction between cognitive style of the message receiver, attribution in the message, and crisis type was also found:  $F(1, 664) = 4.40, p < .05, \eta^2 = .01$ . In the food contamination scenario, although there was no difference between analytical ( $M = 3.40, SD = 0.85$ ) and holistic message processors ( $M = 3.41, SD = 0.94$ ) who received a personal attribution message; holistic processors blamed the organization slightly more when a personal attribution was made about the perpetrator ( $M = 3.41, SD = 0.94$ ), compared to when a situational attribution was made ( $M = 3.31, SD = 1.02$ ). In the bombing scenario, analytical processors blamed the

organization more when personal dispositional attributions were made about the perpetrator ( $M = 2.94$ ,  $SD = 0.73$ ) than when situational attributions were made ( $M = 2.73$ ,  $SD = 0.76$ ). Holistic processors blamed the organization more when situational attributions were made about the perpetrator ( $M = 2.98$ ,  $SD = 0.91$ ) compared to when personal attributions were made ( $M = 2.51$ ,  $SD = 0.96$ ).



*Figure 6:* Organizational blame as an interaction between cognitive styles and attributions in the message in the food contamination scenario.





*Figure 7:* Organizational blame as an interaction between cognitive styles and attributions in the message in the bombing scenario.

Table 4

*Means (Standard Deviations) of Psychological Ripple Effects as a Result of the Experimental Manipulation (Cognitive Style x Message Attribution x Crisis Type).*

Cognitive Style	Analytical				Holistic			
	Food Contam		Bombing		Food Contam		Bombing	
Crisis Type	Pers	Situ	Pers	Situ	Pers	Situ	Pers	Situ
Message Attribution								
Org Blame	3.40 (0.85)	3.20 (0.89)	2.94 (0.73)	2.73 (0.76)	3.41 (0.94)	3.31 (1.02)	2.51 (0.96)	2.98 (0.91)
Emp Blame	2.95 (0.77)	2.60 (0.90)	2.59 (0.68)	2.23 (0.79)	2.54 (0.76)	2.50 (0.85)	2.22 (0.73)	1.95 (0.75)
Org Trust	3.43 (1.00)	3.29 (0.93)	3.26 (0.81)	3.33 (0.81)	3.68 (0.94)	3.52 (1.02)	3.73 (0.86)	3.42 (1.03)
Anger	2.88 (0.99)	2.77 (0.94)	2.37 (0.87)	2.51 (0.84)	3.17 (1.02)	3.04 (1.00)	2.67 (0.99)	2.84 (0.93)
Fear	3.39 (1.13)	3.41 (1.11)	3.08 (1.19)	3.13 (1.10)	3.64 (1.19)	3.39 (1.28)	3.26 (1.31)	3.31 (1.18)
NWOM	2.70 (1.08)	2.52 (1.08)	2.16 (1.11)	1.99 (0.92)	3.02 (1.17)	2.87 (1.07)	2.41 (1.10)	2.39 (1.07)
Risk Perception	3.71 (0.87)	3.72 (0.87)	3.72 (0.80)	3.62 (0.98)	3.73 (1.12)	3.75 (1.10)	3.90 (0.96)	3.57 (1.15)
Purchase Intention	3.08 (1.18)	3.27 (1.05)	3.58 (1.08)	3.74 (0.87)	2.93 (1.06)	2.98 (1.04)	3.39 (1.25)	3.23 (1.01)

*Note:* Pers = Personal Dispositional, Situ = Situational Disposition.

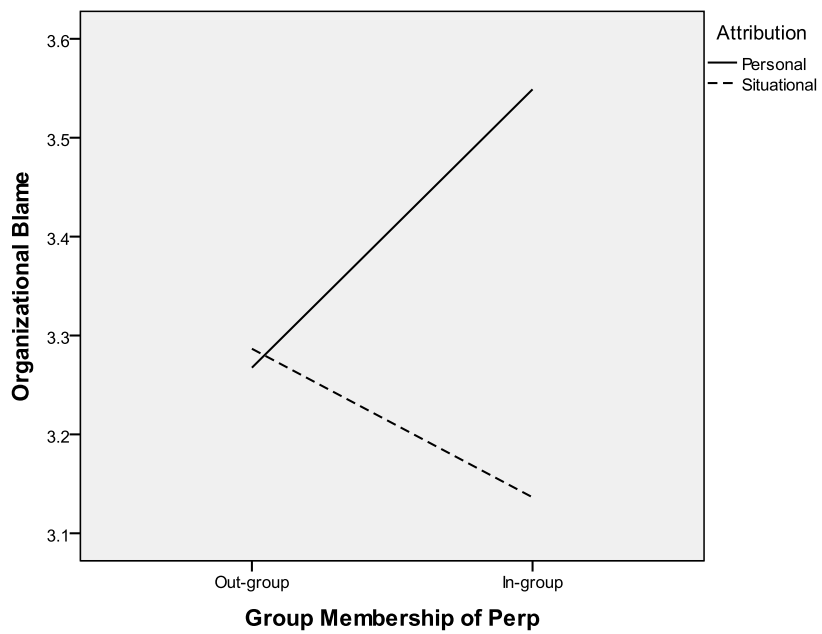
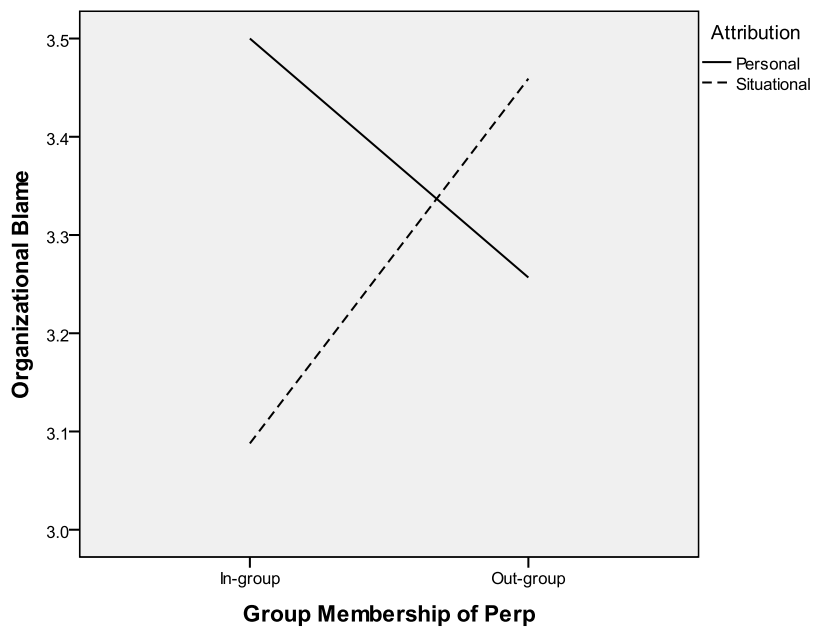
### **Research Question 1**

Research question 1 addressed the implications of a possible three-way interaction between nationality of the message receiver, group membership of the perpetrator, and the attribution communicated in the message. In the food contamination scenario, there

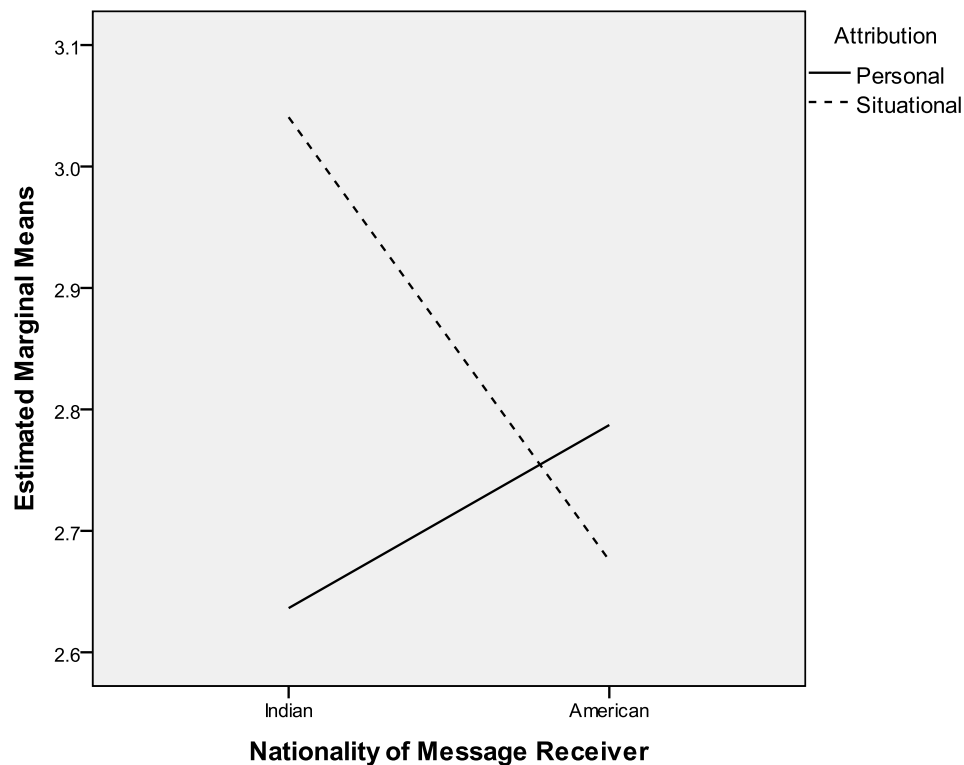
was a significant three-way interaction between nationality of the message receiver, group membership of the perpetrator and attribution communicated in the message:  $F(1, 351) = 6.91, p < .01, \eta^2 = .02$ . Indian message receivers who read about an in-group perpetrator blamed the organization more when a personal dispositional attributions ( $M = 3.50, SD = 0.88$ ) were made relative to when situational attributions were made ( $M = 3.09, SD = 1.08$ ). Indian message receivers who read about an out-group perpetrator blamed the organization more when situational attributions were made ( $M = 3.46, SD = 0.88$ ) relative to when personal dispositional attributions were made ( $M = 3.26, SD = 1.00$ ). American message receivers who read about an in-group perpetrator blamed the organization more when personal dispositional attributions were made ( $M = 3.55, SD = 0.77$ ) relative to when situational attributions were made ( $M = 3.14, SD = 0.87$ ). Americans who read about an out-group perpetrator did not differ significantly on how much they blamed the organization when they read personal attributions ( $M = 3.27, SD = 0.91$ ) relative to situational attributions ( $M = 3.29, SD = 1.04$ ).

*Figure 8.* Organizational blame as a result of the interactions between attributions in the message and group membership of the perpetrator for Indian message receivers (food contamination scenario).

*Figure 9.* Organizational blame as a result of the interactions between attributions in the message and group membership of the perpetrator for American message receivers (food contamination scenario).



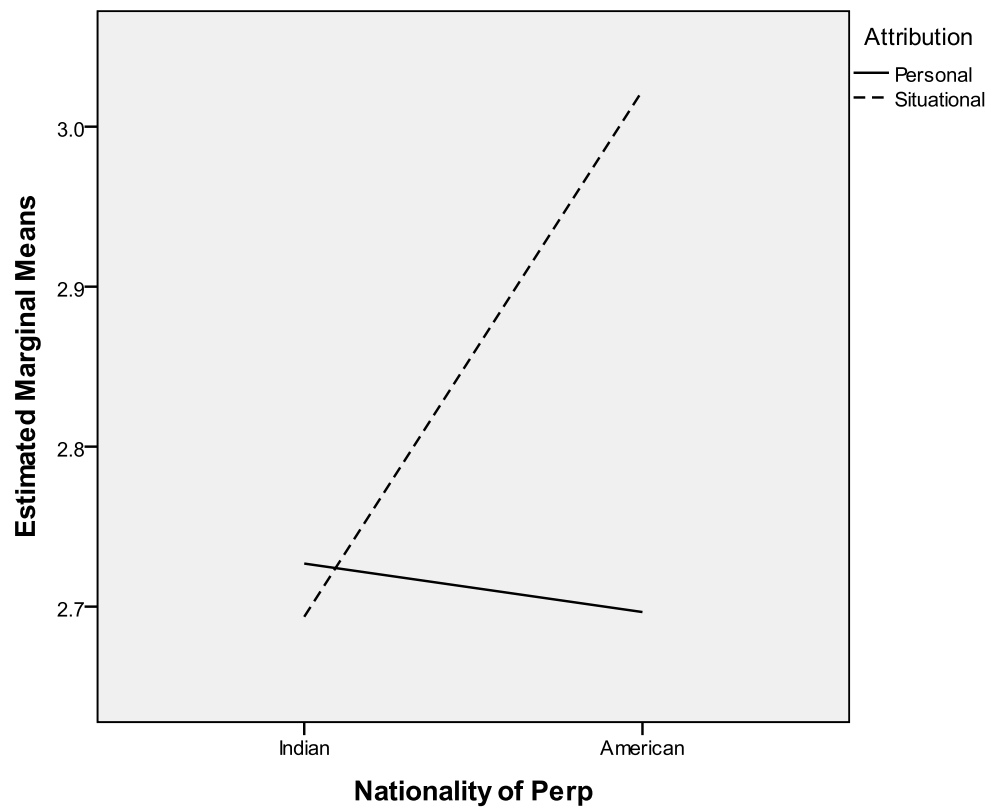
The three-way interaction was not statistically significant for the bombing scenario ( $p > .05$ ). However there was a significant two-way interaction between nationality and attribution:  $F(1, 341) = 7.58, p < .01, \eta^2 = .02$ , such that Indian message receivers blamed the organization more when they read situational attributions ( $M = 3.04, SD = 1.31$ ) relative to when personal attributions were made ( $M = 2.64, SD = 0.94$ ). American message receivers blamed the organization more when personal attributions were made ( $M = 2.79, SD = 1.17$ ) relative to when situational attributions were made ( $M = 2.67, SD = 1.21$ ). These findings are similar to the findings in hypothesis five that considered the interaction between cognitive styles and attributions in the message.



*Figure 10.* Organizational blame as the result of the interaction between nationality of the message receiver and attributions in the message (bombing scenario).

Finally, nationality of the perpetrator interacted with the attributions in the message:  $F(1, 341) = 3.70, p < .05, \eta^2 = .01$ , such that message receivers blamed the organization almost equally when they read personal dispositional attributions about the Indian perpetrator ( $M = 2.73, SD = 0.90$ ) and when they read situational attributions ( $M = 2.69, SD = 0.87$ ).

Message receivers also blamed the organization more when they read situational dispositions about the American perpetrator ( $M = 3.02, SD = 0.86$ ) relative to when personal attributions were made ( $M = 2.70, SD = 0.87$ ).



*Figure 11.* Organizational blame as the result of the interaction between nationality of the perpetrator and attributions in the message.

### **Hypotheses Six to Sixteen: Psychological Ripple Effects**

Hypotheses six to sixteen tested individual paths in the psychological ripple effects model. Before testing the hypotheses, data were first checked to ensure that the causal relationships were linear as hypothesized. This was done by examining a Q-Q plot of standardized residuals and predicted values for each hypothesized relationship. As no marked deviations from linearity were noted, the relationships were considered linear and as having met the linearity assumption. Data were also checked to ensure the suitability of using structural equation modeling by ensuring that the data met the normality assumption in the population, a criterion critical for the use of maximum likelihood estimation. LISREL 8.8 was used to examine the covariance matrix between variables. Missing data was dealt with by employing the full-information maximum likelihood estimation (FIML, the default in LISREL 8.8). This procedure assumes that the data are missing at random (MAR) and uses available data to estimate parameters that available data can inform and is preferred over either list-wise or case-wise deletion (Mueller & Hancock, 2010).

To test these predictions, a two-phase modeling approach was used as recommended by Mueller and Hancock (2010). This technique allows for identification and fixing of possible data-model misfit in two phases. Accordingly, in the first phase, the measurement model was tested with all the latent variables being allowed to covary. The measurement model tests the relationship between the observed variables and the underlying latent variables. As a first step in conducting the CFAs, a metric assumption was made by using the reference indicator approach and fixing one indicator of each latent variable to 1. The data provided a reasonable fit for the measurement model:  $\chi^2(N =$

375) = 998.25,  $p = 0.0$ , RMSEA = .048, 90% CI [0.045; 0.052]. In the second phase, the structural model tested the relations between latent variables (see Appendix F for syntax). The statistical significance of parameter estimates was evaluated using the  $t$ -statistic. In addition, squared multiple correlations ( $R^2$ ) or explained variance was examined for the observed measures. In the following section, the predictions relating to the overall fit of the model and the hypothesized individual relationships among the latent variables are examined.

The fit of the model is considered before individual parameter estimates are evaluated. Hypothesis seventeen predicted that the data would fit the hypothesized model. Data provided a good fit for the structural model:  $\chi^2(N = 449) = 1312.79$ ,  $p = 0.0$ , RMSEA=.05, 90% CI [0.049; 0.055]. Given that the structural model was nested within the measurement model, a chi-square difference test was performed to test the difference in fit for the two models. The test was statistically significant:  $\Delta \chi^2(74) = 314.54$ ,  $p < .05$ , implying that the structural model was significantly different from the measurement model. Even though the fit worsened on imposing the structural relations, this finding, however, is not problematic as the fit of the structural model was good implying that it still explained the data well (Mueller & Hancock, 2010).

Although the ripple effects model begins with organizational blame, the variables that were found to affect organizational blame (from the previous ANOVA analyses) were included in the model to offer a more comprehensive picture of the process of psychological ripple effects. Modeling all statistically significant main effects and interactions on organizational and employee blame created issues of parameter identification because of linear dependency among the predictor variables. For this



reason, only the two statistically significant dis-ordinal interactions related to the original predictions were included in the model: the three-way interaction between *Cognitive style* (analytical and holistic), *Attribution in the message* (personal and situational), and *Crisis type* (food contamination and bombing) affecting *Organizational blame*, and the three-way interaction between *Nationality of the message receiver* (Indian and American), *Group membership of perpetrator* (in-group and out-group) and *Crisis type* (food contamination and bombing) affecting *Employee blame*. The interaction terms were multiplication terms that were created by dummy coding the independent variables (0 and 1, given that each independent variable had two levels). In the structural model, these interaction terms are complicated to interpret. As the ANOVAs have already provided an explanation of the effect of interaction terms, their inclusion in the structural model is only to increase the comprehensiveness of the model. The path from the *Cognitive style* x *Attribution* x *Crisis type* interaction term to *Organizational blame* was not statistically significant ( $\gamma = -0.07$ ,  $SE = .11$ ,  $t = -0.61$ ). The path from *Nationality of message receiver* x *Group membership of perpetrator* x *Crisis type* to *Employee blame* was significant ( $\gamma = -0.27$ ,  $SE = .11$ ,  $t = -2.55$ ). The two interaction terms were allowed to co-vary and this covariance was also statistically significant ( $\phi_{12} = 0.01$ ,  $SE = 0.00$ ,  $t = 2.36$ ). The errors or disturbances of the endogenous variables (here, the ripple effects) were not allowed to covary. The hypothesized relationships between the variables in the psychological ripple effect model are considered next.

**Test of predictions.** Hypothesis 6 predicted a negative association between organizational blame and organizational trust such that as organizational blame increases, organizational trust decreases. This prediction was supported ( $\beta = -.42$ ,  $SE = .06$ ,  $t = -$

7.02) implying that increased blame in the organization resulted in decreased trust in the organization. Hypothesis 7 predicted a positive association between organizational blame and anger such that as organizational blame increased, anger would increase too. This hypothesis was supported ( $\beta = 0.59$ ,  $SE = .05$ ,  $t = 9.07$ ). Hypothesis 8 predicted a positive association between employee blame and fear such that as employee blame increased, fear would increase too. The data revealed an interesting finding: The more message receivers blamed the employee for the incident, the *less* fear they reported supported ( $\beta = -0.24$ ,  $SE = .07$ ,  $t = -3.43$ ). Hypothesis 9 predicted a negative association between anger and risk perception such that as anger increased, risk estimate would decrease. This inverse relationship did not reach statistical significance ( $\beta = -0.05$ ,  $SE = .05$ ,  $t = -0.94$ ). Hypothesis 10 predicted a positive association between anger and negative word-of-mouth communication such that as anger increased negative word-of-mouth communication would increase too. This hypothesis was supported ( $\beta = 0.79$ ,  $SE = .06$ ,  $t = 12.67$ ). Hypothesis 11 predicted a positive association between fear and risk estimate such that as fear increased, risk perception would increase too. This predicted was supported ( $\beta = 0.21$ ,  $SE = .04$ ,  $t = 6.01$ ). Hypothesis 12 predicted a negative association between NWOM and purchase intention such that the more message receivers expressed intentions to engage in NWOM communication, the less was their purchase intention. This prediction was supported ( $\beta = -0.75$ ,  $SE = .05$ ,  $t = -15.42$ ). Hypothesis 13 predicted the effect of decreased trust on purchase intention; as organizational trust decreases, purchase intention decreases. This hypothesis was supported ( $\beta = 0.12$ ,  $SE = .05$ ,  $t = 2.69$ ). Hypothesis 14 predicted a negative association between risk estimation and purchase intention such that as risk perception increased, purchase intention would

decrease. This hypothesis was not supported as although the path was significant, data revealed that an increase in risk perception was associated with *increased* purchase intention ( $\beta = 0.14$ ,  $SE = .04$ ,  $t = 3.60$ ).

Finally, Hypotheses 15 and 16 tested the direct effect of organizational blame and employee blame on purchase intention. More specifically, hypothesis 15 predicted that organizational blame directly influences purchase intentions such that an increase in blame will cause a decrease in purchase intention. This hypothesis was not supported ( $\beta = -0.03$ ,  $SE = .06$ ,  $t = -0.61$ ). Hypothesis 16 predicted that increased employee blame would lead to increased purchase intention. This hypothesis was also not supported ( $\beta = 0.02$ ,  $SE = .05$ ,  $t = 0.51$ ). The absence of support for the direct effects of organizational and employee blame on purchase intention however provides support for the psychological ripple effects model.

**Modification index.** Based on the finding that employee blame *decreased* fear, it was reasoned that an increase in organizational blame would increase fear. The limited evidence provided by McDonald, Sparks, and Glendon (2010) suggested that organizational blame increases anger (already accounted for through hypothesis 7) *and* fear. This path was also suggested by the modification index for a reduction in chi square. Modification indices suggested by the program are data driven and have no theoretical rationale. The path was, however, added as an exploratory link and was statistically significant ( $\beta = 0.28$ ,  $SE = .07$ ,  $t = 4.09$ ). See Table 5 for unstandardized parameter estimates and Figure 12 for structural model of psychological ripple effects.

Table 5  
*Unstandardized Parameter Estimates for the Psychological Ripple Effects Model*

Path	Unstandardized Path Coefficients ( <i>SE</i> )	<i>t</i> -values
Attn X Cognition X Crisis → ORGBLAME	-0.07 (.11)	-0.61
Nationality x Group Membership x Crisis → EMPBLAME	-0.27* (.11)	-2.55
ORGBLAME → ORGTRUST	-0.42* (0.06)	-7.02
ORGBLAME → ANGER	0.59* (0.07)	9.07
EMBLAME → FEAR	-0.24* (0.07)	-3.43
ORGBLAME → FEAR	0.28* (0.07)	4.09
FEAR → RISK	0.21* (0.04)	6.01
ANGER → RISK	-0.05 (0.05)	-0.94
ANGER → NWOM	0.79* (0.06)	12.67
RISK → PURCHASE	0.14* (0.04)	3.60
NWOM → PURCHASE	-0.75* (0.05)	-15.42
ORGTRUST → PURCHASE	0.12* (0.05)	2.69
ORGBLAME → PURCHASE	-0.03 (0.06)	-0.61
EMPBLAME → PURCHASE	0.02 (0.05)	0.51

*Note.*\*  $p < .05$ . All values are rounded to two decimal places.

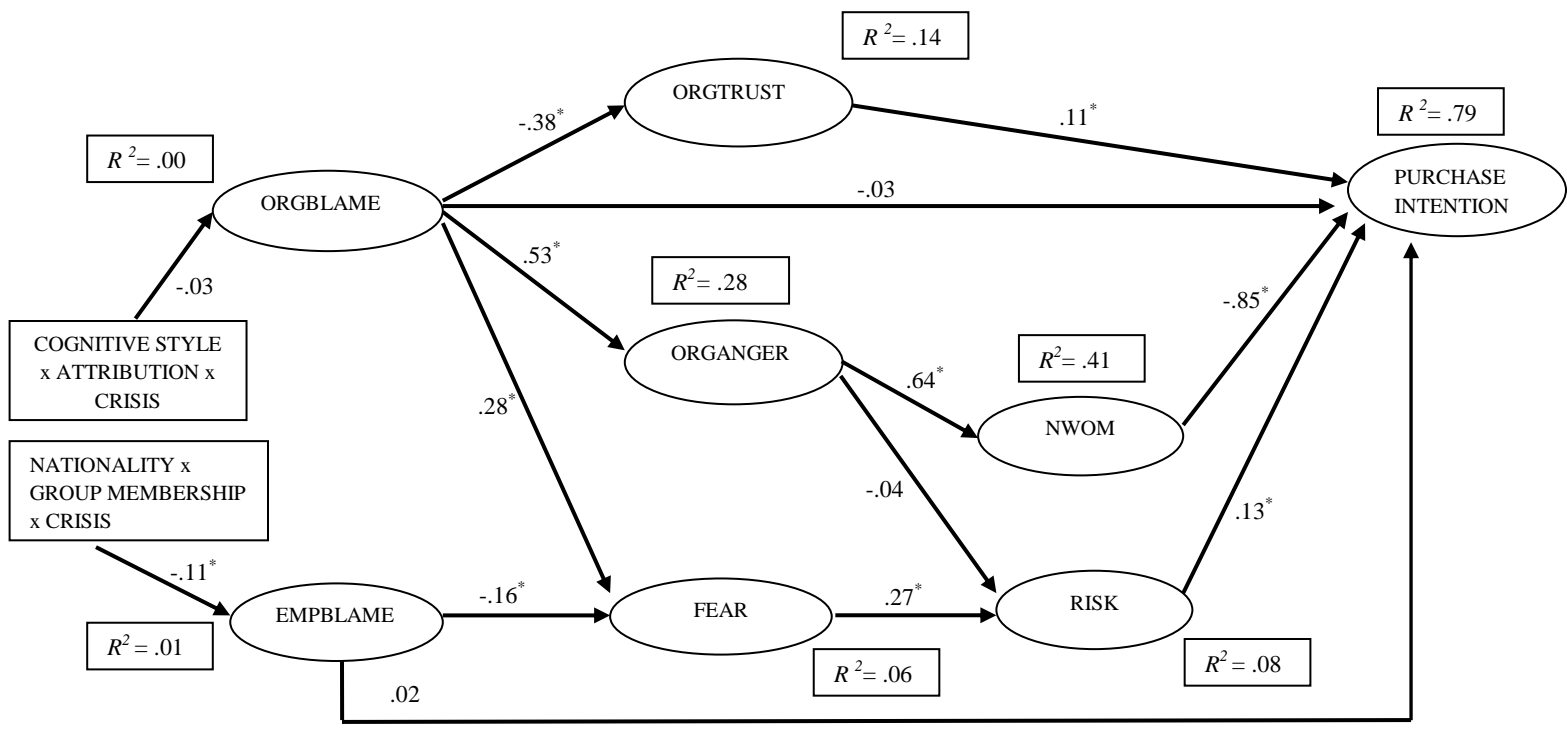


Figure 12. Psychological ripple effects model with standardized path coefficients and explained variance. In the model, *cognitive style* refers to the cognitive style of the message recipient, *attribution* refers to the attribution in the message, *nationality* refers to the nationality of the message receiver, and *group membership* refers to the in-group versus out-group membership of the perpetrator relative to the nationality of the message receiver. These variables are dummy coded.  
\*  $p < .05$ .

## **Chapter V: Discussion**

An increasingly diverse world may also be an increasingly dissatisfied world. With the trigger factors associated with crises on the increase, the likelihood of organizational crises is also on the increase. Although accurately predicting the occurrence of a crisis remains tricky, the outcomes of such a crisis can be more precisely estimated. This chapter highlights the implications of the dissertation's findings. In doing so, it also identifies directions for future research while acknowledging the limitations and highlighting the contributions of this project.

### **Implications of Findings and Future Directions**

#### **Cognitive Styles: Safe to Assume?**

The over-arching goal of this dissertation was to investigate the effect of message receiver characteristics such as nationality of message receivers and their cognitive style in conjunction with message characteristics such as the attributions communicated and identity of the perpetrator of a crime on psychological ripple effects for an organization. Extant cross-cultural research has mostly assumed differences in people based on their nationality. Although Nisbett's (2003) work on cognitive styles identified a more specific variable on which people of different nationalities may differ, this body of research is similarly limited in its scope because most of this research assumes the existence of an Eastern (holistic) and a Western (analytical) perspective. Nisbett provided compelling arguments based on the history, ecology, and economy of nations; agrarian societies from the East tended to have a holistic focus compared to the more analytical focus of Western, herding- based societies. However, industrialization and globalization have changed the economic structure of many countries. For example, even though countries

such as China and India are still dependent on agriculture, industry and commerce have pushed their economies to the being among the top ten of the world based on gross domestic product (Central Intelligence Agency, CIA, 2012). Further, the participants in this project, mostly urban-born undergraduate students in city colleges, may have had no exposure to or experience with agriculture or herding. Therefore it was necessary to test if people who come from traditionally holistic countries continue to display holistic cognition.

The first hypothesis of the dissertation tested for differences in cognitive styles from prototypically eastern and western societies. Despite the fact that more than 90% of the Indian sample reported having been raised in an urban environment, and the fact that a majority of the participants were either middle or upper middle class (reasons to be analytical), data indicated that Indians were generally more holistic than Americans. This finding offers evidence for the persistence of cultural cognitive styles despite evolving contexts. It also supports the external validity of the body of the literature that previously assumed cognitive style based on nationality.

From an applied perspective, for multi-national companies that have operations in many countries, knowing whether their audience is holistic or analytical can help an organization communicate more effectively with its stakeholders to reduce negative ripple effects by paying attention to the type of attributions made in the crisis message. Further, there were some clear patterns that emerged across crisis types: Holistic thinkers blamed the employee less, reported more anger at the organization, reported higher intentions of engaging in negative word of mouth, and had lower purchase intentions when compared to analytical thinkers. Organizations may need to be prepared for a

harsher backlash from holistic stakeholders and should have strategies that can mitigate such damage. Thus, what an organization may need to do as crisis response may differ and depend on the geographical location of its primary stakeholders.

Interestingly however, the results on the causality subscale indicated no statistically significant difference between American and Indian participants. However, Indians differed substantially from Americans on the locus of attention scale and the attitude towards contradiction scale. Analytical and holistic cognitive styles are umbrella terms that subsumed three dimensions in this dissertation. With each dimension representing a different aspect of analytical and holistic thinking, it may be that participants from different nationalities do not differ on all dimensions. In fact, the three subscales (causality, locus of attention, and attitude toward contradiction) correlated highly with the analytical-holistic scale but demonstrated low correlations with each other (see Appendix J). The finding of no statistical difference between Indians and Americans on the causality subscale especially warrants further investigation because a large portion of research focuses on this difference between analytical and holistic thinkers.

The second hypothesis tested a related prediction that dialectic thinkers would split blame equally between organization and employee whereas polarized thinkers would blame either the organization or the employee. This pattern of blame did not hold up. Predominant theories of crisis communication such as SSCT (Coombs, 2012) focus on the attribution of responsibility of organizations in a crisis. The attribution of responsibility ascribed to an individual (in this case, the perpetrator) is not addressed by such theories and has not been tested before. Results indicated that both types of thinkers



blamed the organization more than the employee for the crisis. This difference was statistically significant for the food contamination scenario but not for the bombing crisis. It may be that the salience of the context provided in the study (food contamination of a frequently consumed product) caused dialectic thinkers to depart from their middle-way thinking and display polarized tendencies by holding the organization significantly more responsible for the crisis than the employee.

It is also important to remember that in the experimental scenarios, participants read about a multi-billion dollar organization, Pepsico, on the one hand, and a disgruntled, former employee on the other. Perhaps, for the hypothesized pattern of blame to play out, the players involved need to be of equal or near equal status. It could also be that in crises of such magnitude as in this dissertation, the organization will always be held more responsibility than the perpetrator. It would be beneficial for crisis communicators to bear this finding in mind because an attempt to highlight the role of the perpetrator may be perceived by stakeholders as scapegoating or as an attempt to deflect blame. This effort has been known to backfire on organizations and may not be advisable even when a clear scapegoat exists as was the case in this dissertation (Coombs, 2000).

**Future directions.** Although Indians were found to be overall more holistic than Americans, they did not differ from Americans on the causality subscale. Analytical and holistic thinking are overarching cognitive styles; they subsume concepts such as causal attribution, locus of attention, and attitude towards contradictions (Choi, Koo, & Choi, 2007). Given that no difference was found between the two national groups on one subscale, and the recognition that culture is dynamic (Hofstede, Pederson, & Hofstede, 2002), future research in the area may be well-served to identify and measure participants

on these specific subscales. Further, this dissertation also found that dialectic thinkers, more than polarized thinkers, demonstrated the “either/or” tendency in attributing blame. The power difference between the two actors (the organization and the former employee) and crisis type may be possible mediators in this relationship. There has been very limited empirical research on the polarized and dialectical thinking styles (Peng & Nisbett, 1999; Spencer-Rodgers, Peng, Wang, & Hou, 2004; Spencer-Rodgers, Williams, & Peng, 2010); more research is needed to investigate this cognitive style and the role of mediating variables in determining outcomes based on cognitive styles.

### **Interplay of Message and Message Receiver Characteristics**

In keeping with the goal of testing the interplay of message receiver characteristics and message attributes, the first interaction hypothesis considered the interplay between the nationality of the message receiver and the in-group/out-group membership of the perpetrator. Results indicate that the in-group/out-group membership of the perpetrator was not significant in predicting outcomes for the organization or the employee except in conjunction with the type of crisis. And even in those experimental conditions, contrary to what was predicted, it was the American message receivers who distinguished between in-group and out-group membership of the perpetrator; this relationship did not make a difference for the Indian message receivers.

Interestingly, American message receivers blamed the American perpetrator (in-group) more than the Indian (out-group) perpetrator in the food contamination scenario. This pattern could reflect the American message receiver’s exposure to domestic issues of product contamination in the past (Mitroff & Kilman, 2002). In comparison, for American message receivers, the “foreign” perpetrator in the bombing scenario was more

salient when compared to a local or domestic bomber. This sentiment may explain the disbelief that Americans felt when they learned of Timothy McVeigh's identity as the Oklahoma bomber. The incredulity was only heightened by the fact that most people had expected the perpetrator to be an "outsider" (Michel & Herbeck, 2001). Perhaps the hypothesized interaction was not as pronounced for the Indian message receiver because crises such as bombings and food contamination are far more common in India than they are in the United States. Further, even though there have been several attacks on Indian soil, for the Indian message receiver, the perpetrator has always been domestic (as compared to international) as in the case of communal violence or terror incidents. If not, the incidents have been related to cross-border terrorism mainly with reference to Pakistan. In other words, the Indian experience has been very limited in dealing with Americans as being responsible or connected to an intentional act of violence. The ongoing case of David Headley, an American citizen currently charged with playing a major role in the 2008 Mumbai attacks where over 150 people died, is a case to be watched closely for its effect on perceptions of Americans not just as victims of terror but perhaps also as perpetrators of terror (Bajaj & Kumar, 2012).

These results are also similar to the findings of Anagondahalli and Turner (in press) who found that group membership of the perpetrator did not affect the outcome for the organization. In their study, Asian participants were of different Asian nationalities, which may have confounded the findings with regard to group membership. Despite eliminating this confound, this dissertation still found no effects for the interaction between nationality and group membership of the perpetrator for the organization. Therefore, it appears that message receivers understand that workforces are diverse and

they are not likely to implicate the organization based solely on the group membership of the perpetrator. However, group membership of the perpetrator was important in predicting employee blame. Perhaps out-group prejudice is not triggered by generic out-group membership but is activated only when specific out-group members are associated with specific types of crises.

The second interaction of message and message receiver attributes examined was the interplay of the cognitive processing style of the message receiver and the attribution communicated in the message. As predicted, analytical message receivers blamed the organization more when personal dispositional attributions were made about the perpetrator. Holistic processors blamed the organization more when situational attributions were made about the perpetrator. This pattern of blame was more pronounced (means were higher) in the food contamination scenario, highlighting once again that the type of crisis makes a difference to the outcomes for the organization. Again these findings are similar to the findings of Anagondahalli and Turner (in press).

Often times after a crisis, organizations are eager to build a case against the perpetrator in an effort to minimize their own role. However, helping build this case by focusing on personal or situational attributes of the perpetrator can boomerang for an organization because of the effect such messages have on analytical and holistic thinkers. Media messages also tend to report such crises by providing background information about the perpetrator that may help make sense of the perpetrator's actions. Organizations need to be aware that focusing on the perpetrator's motivations may contribute to exacerbating the issue rather than diminishing it.

**Future directions.** Similar to the findings of Anagondahalli and Turner (in press), group membership of the perpetrator did not directly influence the organization's outcomes; message receivers limited the blame to the perpetrator. However, even this pattern of blame was dependent on another variable: crisis type. The pattern of events related to terrorism and intentional acts of violence have created stereotypical images of certain types of perpetrators for certain types of crimes (Lester & Ross, 2003; Oswald, 2005). This dissertation showed that for message recipients, certain combinations of national identity of the perpetrator and crisis type produced high blame when compared to other combinations. Further, blaming the perpetrator caused message receivers to become fearful and perceive higher probabilities of a future attack. Knowing how fear and risk perception translate to behavioral intentions based on message and message receiver attributes can help organizations and countries mitigate negative outcomes in the event of such a crisis. Future research should also fully investigate other stereotypical associations between crisis types and specific identity traits of perpetrators given the evolving nature and geographical origins of threats.

### **Ripple Effects: Emotion and Risk Perception**

For the most part, the predictions in the ripple effects model were supported. Message receivers who blamed the employee were less angry at the organization and reported less fear. Message receivers who blamed the organization, trusted it less, got angry, expressed a higher interest to engage in more negative word-of-mouth, and expressed less intention to purchase from the organization in the future. Organizational and employee blame do not directly influence stakeholder behavior; rather, the influence is indirect, with each cognitive or emotional state producing other cognitive or emotional

states that ultimately have the potential of influencing stakeholder behavior. Although it appears that an organization will benefit from stakeholders blaming the organization less and the perpetrator more, research also indicates that blaming the perpetrator is often seen as an organizational strategy to divert blame, a move that is not favored by stakeholders (Coombs, 2000). Organizations may instead want to focus on mitigating organizational blame and this may be a useful strategy given that the ripple effects produced by organizational blame (organizational trust, anger, and NWOM) are better predictors (have higher coefficients) of future purchase intention than the ripple effects produced by employee blame (fear, and risk perception). A theoretical, practical, and parsimonious (removing statistically non-significant links) representation of the psychological ripple effect model, is provided below.

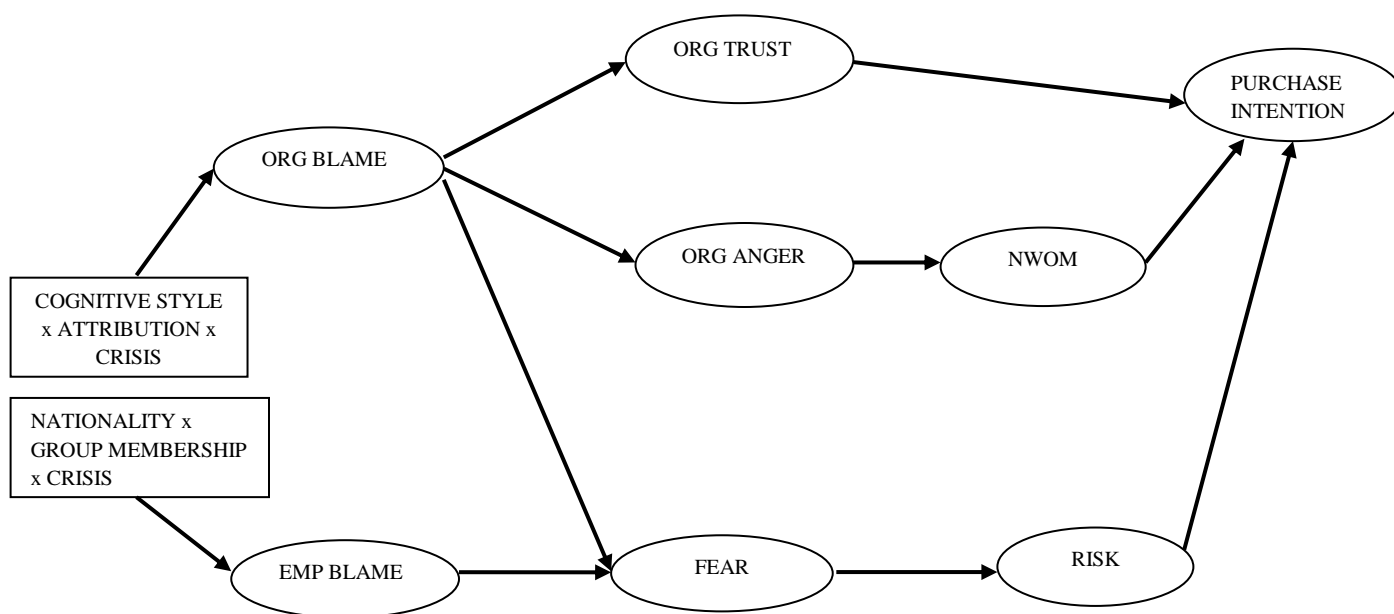


Figure 13. The post-crisis psychological ripple effect model.

Data also provided some insight into the emotional state of mind of message receiver: Message receivers who blamed the organization were not only angry but were

also scared. Further, felt anger did not decrease risk perception as predicted (Lerner et al., 2003). Here, fear and anger were positively correlated ( $r = .32, p < .01$ ). This finding is similar to that of McDonald, Sparks, and Glendon (2010) who found that perceptions of organizational crisis responsibility produced both anger and fear in stakeholders who read about an air crash. This is an important finding because although fear and anger are both negatively valenced emotions (Lerner & Keltner, 2000), they have opposite action tendencies and provide different predictions for risk perception and policy preferences (Lerner et al., 2003; Lerner & Keltner, 2001). According to Lerner et al., angry people tended to have lower estimates of risk than fearful people; angry people also preferred policies that were more vengeful or punishing than their fearful counterparts. Evidence from this dissertation, however, points to the co-existence of these emotions. A further examination of the data revealed that message receivers who experienced high anger and high fear, reported lowered purchase intention and higher risk estimates than message receivers who experienced any other combination of fear and anger. Overall, it appears that the presence of high levels of fear predicted high risk perception, and high levels of anger predicted lowered purchase intentions.

Another important finding in this project was that a higher risk perception was associated with *increased* purchase intention for message receivers. Additional analysis revealed this finding to be an artifact of the crisis type. For message receivers who read about a food contamination, risk perception was not correlated with purchase intention ( $r = -.05, p > .05$ ). However, for message receivers who read about a bombing scenario, risk estimate was positively but lowly correlated with purchase intention ( $r = .17, p < .01$ ). In light of the fact that the organization in this dissertation is PepsiCo, a food and beverage

company, the findings can be interpreted to say that when the crisis was considered unrelated to the organization's core business (such as in the bombing scenario), risk perception (likelihood of the event happening again) increased purchase intention. So even if message receivers perceived risk to be high, they identified it as a crisis that would not affect their purchase intention. On the other hand, when the crisis was related to the organization's core business (such as in the food contamination scenario), risk perception was more likely to impact purchase intention negatively. The fact that this correlation did not reach statistical significance needs further research attention. Another reason for this finding could be an artifact of the samples' age; research from other disciplines suggest that teenagers and young adults differ in their risk perception and resultant behavior from older adults (Deery & Fildes, 1999; Jonah & Dawson, 1987).

**Future directions.** Risk perception has been found to be a significant predictor of attitude and behavior; increased risk perception makes people more cautious and less likely to expose themselves to risk (Lerner et al., 2003). Although analysis confirmed a reliable risk perception factor, some of the relationships concerning risk perception were not supported in this dissertation. One probable reason could be the push and pull effect of anger and fear on risk perception. With anger decreasing risk and fear increasing risk, and message recipients expressing both emotions, message receivers may have perceived risk in a complex, almost dialectical way (expressed as an increase and a decrease in risk perception). Another reason for this outcome could be the operationalization of risk perception (the likelihood of the crisis happening again). Verbal probabilities statements such as *likely* and *probable* (as compared to numerical probability statements) can have variable interpretations for message receivers (Gurmankin, Baron, & Armstrong, 2004).



Although numerical probability information may have been more reliable, there is also evidence to suggest that data presented as numerical probabilities are challenging and generally difficult to understand (Reyna & Brainerd, 2008). Measuring participants' numeracy levels and including numerical measures of risk probability or measures of other aspects of risk such as the severity or dread factor (Slovic, 1987; Slovic, Finucaine, Peters, & McGregor, 2004) may capture risk perception better.

Although this dissertation focused on the two most commonly experienced emotions in a crisis, anger and fear (Coombs, 2007), other emotions are very likely at play in the sense-making process. For example, some research has considered the role of other emotions such as sadness, sympathy, anxiety, as well as positive emotions in a crisis (Jin, 2009; Jin, Pang, & Cameron, 2007; Lerner et al., 2003). As was pointed out earlier, the discrete emotion literature outlines specific action tendencies for each emotion. If emotions indeed co-occur (such as anger and fear), then opposing action tendencies may be triggered. Currently, there is very limited research that addresses the joint effect of opposing emotions on behavior or behavioral intentions. Future research should consider expanding the psychological ripple effect model to capture a more comprehensive range of emotions experienced by stakeholders in a crisis. A simplistic understanding of the phenomenon could generate misleading conclusions. An extension of the model will facilitate more reliable predictions of outcomes for organizations.

### **Type of Crisis Makes a Difference**

An incidental but important finding of this dissertation was that the type of crisis made a difference to the blame attributed to the organization. Although the two crisis types (food contamination and bombing) were included because of methodological

concerns of replicability of results across crisis types, the results for all major statistical tests showed that the type of crisis affected the outcome for the organization with the food contamination crisis being associated with more pronounced negative ripple effects. Intercultural research has shown no evidence of this differentiation. For example, the research on group membership has been applied to several contexts and the results have been consistent across contexts (Duncan, 1976; Linville & Jones, 1980; Taylor & Jaggi, 1974). Similarly, cross-cultural attribution research shows uniform findings across contexts (Peng & Nisbett, 1999). Although SCCT (Coombs, 2012) makes a distinction between crisis types, there has been very little research empirically testing the effect of different crisis types (Coombs, 1999; Coombs & Holladay, 1996, 2001). By testing the outcomes associated with different types of crises, this dissertation has shown that some crises can be more damaging for an organization than others.

Overall, the food contamination scenario produced more severe outcomes for the organization (see Appendix G for comparison of outcomes by crisis type). This seems like an intuitive result given that the organization in question was a food and beverage company, PepsiCo. To message recipients, the organization was more to blame if it allowed a former employee to enter its secure facilities and contaminate its products that resulted in the death and illness of its consumers when compared to an organization whose former employee set off a bomb explosion that killed and injured people. The crisis communication literature, specifically Coombs' SCCT (2012), offers theoretical support for this finding. For example, SCCT posits that before choosing the appropriate response to a crisis, an organization must first identify the crisis type or the frame that stakeholders will use to interpret the event (Coombs 2012). Critical to this process is

evaluating the organization's degree of control over the incident (Coombs, 1998, Coombs & Holladay, 2002). Highly correlated with organizational blame, variables such as personal control and mutability of the event are known to be key indicators of outcomes like reputational damage for the organization (Coombs & Holladay, 2011; Coombs & Schmidt, 2000; McDonald, Sparks, & Glendon, 2010). These criteria have been generally supported here. Key to their perception of locus of blame, message receivers perceived that the organization could have prevented the food contamination more than the bombing. Other negative ripple effects were also more severe in the food contamination scenario when compared to the bombing scenario.

**Future directions.** According to Coombs' (2012) classification of crisis clusters, an employee's violent actions (such as the one described in the experimental stimulus) would place the organization in the victim cluster. This dissertation however highlights the finding that the classification of crises and its implications may not be so simple and straightforward. Even though the crisis may be seen as "driven by external forces beyond the management's control" (Coombs, 2004, p. 270), based on message receivers' perception of preventability, this crisis seems more aligned with the intentional crisis cluster. This finding reiterates the basic belief of public relations' research that ultimately it is the stakeholders' perception of reality that is more important than reality itself (Heath, 2010). This is because even though an organization may consider itself a victim in the event of workplace violence, stakeholders may actually perceive a more implicating role for the organization, and it is this perception that will guide stakeholder action. Coombs' (2012) crisis-cluster classification seems more reflective of an organization's perspective. What is important, however, is the stakeholder perspective

because changing the crisis-cluster changes the implications for the organization. Future research should work on understanding the relationship and the gap between an organization's and its stakeholders' perception of blame. In addition, given the statistically significant interactions between crisis type and nationality of the participants, it may be worthwhile adding this variable to SCCT or testing the theory in different cultural contexts to better understand the role of nationality and cultural processes in the evaluation of crisis communication.

### **Limitations of the Study**

#### **Sample and Design Issues**

First, the Indian participants did not receive extra credit or any other form of compensation for their participation as extra credit is not commonly offered for any type of activity in schools in India. This may have created an unequal incentive to participate in the study for the two samples of participants. Second, according to the administrator in the Indian school, the sample had never participated in research before. Compared to them, the American sample is far more exposed to research settings and is even encouraged to earn extra credit in exchange for participation. The effect of this difference can only be hypothesized as the novelty of the experience may have interfered with the responses of the Indian participants. Even though it is not possible to know how, if at all, these differences caused responses to be biased, it is at least important to acknowledge that the samples, although comparable in some aspects, differed on this dimension. Third, the data collection period in India coincided with the "India against Corruption" citizen movement against corruption in August 2011. The movement, marked by public demonstrations demanding stricter anti-corruption laws and more public accountability of

government officials, gathered a lot of momentum in several Indian cities and towns (India Against Corruption, 2012). Being exposed to this movement may have influenced the Indian participants' state of mind; to measure or control for these effects was not possible. Finally, as a more global limitation of experimental research, the sample for this study consisted of undergraduate students who read the experimental stimulus in a classroom. Although the setting may have facilitated experimental control, it was not the ideal way to simulate the experience of reading a crisis message for message receivers. Outside of lab settings, other factors may influence the way message receivers react to crisis messages.

### **Reliability of Factors**

Although the Analysis-Holism Scale (Choi, Koo, & Choi, 2007) has a reasonable overall reliability, the subscales demonstrated lower reliabilities. Similarly, the ripple effects measures had lower reliabilities in the Indian sub-sample relative to the American sub-sample (see Appendix H for comparison of factors and their reliability scores). The measures were not pilot-tested in India because established scales with high reliabilities were used. However, in light of the findings here, a pilot test of the measures may have facilitated the development of equally reliable measures and increased the internal validity of these findings. On a related note, more reliable measures may have also helped increase the small effect sizes observed in the ANOVA analyses, even though these effect sizes are consistent with those reported in related research.

### **Conceptualization and Operationalization of Key Concepts**

This dissertation made specific choices in conceptualizing and operationalizing key concepts and causal relationships in a certain way based on theory. For example, the

term *ripple effects* may, in some literature, more commonly refer to the effects experienced over a period of time (e.g., Sheppard, 2004), or the spread of effects from one context to another (e.g., Kasperson et al., 1988). Here, the ripple effect model captured the process of how one cognitive or emotional state affected another state within an individual, without reference to the passage of time or context. Additionally, certain causal relationships were proposed in the model even though the reverse causal relationship was equally possible. For example, the model predicted that fear would cause an increase in risk perception. Although this finding was supported, data also supported a reverse causal, albeit weaker, relationship between risk perception and fear such that increased risk perception caused people to be more fearful. Although the relationships suggested here were theoretically driven and received support, the ripple effect model presented here only captures one possible representation of stakeholder reactions. Further, cognitive styles (analytical and holistic), in keeping with Choi, Koo, and Choi's (2007) conceptualization, were treated as polar opposites and in doing so may have created an artificial or forced dichotomy. In other words, it may be possible that message receivers possess characteristics of both holistic and analytic thinkers. Dichotomizing the scale may have resulted in loss of information about such message receivers by forcing them to be one or the other.

It could also be that certain conditions cause people to process analytically whereas other situations prompt holistic processing in the same people. The treatment of the variable here, although still valid, does not allow for these alternative conceptualizations of cognitive styles. Finally, it should also be noted that the in-group and out-group identity of the perpetrator for the message receiver was relative to the

information in other experimental conditions. Therefore, this operationalization may not have reflected the individualized distinctions people make when classifying their in-group (e.g.; family, friends, or people with same religious ideals or political affiliations, etc.).

## **Contributions of Study**

### **Theoretical and Methodological Contributions**

Despite the limitations listed, this dissertation has made some important contributions to the study of crisis perception and communication. First, it applied cultural cognitive frameworks to analyze the consumption of crisis messages and the resultant differences in perceptions of people with varying cognitive styles. Combining theories from the disciplines of cross-cultural cognition and crisis communication helped reveal a more comprehensive picture of the cognitive and affective processes triggered in a crisis. Allowing for audience segmentation based on cultural cognitive styles adds a much needed dimension to the existing body of crisis communication research. For example, Coombs' (2012) SCCT examines how organizations can mitigate negative outcomes of crises based on stakeholder evaluations. Yet the theory in its current form does not include any variables that would predict stakeholder response. This dissertation has highlighted the importance of including stakeholder-related variables at the group level (nationality) and at the individual level (cognitive style). The findings here also call into question the assumption that SSCT makes regarding crisis cluster types, a central premise on which the theory is built. Additionally, even though theory has alluded to the importance of crisis types, this dissertation is also one of the first studies to empirically test the implications of different crisis types for organizations. Finally, this dissertation

has expanded the body of cultural cognition literature by analyzing the cognitive and affective implications of being a holistic or analytical thinker. By asking and answering the “so what” question, this dissertation has identified several avenues that future research can take and further questions that need to be answered. For example, why is it that holistic thinkers expressed negative emotions more markedly than analytical thinkers? Are there some situations in which dialectical thinkers turn polarized? Why didn't Indians display a stronger preference for their in-group?

This dissertation also measured participants' cognitive styles as opposed to assuming it based on their nationality. Although the results indicate that the majority of the Indian sample was holistic and the majority of the American sample was analytical, the importance of continuing to measure cognitive styles cannot be understated given that cognitive style are linked to cultural processes that are changing over time.

### **Applied Contributions**

Crisis communicators are aware of the importance of communicating to stakeholders with speed and empathy. However, this very effort of communicating with stakeholders may cause unintended negative ripple effects for the organization. From an applied perspective, this dissertation provides insight into designing more effective and audience-sensitive crisis communication by highlighting the effect of attributions of blame in the message. For crisis communicators, information regarding the nationality of stakeholders may be more readily available to crisis communicators than their cognitive styles. From that perspective, crisis communicators can continue to cautiously rely on the nationality of their stakeholders to predict cognitive processing styles. Further, ripple effects for an organization after an incident of workplace violence are comparable to the



effects felt by a country after a terrorist attack (Sheppard, Rubin, Wardman, & Wessely, 2006). Therefore, similar to the implications for an organization in crisis, the interaction of message and message receiver characteristics can be useful in predicting ripple effects for countries that have suffered terrorist attacks. The concept of ripple effects provides an effective way of predicting several layers of stakeholder reactions involving cognitive evaluations, affective responses, and behavioral intentions. Ripple effects are useful in predicting distal outcomes for organizations and countries based on the proximal variable of blame.

### **Conclusion**

This project was a sustained effort to explore the joint effect of message and message receiver characteristics on psychological ripple effects of a crisis. Although cognitive style of the message receiver and attributions communicated in the message interacted to influence outcomes for the organization, the identity of the perpetrator did not appear to directly influence organizational blame. The psychological ripple effects model captured the domino effect of cognitive (such as blame and trust) and affective evaluations (such as anger and fear) on behavioral intentions (such as NWOM and purchase intentions). The overall picture that emerges from this dissertation indicates that our current understanding of crisis communication may be too simplistic. Organizational blame depends on (a) the interaction between message and message receiver attributes; and (b) crisis type. Evaluations of blame affect trust, produce a mixture of negative emotions, which in turn affect risk perception, negative word of mouth behavior, and purchase intentions. The evidence here points to the need for more research to explicate some of the nuanced findings of this project. However, the results are encouraging and

support the notion that *who* reads *what* about *whom* is an important consideration in designing messages about crises.

## Endnote

<sup>1</sup> For hypothesis 4, the Levene's test for equality of variances was significant:  $F(7, 686) = 2.36, p < .05$ . Similarly, the Levene's test for hypothesis 5 was also significant:  $F(7, 657) = 2.75, p < .001$ . The *F*-Max test revealed that the ratio of the largest to smallest variance for both hypotheses was less than the critical value indicating that even though the variances were not equal across groups as indicated by the statistically significant Levene's test, the variances could still be assumed to be equal in the population (Hand & Nagaraja, 2003).

## APPENDIX A

## Pilot Study 1 Protocol

If you are 18 years or older, we would like for you to participate in our study. The study will ask you to read a press-release of a company whose foods were recently contaminated. You will then be asked to answer some questions. Participation will take approximately 15 minutes. Thank you.

I. We would like to know a little bit about you. Please put the responses that fit the questions the best.

1. My age is \_\_\_\_\_ years.

2. I am

Male

Female

3. What is your race / ethnicity? (Circle the answer that best describes you)

Caucasian

African American

Indian

Hispanic

Asian American

Other: \_\_\_\_\_

4. What religion do you practice? (circle only 1 answer)

Catholic

Christian (non-Catholic)

Jewish

Muslim

Hindu

Not religious

Other: \_\_\_\_\_

5. Standing in college (What year are you in?)

Freshman (1<sup>st</sup>)

Sophomore (2<sup>nd</sup>)

Junior (3<sup>rd</sup>)

Senior (4<sup>th</sup>)

II. This message concerns the recent food contamination incident involving *GlobalFoods*. This is an excerpt from the company official's media statement. Please read the statement

and answer the questions that follow on a scale of 1-5 where 1 = Strongly Disagree and 5 = Strongly Agree.

“We can also confirm that we are investigating a report that a former employee may have had access to some of the contaminated products before they left the plant. The person in question had recently been laid off but was seen in a controlled work station wearing what appeared to be a real name tag as required for workplace entry. While we have been asked by officials not to reveal too many details in the interest of the case, we can confirm that the male employee under investigation worked as a shift supervisor in the packaging section of GlobalFoods for 15 years. It is believed that he had been unable to find another job because of the difficult economic conditions prevailing these days. It is also believed that his recent job loss had led to his wife filing for divorce and taking custody of his three children. The company had no prior problem with him during his employment; in fact his colleagues remember him as a quiet person, hard working and devoted to his family. *(He was reported to have had severe disciplinary issues at work and records have revealed several bitter arguments with the management over various issues. His colleagues describe him as a man who was quick to get angry and who never forgot a grudge. We have also recently learned that he had been undergoing counseling for a number of years for psychiatric issues and alcohol dependency).* At this time, our concern is to understand how this person got access to the workplace. Security has been increased in the processing units to ensure round-the-clock safety.”

1. The employee’s action was caused by the stress of the situation.
2. The employee was an aggressive man by nature.
3. If circumstances were different, the employee would not have acted this way.
4. The employee’s circumstances were responsible for this incident.
5. The employee was a disturbed individual.
6. The company is responsible for this incident.
7. The employee is a violent man.
8. The employee is responsible for this incident.
9. The employee could have prevented this incident from happening.
10. The company could have prevented this incident from happening.

Thank you for your participation. Please note the press release you read was created solely for use in this study and was not distributed by the fictional food company

## APPENDIX B

## Pilot Study Two Protocol

If you are 18 years or older, we would like for you to participate in our study. The study explores food consumption patterns of members of different cultures. Participation will take approximately 15 minutes. Thank you.

I. We would like to know a little bit about you. Please put the responses that fit the questions the best.

1. My age is \_\_\_\_\_ years.

2. I am

Male

Female

3. What is your race / ethnicity? (Circle the answer that best describes you)

Caucasian

African American

Indian

Hispanic

Asian American

Other: \_\_\_\_\_

4. What religion do you practice? (circle only 1 answer)

Catholic

Christian (non-Catholic)

Jewish

Muslim

Hindu

Not religious

Other: \_\_\_\_\_

5. Standing in college (What year are you in?)

Freshman (1<sup>st</sup>)

Sophomore (2<sup>nd</sup>)

Junior (3<sup>rd</sup>)

Senior (4<sup>th</sup>)

6. Where did you grow up?

Urban (City/Town)

Rural (Village)

7. How would you describe your Socio-economic class?

Working Class

Middle Class

Rich

II. What kinds of foods and beverages do you consume (eat or drink)? Think of food items that you eat or drink regularly or several times a week. List the food instead of the brand (for example: list *car* instead of *Hyundai*). Then, indicate how many times in the last week you have consumed this item.

<u>FOOD/DRINK</u>	<u>No. of times consumed in the last week</u>
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

III. Now, from the list of foods and beverages below, indicate on a scale of 1-5 how regularly you consume each item (where 1= Not at all and 5 = Very).

- a. Milk
- b. Soft drinks (Pepsi, Coke, etc.)
- c. Fruit juice
- d. Pizza
- e. Potato chips
- f. Chocolate
- g. Bread
- h. Ice-cream
- i. Popcorn
- j. Instant noodles

IV. Assume that you hear on the news that there had been an incident where a person did something that killed some people and critically affected several others. List some actions that the person may have actually done that would have had the effect of killing some while critically affecting others. On a scale of 0-100 (where 0 = Not at all and 100 = Definitely), list how likely each scenario is.

<u>Type of Action</u>	<u>Likelihood</u>
a. _____	_____
b. _____	_____
c. _____	_____
d. _____	_____
e. _____	_____

V. Now, read the stories that follow and indicate on a scale of 0-100 (where 0 = Not at all and 100 = Definitely), how likely each of the stories are. Although the stories may seem similar, there are important differences between them. So please read carefully.

### Story 1

A former employee of an organization was unhappy with his employer after losing his job at a food processing unit. He decided to take revenge on the organization by poisoning the food supply at the processing unit with insecticide. 2 people died and 12 people became critically ill.

a. How likely is it that an incident like this could happen in your country? -

\_\_\_\_\_

### Story 2

A former employee of an organization was unhappy with his employer after losing his job at a food processing unit. He decided to take revenge on the organization by shooting people at the processing unit. 2 people died and 12 people were critically injured.

a. How likely is it that an incident like this could happen in your country?-

\_\_\_\_\_

### Story 3

A former employee in a food processing unit was unhappy with his employer after losing his job at a food processing unit. He decided to take revenge on the organization by placing a crude, hand-made bomb at the processing unit. 2 people died and 12 people were critically injured.

a. How likely is it that an incident like this could happen in your country?

\_\_\_\_\_



## APPENDIX C

## Main Study Survey Protocol

Please answer the following questions.

Ia. What is your college major? Check all that apply.

- Behavioral and Social Sciences
- Business
- Journalism
- Letters and Sciences
- Public Health
- Other ARHU major
- Communication
- Undecided
- Other (specify) \_\_\_\_\_

Ib. On a scale of 1-5, where 1= Not at all and 5 = Very,

- a. How interested are you in working in business?
- b. How interested are you in business-related news?
- c. How aware are you of happenings in the business world?

## II. Demographic Information

1. My age is \_\_\_\_\_ years.
2. I am (pick one):
  - Male
  - Female
3. What is your race / ethnicity? (Circle the answer that best describes you)
  - Caucasian
  - African American
  - Indian
  - Hispanic
  - Asian American
  - Other: \_\_\_\_\_
4. What religion do you practice? (circle only 1 answer)
  - Catholic
  - Christian (non-Catholic)
  - Muslim
  - Hindu
  - Jewish

Not religious  
 Other (please list) \_\_\_\_\_

5. What is your standing in college (What year are you in?)  
 Fr (1<sup>st</sup> year)  
 So (2<sup>nd</sup> year)  
 Jr (3<sup>rd</sup> year)  
 Sr (4<sup>th</sup> year)
6. Where did you grow up?  
 Urban (City/Town)  
 Rural (Village)
7. How would you describe your family's socio-economic class?  
 Lower Middle Class  
 Middle Class  
 Upper Middle Class  
 Rich

III. Please rate your responses to the questions below on a scale of 1 -5 where 1 = Strongly disagree, and 5 = Strongly agree.

#### **Causality**

1. Everything in the universe is somehow related to each other.
2. Nothing is unrelated.
3. Everything in the world is intertwined in a causal relationship.
4. Even a small change in any element of the universe can lead to significant alterations in other elements.
5. Any phenomenon has numerous numbers of causes, although some of the causes are not known.
6. Any phenomenon entails a numerous number of consequences, although some of them may not be known.

#### **Locus of Attention**

7. The whole, rather than its parts, should be considered in order to understand a phenomenon.
8. It is more important to pay attention to the whole than its parts.
9. The whole is greater than the sum of its parts.
10. It is more important to pay attention to the whole context rather than the details.
11. It is not possible to understand the parts without considering the whole picture.
12. We should consider the situation a person is faced with, as well as his/her personality, in order to understand one's behavior.

#### **Polarized and Dialectic Thinking**

13. It is more desirable to take the middle ground than go to extremes.

14. When disagreement exists among people, they should search for ways to compromise and embrace everyone's opinions.
15. It is more important to find a point of compromise than to debate who is right/wrong, when one's opinions conflict with other's opinions.
16. It is desirable to be in harmony, rather than in discord, with others of different opinions than one's own.
17. Choosing a middle ground in an argument should be avoided (reverse-coded).
18. We should avoid going to extremes.

IV. News stories often inform us about various incidents that are of interest to us. Given the rising frequency of such incidents, it is worthwhile to study the implications of such events. Following is a news story about one such incident. Please read the news story and answer the questions that follow.

### **FORMER PEPSICO EMPLOYEE ARRESTED IN FOOD POISONING INCIDENT**

There has been a new development in last month's recent Pepsi product contamination incident that left two people dead and thirty six ill. Local police officials have arrested a former employee at PepsiCo who allegedly intentionally contaminated carbonated drinks and juice products with insecticide. The company has recalled all batches of beverage products produced at the factory where the former employee worked.

Preliminary reports suggest that the arrested former employee had recently been laid off from PepsiCo. The former employee, at this time only identified as an American/Indian male, was seen in a controlled work station wearing what appeared to be a PepsiCo uniform and a company-issued identification badge as required for workplace entry. PepsiCo has confirmed that the employee in question had worked as a shift supervisor in the packaging section for fifteen years. Company officials also stated that the former employee reportedly had severe disciplinary issues while at work. Company officials said that were aware of the fact that the employee in question had had several confrontations with the management over various issues and had been referred to counseling services for alcohol dependency. A former colleague, who asked not to be named, described him as "a guy who never forgot a grudge".

Although it is unclear how a former employee got access to a sensitive workplace, security has since been increased in the processing units to ensure round-the-clock safety. When contacted for a comment, the company spokesperson expressed "deep sympathy for those affected by this tragedy" and assured the public of the company's "full co-operation with the ongoing investigation."

This is not the first product tampering crisis for PepsiCo. In 1993, there were more than 50 reports of product tampering across the United States when customers allegedly found syringes in their Diet Pepsi cans. However, the Food and Drug Administration later determined that the product tampering was a hoax. For the current contamination customers are urged to return Pepsi beverage products that have date codes stamped on the bottom, ranging from 241 to 289 with plant number 1039 to their local retailer for a full refund. For additional information on the recall or product

return procedure, customers can call PepsiCo toll-free at 1-800-433-2642 or visit the company website at [www.pepsi.com](http://www.pepsi.com).

V. Based on the news story you read, please answer the questions below on a scale of 1 - 5 where 1 = Strongly disagree, and 5 = Strongly agree

### **Organizational Blame**

1. Circumstances, not the organization, are responsible for the crisis.
2. The organization is to blame for this crisis.
3. This crisis is not the organization's fault.
4. The organization is not responsible for this crisis.

### **Organizational Trust**

5. I trust the organization to do the right thing
6. I believe the organization has the employees and public's best interest in mind.
7. I trust the organization to handle this issue effectively.
8. I have faith in the organization to take care of this issue.

### **Fear**

9. This incident scares me.
10. This incident makes me fearful.
11. The news story makes me afraid.
12. This incident frightens me.

### **Anger at Organization**

13. I am angry at the organization.
14. I am mad at the organization for allowing this crisis to happen
15. I am annoyed with the organization.
16. The organization's action irritates me.

### **Anger at Employee**

17. I am angry at the employee.
18. The employee's action irritates me.
19. I am annoyed with the employee.
20. I am mad at the employee for doing this.

### **Employee Disturbed**

21. The employee was a violent man by nature.
22. The employee's actions show that he was psychologically disturbed.
23. The employee's action shows his brutal nature.
24. The employee was an aggressive man

### **Employee Blame**

25. The employee's circumstances are responsible for the crisis.
26. The employee is to blame for this situation.

- 27. The responsibility for this crisis rests with the employee.
- 28. The employee is at fault here.

### **Sympathy for Organization**

- 29. I sympathize with the organization.
- 30. I feel sorry for the organization.
- 31. The organization is also a victim in this crisis.

### **Sympathy for Employee**

- 32. I sympathize with the employee.
- 33. I feel sorry for the employee.
- 34. The employee is also a victim in this crisis.

### **Risk Likelihood Estimate**

- 35. Such an incident could happen again in the future.
- 36. This was a random act and is unlikely to happen again.
- 37. It is quite possible that such an incident could happen again.
- 38. Such an incident is likely to happen again.

### **Negative Word-Of-Mouth**

- 39. I would advise my friends and family not to buy from this company.
- 40. I would encourage my friends or relatives not to buy products from this organization.
- 41. If someone asked me about this organization, I would say negative things about it.
- 42. I would not recommend this organization or its products to anyone.

### **Purchase Intention**

- 43. I will purchase products from this organization.
- 44. I will buy products from this organization in the future.
- 45. I will not buy from this organization in the future.

### **Crisis Bad for Organization**

- 46. This crisis will negatively impact the organization.
- 47. This incident will ruin the organization.
- 48. This crisis will destroy the organization.

### **Crisis Good for Organization**

- 49. This crisis can actually be good for the organization.
- 50. The organization can emerge stronger than before because of this incident.
- 51. This crisis can help the organization.

### **Organization Prevent**

- 52. The organization could have stopped this incident from happening.
- 53. The organization could have prevented this incident from happening.

**Employee Prevent**

- 54. The employee could have prevented this incident from happening.
- 55. The employee could have stopped this incident from happening.

**Sadness**

- 56. This incident makes me sad.
- 57. This incident depresses me.

**Recommended Actions**

- 58. The organization should compensate those affected by the crisis.
- 59. The organization should pay damages to those affected by the crisis.
- 60. The organization should apologize to those affected by the crisis.
- 61. The organization should ask for the public's forgiveness.

**Embarrassment**

- 62. I am ashamed by the employee's action.
- 63. I am embarrassed by the employee's action.

**VI. Debriefing**

My name is Deepa Anagondahalli and I am a doctoral student at the University of Maryland. This study is aimed at investigating how people with different cultural cognitive processing styles respond to news stories about a crisis. You were asked to participate in the study because you are one of the ethnicities of interest to this study. You are one of approximately 1200 people in the study.

I am attempting to understand how a crisis is understood by different cultural populations, and how subsequent attitudes and behaviors may differ as the result of such crises. Please note the news story you read today was created solely for use in this study and did not represent any real incident. I appreciate your time. Please feel free to ask any questions you may have about the study.

## APPENDIX D

## Stimulus Messages for Main Study

Food Contamination: Situational Attribution

**FORMER PEPSICO EMPLOYEE ARRESTED IN FOOD POISONING INCIDENT**

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Preliminary reports suggest that the arrested former employee had recently been laid off from PepsiCo. The former employee, at this time only identified as an Indian (American) male, was seen in a controlled work station wearing what appeared to be a PepsiCo uniform and a company-issued identification badge as required for workplace entry. PepsiCo has confirmed that the employee in question had worked as a shift supervisor in the packaging section for fifteen years. Company officials also stated that the former employee reportedly had severe disciplinary issues while at work. Company officials said that were aware of the fact that the employee in question had had several confrontations with the management over various issues and had been referred to counseling services for alcohol dependency. A former colleague, who asked not to be named, described him as "a guy who never forgot a grudge".

Although it is unclear how a former employee got access to a sensitive workplace, security has since been increased in the processing units to ensure round-the-clock safety. When contacted for a comment, the company spokesperson expressed "deep sympathy for those affected by this tragedy" and assured the public of the company's "full co-operation with the ongoing investigation."

This is not the first product tampering crisis for PepsiCo. In 1993, there were more than 50 reports of product tampering across the United States when customers allegedly found syringes in their Diet Pepsi cans. However, the Food and Drug Administration later determined that the product tampering was a hoax. For the current contamination customers are urged to return Pepsi beverage products that have date codes stamped on the bottom, ranging from 241 to 289 with plant number 1039 to their local retailer for a full refund. For additional information on the recall or product return procedure, customers can call PepsiCo toll-free at 1-800-433-2642 or visit the company website at [www.pepsi.com](http://www.pepsi.com).

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Although it is unclear how a former employee got access to a sensitive workplace, security has since been increased in the processing units to ensure round-the-clock safety. When contacted for a comment, the company spokesperson expressed "deep sympathy for those affected by this tragedy" and assured the public of the "company's full co-operation with the ongoing investigation".

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Bombing: Personal Attribution

### **FORMER PEPSICO EMPLOYEE ARRESTED IN BOMBING INCIDENT**

There has been a new development in last month's bombing incident that left two people dead and thirty six injured. Local police officials have arrested a former employee at PepsiCo for allegedly setting off the crude bomb.

Preliminary reports suggest that the arrested former employee had recently been laid off from PepsiCo. The former employee, at this time, only identified as an American (Indian) male, was reportedly spotted at the site of the bomb blast wearing what appeared to be a PepsiCo uniform and a company-issued identification badge as required for workplace entry. PepsiCo has confirmed that the employee in question had worked as a shift



supervisor in the packaging section for fifteen years. Company officials also stated that the former employee reportedly had severe disciplinary issues while at work. Company officials said that were aware of the fact that the employee in question had had several confrontations with the management over various issues and had been referred to counseling services for alcohol dependency. A former colleague, who asked not to be named, described him as “a guy who never forgot a grudge”.

Although it is unclear how a former employee got access to the company’s uniform and identification tag, security has since been increased in the processing units to ensure round-the-clock safety. This is not the first crisis for PepsiCo. In 1993, there were more than 50 reports of product tampering across the United States when customers allegedly found syringes in their Diet Pepsi cans. However, the Food and Drug Administration later determined that the product tampering was a hoax. When contacted for a comment, the company spokesperson expressed “deep sympathy for those affected by this tragedy” and assured the public of the “company’s full co-operation with the ongoing investigation”.

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## APPENDIX E

*F* tests for Major of Participants

Prediction	<i>F</i> test
Hypothesis 3 (DV: Organizational Blame)	
Major (Main effect)	$F(1, 693) < 1, p > .05$
Nationality <sup>a</sup> x Major	NA
Nationality <sup>b</sup> x Major	$F(1, 693) = .41, p > .05$
Crisis Type x Major	$F(1, 693) = 2.64, p > .05$
Nationality <sup>a</sup> x Nationality <sup>b</sup> x Major	NA
Nationality <sup>a</sup> x Crisis Type x Major	NA
Nationality <sup>b</sup> x Crisis Type x Major	$F(1, 693) = .52, p > .05$
Nationality <sup>a</sup> x Nationality <sup>b</sup> x Crisis x Major	NA
Hypothesis 4 (DV: Employee Blame)	
Major (Main effect)	$F(1, 698) = .01, p > .05$
Nationality <sup>a</sup> x Major	NA
Nationality <sup>b</sup> x Major	$F(1, 693) = 2.78 p > .05$
Crisis Type x Major	$F(1, 693) = .07, p > .05$
Nationality <sup>a</sup> x Nationality <sup>b</sup> x Major	NA
Nationality <sup>a</sup> x Crisis Type x Major	NA
Nationality <sup>b</sup> x Crisis Type x Major	$F(1, 693) = 1.70, p > .05$
Nationality <sup>a</sup> x Nationality <sup>b</sup> x Crisis X Major	NA
Hypothesis 5 (DV: Organizational Blame)	
Major (Main effect)	$F(1, 664) = .84, p > .05$

Attribution x Major	$F(1, 664) = .67, p > .05$
Cognitive Style x Major	$F(1, 664) = .76, p > .05$
Crisis Type x Major	$F(1, 664) = 3.45, p > .05$
Attribution x Cognitive Style x Major	$F(1, 664) = .11, p > .05$
Attribution x Crisis Type x Major	$F(1, 664) = .58, p > .05$
Cognitive Style x Crisis Type x Major	$F(1, 664) = 1.42, p > .05$
Attribution x Cognitive Style x Crisis Type x Major	$F(1, 664) = .171, p > .05$

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*Note:* Nationality<sup>a</sup> = Nationality of message receiver, Nationality<sup>b</sup> = Nationality of perpetrator, NA = Not available as some combination of factors were not observed.

## APPENDIX F

## LISREL Syntax for Structural Model

STRUCTURAL MODEL

OBSERVED VARIABLES

RCOrgCircum RCNotOrg RCOrgNotResp OrgBlame RCEmpCircum EmpBlame  
 EmpFault EmpResp TrustOrg BestInterest TrustHandle FaithOrg Scare Fearful Afraid  
 Frightens AngryOrg MadOrg AnnoyedOrg OrgIrritate AdvNotBuy EncourageNotBuy  
 SayNegOrg NotRecoOrg RCRandom HappenAgain IncidentAgain LikelyAgain  
 PurchaseProds BuyProds RCNotBuy AttnCog Race Nationality Anhol CogAtnCr  
 RacNatCri

RAW DATA FROM FILE FulldataFinal.psf

SAMPLE SIZE IS 708

LATENT VARIABLES

ORGBLAME EMPBLAME ORGTRUST ANGER FEAR RISK NWOM PURCHASE

RELATIONSHIPS

RCOrgNotResp = 1\*ORGBLAME

OrgBlame RCOrgCircum RCNotOrg = ORGBLAME

EmpFault = 1\*EMPBLAME

RCEmpCircum EmpBlame EmpResp = EMPBLAME

FaithOrg = 1\*ORGTRUST

TrustOrg BestInterest TrustHandle = ORGTRUST

Frightens = 1\*FEAR

Scare Fearful Afraid = FEAR

AnnoyedOrg = 1\*ANGER

AngryOrg MadOrg OrgIrritate = ANGER

NotRecoOrg = 1\*NWOM

EncourageNotBuy SayNegOrg AdvNotBuy = NWOM

HappenAgain = 1\*RISK

IncidentAgain LikelyAgain = RISK

PurchaseProds = 1\*PURCHASE

BuyProds RCNotBuy = PURCHASE

ORGTRUST = ORGBLAME

ANGER = ORGBLAME

RISK NWOM = ANGER

PURCHASE = NWOM RISK ORGTRUST ORGBLAME EMPBLAME

FEAR = EMPBLAME ORGBLAME

RISK = FEAR

ORGBLAME = CogAtnCri

EMPBLAME = RacNatCri

Let the errors between EncourageNotBuy and AdvNotBuy covary

Let the errors between FaithOrg and TrustHandle covary

PATH DIAGRAM

END OF PROBLEM

## APPENDIX G

*Means (Standard Deviations) of Psychological Ripple Effects by Crisis Type*

	Food Contamination	Bombing
Organization Blame	3.33 (0.93)**	2.79 (0.88)**
Organization Trust	3.50 (0.97)	3.44 (0.88)
Anger	2.99 (0.99)**	2.60 (0.92)**
NWOM	2.80 (1.10)**	2.24 (1.05)**
Fear	3.47 (1.18)**	3.17 (1.20)**
Risk Perception	3.73 (1.00)	3.70 (0.97)
Purchase Intent	3.05 (1.07)**	3.47 (1.07)**
Sympathy for Organization	3.07 (0.86)*	3.22 (0.86)*
Apologize to Stakeholders	4.22 (0.91)**	3.68 (1.12)**
Compensate Stakeholders	4.45 (0.85)**	4.15 (0.96)**

*Note.* \* =  $p < .05$ , \*\* =  $p < .001$ .

## APPENDIX H

## Comparison of Factor Reliabilities

Nationality (Message Receiver)	American		Indian	
	Cronbach's Alpha	Coefficient <i>H</i>	Cronbach's Alpha	Coefficient <i>H</i>
Causality	.74	.75	.50	.53
Locus of Attention	.72	.86	.56	.65
Attitude toward Contradiction	.71	.77	.59	.79
Holistic	.72	.83	.70	.86
Organizational Blame	.83	.85	.63	.65
Organizational Trust	.90	.94	.60	.83
Employee Blame	.82	.86	.57	.60
Anger	.87	.87	.60	.61
Fear	.97	.97	.82	.87
NWOM	.93	.92	.74	.72
Risk	.81	.81	.68	.70
Purchase	.87	.91	.55	.80

## APPENDIX I

## COVARIANCE MATRIX

	ORGBLAME	EMPBLAME	ORGTRUST	ANGER	FEAR	RISK
ORGBLAME	0.80					
EMPBLAME	0.00	0.29				
ORGTRUST	-0.37	0.00	1.18			
ANGER	0.42	0.00	-0.20	0.81		
FEAR	0.17	-0.09	-0.08	0.09	1.02	
RISK	0.02	-0.02	-0.01	-0.02	0.25	0.83
NWOM	0.30	0.00	-0.14	0.57	0.06	-0.01
PURCHASE	-0.30	0.01	0.24	-0.51	-0.03	0.12
AttnCog	0.03	0.00	-0.01	0.01	0.01	0.00
RacNatCr	0.00	-0.02	0.00	0.00	0.01	0.00

	NWOM	PURCHASE	CogAtnCr	RacNatCr
NWOM	0.98			
PURCHASE	-0.84	0.94		
CogAtnCr	0.01	-0.01	0.18	
RacNatCr	0.00	0.00	-0.01	0.11

## APPENDIX J

## CORRELATIONS BETWEEN SUBSCALES AND ANALYTICAL-HOLISM SCALE

	ANHOL	CAUSAL	ATTENTION	CONTRADICTION
ANHOL	1.00			
CAUSAL	.62**	1.00		
ATTENTION	.68**	.18**	1.00	
CONTRADICTION	.75**	.22**	.30**	1.00

*Note.* Anhol = Analytical-Holistic, Causal = Causality, Attention = Locus of attention, Contradiction = Attitude toward contradiction. \*\*  $p < .01$ .



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