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Visualization, Viewer and Emotion: An Empirical Study of Cognition and Affective Responses to Infographics Used for Crisis Communication

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Visualization, Viewer and Emotion: An Empirical Study of Cognition and
Affective Responses to Infographics Used for Crisis Communication

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of
Philosophy at Virginia Commonwealth University.

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Abstract

VISUALIZATION, VIEWER AND EMOTION: AN EMPIRICAL STUDY OF COGNITIVE AND AFFECTIVE RESPONSES TO INFOGRAPHICS USED FOR CRISIS COMMUNICATION

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

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A 3 (crisis response strategy) x 3 (medium) factorial design experiment was conducted to determine if information graphics conveyed through online news sources may be more beneficial for organizational reputations during some crisis situations than the use of news videos and text-based news stories. Variables examined include cognitive and affective appraisal, third-person effect, behavioral response and crisis response strategy.

Recent research in organizational crisis communications has pointed to the fact that more information is needed regarding how individuals react cognitively and affectively to crisis communications. Current crisis communications literature is also sparse concerning the behavioral aspects of crisis message reception and social media usage. This study addressed these concerns and built on the established framework of Situational Crisis Communication Theory (SCCT).

Chapter I. Introduction

Background: Infographic Explosion

The usage of graphics to convey information has been used for centuries, but its evolution into the digital realm is transforming a relatively static medium into a dynamic, collaborative and often instantaneous experience for viewers. With so much information being accumulated and stored in online databases, combined with the current movement among information assemblers to allow free access to their content, developers and designers are beginning to create an environment where visualizations are being created from data sets in sizes unfathomable to the average mind.

For example, when one compares all of the information in one issue of the *New York Times* to all of the images currently stored on the photo-sharing service Flickr, which totals more than 6 billion (Kremerskothen, 2011), the difference is not only exponential, but it approaches being incomprehensible. The task to compile this type of information in an easily searchable and understandable form to combat information overload is more important now than ever, which is why information graphics are beginning to grow in popularity.

Ramon Lull ensured in the 1200s that his Circles (which were early versions of infographics that served as biblical debating tools) created simplicity from complexity, and new designers of information are maintaining this tenet ("Ramon Lull," n.d.). One only has to look to examples like *Tag Galaxy* ("Tag Galaxy," n.d.)[1] or the *New York Times* Graphics Department[2] to see the interactive ways that information is being presented.

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[1] Tag Galaxy is a website released in 2008 that allows the user to type a word and then see Flickr images tagged with the same text. Flickr is a photo-sharing site that hosts more than 6 billion images.

[2] A good place to see all its visualizations in one place is the department's Twitter account @nytgraphics.

Massive information visualizations come in other forms as well. Artist Aaron Koblin made headlines in 2007 with *The Sheep Market*[3], which is a collection of 10,000 hand-drawn illustrations of sheep he compiled by paying individuals 2 cents per drawing using Amazon's Mechanical Turk service (Koblin, 2007a). This early example from the art world of the power of online crowdsourcing never made Mechanical Turk a household name, but the ease of which people could be "hired" through it to work for low wages in order to generate large amounts of content was powerfully demonstrated by Koblin's piece. Koblin later collaborated with AT&T on *New York Talk Exchange*[4], which visualizes computer and long distance telephone interactions between New York City and other cities around the world (Koblin, 2007b).

Within the humanities, some scholars are beginning to embrace the power of visualizing data through partnerships to connect their texts into searchable databases, such as *The Quilt Index*[5] (n.d.), while others have begun creating visualizations from smaller sets of texts, such as *CYOA*[6] by Christina Swinehart (n.d.). The patterns Swinehart discovers through *CYOA* are particularly important because they are not only similar to the revelations that can be achieved through literary processes such as code analysis, but they also shed new light on the construction and connection of texts.

The goal of this research is to extend understanding of how infographics, data visualization and information art relate to crisis communications in an online environment. This

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[3] *The Sheep Market* is a work of art consisting of more than 10,000 drawings of sheep, each created by a Worker for Amazon Mechanical Turk, which is a crowdsourcing service.
[4] Talk Exchange is a series of data visualizations that use live information from the AT&T worldwide communications network to display customer connections as they happen.
[5] The Quilt Index is a compendium of quilt images and stories organized around the goal of preserving the quilting tradition.
[6] The letters "CYOA" stand for "Choose Your Own Adventure," which is a children's book series that allows readers to make choices at specific points in stories. Based on the choices made, the ending changes. Thus, each book is experienced differently with every reading.

work includes an experiment that compared cognitive and affective responses to traditional crisis communications response strategies carried in three different mediums: text, video and infographics.

Modern public relations practitioners are adapting to a changing digital landscape that has increased opportunities and challenges related to message distribution. Controlling brand images and reputations was never absolutely possible, but increased usage of social media among all demographics has caused many practitioners to switch their thinking from controlling the conversations about the brands they represent to just contributing to the conversation surrounding brands (Dougherty, 2014).

Telling stories in interesting and meaningful ways that don't disrupt the discussions surrounding brands, but add to them (and sometimes steer them), has become so important within PR culture. Infographics are among the popular storytelling techniques being utilized by PR people, which one blogger expanded to a belief that infographics are the modern alternative to the news release (Porter, 2011).

Related to crisis communications, infographics have been used to explain two large-scale disasters: the 2010 BP Deepwater Horizon oil spill in the Gulf of Mexico and, one year later, the Fukushima nuclear disaster. Both instances were communicated very differently. During the BP crisis, the company published detailed, professionally designed infographics that explained the situation and what was being done to resolve it. There were also numerous graphics produced by news outlets that visualized the situation well. Both the company's graphics and the mainstream news outlets graphics were equivalent in the quality of their design. Conversely, when TEPCO, the company responsible for the Japanese nuclear site in Fukushima, released infographics, they were not illustrated as well. Due to this observation, this study standardized the formatting of the

infographics used to control for cognitive and affective differences in perception that could arise from variations in aesthetics.

The term "infographic" is defined in this study as a graphic that "visually displays measured quantities by means of the combined use of points, lines, a coordinate system, numbers, symbols, words, shading and color" (Tufte, 2001). Infographics for crisis communications purposes should be simplistic in nature in order to adhere to common message creation practices within the field of public relations. Professional communicators design messages to be easy to understand and quick to process due to distractions in the environment surrounding message receivers (Spenner & Freeman, 2012). There are also variances in IQ and cognitive abilities within audiences, which lends support to message simplicity to increase chances of comprehension during crisis situations, especially when health and safety can be negatively affected due to confusion.

Going beyond Tufte's broad description of infographics, at least within this study, the style of infographics utilized relate to news stories reported in text and through video. Multiple studies conducted since the 1940s have resulted in text-based news stories commonly being written between a 6th and 9th grade reading level, allowing people from multiple age groups and non-native English speakers to understand the content (e.g., Murphy, 1947; Lostutter, 1947; DuBay, 2006).

Purpose and Significance of this Study

Most research related to crisis communications tends to focus on words rather than images, which has left a gap related to the use of images, and especially infographics, in crisis communications studies. Considering this deficit, this study should not only directly benefit mass

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communications scholarship, but also visual communication studies, specifically graphic design, as well as the use of information art for authorship purposes.

Scholars have indicated that the impact of the medium on crisis communication is severely understudied (Schultz, Utz, & Göritz, 2011), including visual versus textual messages in crisis communications (Coombs & Holladay, 2009). It has also been documented that only a small amount of research examining stakeholder emotional reactions to crisis response strategies has been conducted (McDonald, Sparks, & Glendon, 2010). Due to these insights, this research should contribute in a number of ways toward advancing crisis communications research, both theoretically and practically.

Online and offline, infographics are rapidly growing in popularity. It is difficult to read a blog or view any form of mainstream media without encountering them. It has even progressed to a point that an infographic parody has circulated online that deplores the amount of senseless infographics being created (Gyford, 2010). Numerous publications have been established to critique and celebrate infographics, such as *FlowingData*, *Cool Infographics* and *Infographics Magazine*, in addition to the Obama administration's appointment of Edward Tufte, a renowned data visualization scholar and author, to the Recovery Independent Advisory Panel. The Panel was charged with tracking and explaining to Americans how $787 billion in recovery stimulus funds was being utilized to repair the USA economy as it exited the Great Recession (Lasar, 2010).

Cognitive overload may be behind the increasing spread of infographics online. This line of thinking is supported by Huang, Huang, Liu, and Tsai (2013), who connected cognitive overload to the ever-expanding amount of material available online and noted that it can cause disorientation. Their study suggested information graphics are a possible solution for remedying

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this problem.

Another possible reason for the explosion of interest in information graphics is a belief that science can provide answers in a historical period that is seeing a level of societal changes not witnessed since the industrial revolution. In a short time, industrialized economies have moved from an analog system of communication to digital. With this change have come new multinational businesses whose revenues are generated completely online, such as Google, Facebook, Amazon and Alibaba. These companies and many others are reshaping how individuals find information, communicate with each other and buy products.

This research is also important in its attempt to explore possible connections among the third-person effect, crisis communication response strategies and source credibility research. The experimental design outlined in the methodology section reflects these interests.

Chapter II. Theoretical Framework, Literature Review and Hypotheses

The theoretical framework used in this study draws from theories in graphic design, crisis communications, word of mouth research, third-person effect model and cognitive appraisal and emotional response theories. The sections that follow discuss relevant studies and findings from the preceding fields.

Infographic Design and Theory

For the purposes of this study, the terms "infographics" and "information graphic" are used interchangeably. Burmester, Mast, Tille, and Weber (2010) stated that information graphics belong to three scientific fields: journalism, information visualization, and information design. They created an exploratory study using eye-tracking devices to see how infographics views move through the stories depicted in them. They found that viewers tended to skip and skim the presented information in an attempt to understand the overall story. They also reported a common complaint among their study participants was the information graphics presented were difficult to understand.

Houser (2014) presented a critique of infographics arguing that they provide a false sense of information mastery through simple designs. Her analysis was focused upon two data visualizations, Aaron Koblin's *Flight Patterns* (2009) and WWF's *The Timber Trade* (Good, 2011), in addition to other large-scale environmental visualizations such as the documentary film *An Inconvenient Truth*, and their use of a strategy she called "connect-the dots." The rich information and detail of infographics is presented in a way that is immediate and simple to understand, but what data is being left out is not apparent, leading the viewer to "connect-the-dots" and agree with the persuasive message created by the information designer. Houser points

to a problem within the infographics medium that creates a perception of information transparency and removes any assumption of uncertainty, which, she argues, is not true. This leads to an infographic viewer who thinks he understands the meaning of whatever topic is presented, but who is really misinformed.

Among the few studies available examining cognition as it relates to infographics, Mendelson and Darling-Wolf (2009) found that when focus groups were presented with a photo essay that was similar to a text-based story, the participants interpreted them in different ways. Among their comments was a conclusion that "[t]he linear nature of processing text and the non-linear nature of processing a set of photographs creates a tension of understanding within the reader/viewer."

Based on these studies, a hypothesis was created:

H1: Information graphics will be more difficult to interpret than equivalent news stories and news videos.

There have been a number of studies related to infographic design that have yielded sets of best practices. Among the most prolific and respected authors related to infographics is Edward Tufte, a professor emeritus at Yale University who BusinessWeek has called "A Galileo of graphics" (Aston, 2009). Tufte is known for the books and seminars he produced about data visualization strategies.

Much of Tufte's work can be distilled into a set of seven principles (2007): attractive infographics have (1) a properly chosen format and design, (2) integrate words, numbers and images, (3) accurately reflect proportions, (4) display an accessible complexity of detail, (5) often have a narrative quality or story to tell about the data, (6) are drawn in a professional

manner, and (7) avoid useless decoration, otherwise known as "chartjunk."

Although Tufte painstakingly catalogs and critiques numerous infographic formats and identifies best practices, he admits that aesthetic qualities are ultimately in the hands of the designer (Tufte, 2001). He concedes that there can be no true guideline for aesthetic quality other than the data should guide the design rather than the opposite. In his books and interviews (e.g., Tufte, 2001; Yaffa, 2011), this is one point he returns to repeatedly. Decoration should not replace substance in visual design.

Miller and Barnett (2010) reported that infographics, specifically maps alone, do not enhance readers' understanding of environmental health risks in the news. Instead, readers benefit from a combination of both text and graphics. Similarly, Mayer, Bove, Bryman, Mars, and Tapangco (1996) found that scientific cause-and-effect explanations are best taught by means of a summary that uses pictures with a small amount of integrated, explanatory text. Modern infographics typically satisfy these findings because they include more explanation than classic bar and pie charts. Generally, they are self-contained so they can be easily forwarded and linked to online.

Holsanova, Holmberg, and Holmqvist (2009) found that respondents tend to read infographics instead of an accompanying text when the two are not integrated. Their research also suggests that the freedom to choose entry points and reading paths into an infographic is not an optimal strategy for attracting readers to stay with complex material or to get a deeper understanding of its contents. They presume this is due to the reader evaluating the information as too difficult to understand and not worth the time involved to comprehend.

Despite the previous conclusion, Tufte, even in more recent work, still argued that infographics should not be simple when it comes to data. "Simpleness is another aesthetic

preference, not an information display strategy, not a guide to clarity. What we seek instead is a rich texture of data, a comparative context, an understanding of complexity revealed with an economy of means" (Tufte, 1990, p. 51).

Perhaps the best comparison to this debate would be the difference between literary scholars and the general reader. Scholars seek texts that break from the confines of genre and predictability while preserving and contributing to the history and practice of intertextuality. The average reader, however, is happy to consume yet another formulaic adaptation of standard plotlines related to romance or mystery or whatever genre he or she finds appealing.

Klanten, Bourquin, and Ehmann (2008) seem to provide a compromise with the term simplexity, which they define as a delicate balance of simplicity and complexity in design that considers the capacity of the audience and the context of the message. Only through two-way communication, and listening, can a designer or communicator know the visual literacy of the audience he or she is targeting with an infographic.

Griffin and Stevenson (1996) found that a graphic presentation of statistical information does increase recall rates among newspaper readers, but not as much as the traditional method of incorporating the image into the layout of the text. Putting the important information in both the text and in the accompanying graphic leads to the highest recall, but the increased recall was a product of repetition.

A global survey by Ipsos (2013) of Internet users found that pictures are shared the most of all online content, almost twice as frequently as news stories and video clips. Another study by Twitter of millions of its users found that tweets with pictures are retweeted 35 percent more often than those without a picture (Rogers, 2014). Based on these studies, a hypothesis was made:

H2: Intentions to share information graphics online will be higher than equivalent news stories and news videos.

Benjamin's (1986) discussion of the translator can also be adapted to infographic design. He wrote, "it is the task of the translator to release in his own language that pure language which is under the spell of another, to liberate the language imprisoned in a work in his re-creation of that work" (p. 80). The infographic designer accomplishes this by moving from the language of raw data to meaning.

Crisis Communications Research

A crisis can generally be characterized as an event that requires a considerable amount of time, money and resources for an organization or individual to overcome. Coombs and Holladay (2010) define it as being "the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes" (p. 2-3). Crisis communications spans a number of sub-disciplines ranging from issues management, which is practiced before a crisis occurs, to reputation management, which can last years after a crisis has been resolved.

Coombs (2007) integrated his and the work of others to create a master list of nine crisis response strategies. They consist of attacking the accuser, denial, scapegoating, excusing, justification, compensation, apology, reminding, ingratiation and victimage. It appears that infographics can easily be implemented for the majority of the categories Coombs has created.

Coombs and Holladay (2010) discussed organizational responses to crises as being on a continuum of an advocacy crisis response strategy versus an accommodation crisis response

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strategy.

Figure 1. Diagram of the crisis response continuum

This bipolar model visualizes how much an organization will cooperate with the opinions and desires of its publics (Coombs, 1998). The idea of the continuum is contained within a larger framework called Situational Crisis Communication Theory (SCCT) (Coombs, 2007), which consists of 80 variables that help predict what crisis response strategy an organization might take in a particular crisis. It is the most dominant theory related to crisis communication research, and builds upon Weiner's Attribution Theory (Weiner, 1985).

SCCT posits that people search for the causes of events (Coombs, 2007), especially if the events are perceived negatively. When a person attributes responsibility for an event to a source, he has an emotional reaction that typically falls within a dichotomous relationship that exists between anger and sympathy. The goal of SCCT is to expand the basic premise of attribution theory to the realm of predicting an organization's reputational threat created by a crisis, and ultimately, to specify crisis response strategies that will protect reputational assets.

Coombs (2007) argues that "crises are information poor," which results in a crisis management team (CMT) collecting and attempting to process large amounts of information, which can result in information overload. A data visualization expert may be a useful addition to the crisis management team, especially if there is an abundance of information to be processed.

Three general groups of crisis response strategies have been identified by scholars: Deny, Diminish and Rebuild. Selecting which group to use as a starting point for a crisis response is

dictated by a continuum between a fully advocative crisis response strategy versus a fully accommodative crisis response strategy (Pang, Jin, & Cameron, 2010). Where an organization decides to put itself on the continuum is based on the overall relationship of the previously discussed factors and the particular crisis. Some details for this decision are listed below, but the rule of thumb for SCCT states that the more accommodative the crisis response strategy, the more expensive the overall crisis response will be for the organization (Cohen, 1999).

It is also worth noting that it is not always best to move to an accommodative crisis response strategy. This can sometimes make a crisis worse by allocating more resources to the solution than are needed, in addition to influencing stakeholder perceptions negatively. This is due to situations where stakeholders do not perceive a crisis to be as severe as the response, so they may begin to think it is worse than what was reported.

Among the areas of SCCT that seem to need additional support is how an organization should use the model to select the best crisis response strategy. Coombs provides a list of eight recommendations that related to the denial, diminish and rebuild strategies, but it appears to be mostly theoretical rather than based on empirical findings (Coombs, 2007). Some of the difficulty in deciphering the list may be due to it not being depicted in a flowchart format, but additional experiments are needed to ensure the recommendations are accurate.

When the model was taken to practitioners (Pang et al., 2010), it was found that there are a number of predisposing and situational factors that dictate where an organization positions itself on the advocacy/accommodation continuum before and during a crisis. The predisposing factors include organizational size, corporate culture and individual characteristics of key people, such as the CEO. These factors and others were found to require consideration before a crisis occurs. For example, a CEO who is unwilling to back down from a denial crisis response

strategy in most instances will make it very difficult for his PR team to use a different strategy. The situational factors were found to require attention during a crisis. They can include the costs and advantages for an organization depending on the crisis response strategy it selects, potential threats, or the characteristics of particular publics. This has been a positive addition to the model regarding where and why an organization should locate itself on the continuum during a crisis.

One breakthrough in regard to crisis response strategy occurred through studies related to movement on the continuum during a crisis (Pang et al., 2010). Empirical research in this area has shown that organizations routinely begin communications with an advocacy crisis response strategy but move to a more accommodative crisis response strategy as the crisis continues. It has also been found that organizations may take an advocacy crisis response strategy on some issues while being more accommodative on others.

Heath, Toth, and Waymer (2009) found that increased attributions of crisis responsibility by stakeholders produce lower reputational scores among those same stakeholders. The key to this finding is in learning what forms of communication, if any, may reverse or reduce the expression of these phenomena.

Guth and Marsh (2006) reported that individuals are persuaded by three basic factors in all situations: logic, emotion and credibility. Coombs (2007) furthered this inquiry by pointing to studies that correlate expertise, which is a contributing factor to credibility, as resulting from an organization having and providing sufficient information to stakeholders during a crisis. An example of this issue can be seen in how the majority of modern crises relate to science and technology (Coombs & Holladay 2010). Friedman, Dunwoody and Rogers (1999) found that stakeholders want explanations of how items fit together and explain the big picture. Although their research did not mention tactics or best practices for communicating relationships and

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macro perspectives of crises, it seems that infographics could be a logical choice.

Coombs (2007) noted that three factors play a role in developing an appealing crisis frame: the crisis dimensions, the expertise of the dominant coalition and the persuasiveness of the presentation. However, there is no discussion in his book about visual presentation of information during crises. In his discussion of the persuasiveness of the presentation, Coombs only addressed credibility, emotion and reason as all playing an important role in persuasion.

Diverging from traditional crisis response strategies, Millar and Heath (2004) proposed creating a narrative approach to crisis communications that places the crisis in an existing narrative or creates a new narrative for it. His reasoning for this approach was derived from the fact that news outlets and Internet personalities frame the story for crises in a variety of ways that may or may not favor the organization, with some not even being truthful. By creating a narrative response, the organization at least has the opportunity to contribute to the conversation that surrounds it.

Overall, an absence of visual communication is persistent in research related to crisis communications. Finding research related to infographics or any kind of visuals in the research literature is somewhat difficult due to the term "image" being used in most studies to indicate stakeholder perceptions of organizations.

Scholars have also indicated that the impact of the medium on crisis communication is severely understudied (Schultz, Utz, & Göritz, 2011), as well as visual versus textual messages in crisis communications (Coombs & Holladay, 2009). It is also worth noting that only a small amount of research examining stakeholder emotional reactions to crisis response strategies has been conducted (McDonald, Sparks, & Glendon, 2010). Among them, one study determined that an organization with a good reputation is better equipped to use an advocative crisis response

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strategy than organizations with poor reputations when crisis responses are communicated in video form, but in most situations an accommodative strategy was preferred by message recipients (Turk, Jin, Stewart, Kim, & Hipple, 2012).

Coombs & Holladay (2008) found that many accommodative crisis response strategies are viewed similarly among people affected by a crisis. An apologetic crisis response strategy wasn't viewed as being better than less expensive accommodative strategies, such as expressing sympathy or providing compensation. They defined apology as being different from the other accommodative response strategies because it includes accepting responsibility for a crisis.

Hyojung and Cameron (2014) conducted a study examining how the role a conversational voice used in crisis blog communications relates to crisis response type and source credibility. They found a conversational voice resulted in a greater likelihood of increased purchasing intentions, word of mouth communications and dialog with the organization.

Due to conflicting results in the literature, the following research questions were made:

RQ1: How do rebuild, deny and diminish crisis communication messages relate to affect?

RQ2: How do rebuild, deny and diminish crisis communication messages relate to supporting an organization during a crisis?

The primary reason infographic design has not traditionally been an integral part of crisis communications is because of time. Creating accurate, visually stimulating infographics has historically not been a quick endeavor. However, due to modern organizational capabilities to monitor and record data in real time, which is often displayed as dashboards for management (Strand 2008), the information should be available at the onset of a crisis. Otherwise, in situations where dashboards don't apply or exist, infographics would seem to be most beneficial

to organizations for reputation management purposes in the final stages of crisis management.

Electronic Word of Mouth

Word of mouth is viewed by many communications experts as being among the most persuasive forms of communication. Multiple studies have indicated that WOM is more credible than commercial messages (Allsop, Bassett, & Hoskins, 2007), a notion that is also supported through the Diffusion of Innovation Theory (Rogers, 1962). It postulates that most people are influenced by their peers more than sources outside their social networks.

Electronic Word of Mouth, typically abbreviated as eWOM, grew from research literature concerning word of mouth communications. Getting people to talk about a company, product, service or idea is a fundamental part of current communication strategies, and generating eWOM was found to influence product attitudes, purchase intentions and even searches made online by consumers (Cheung & Thadani, 2010).

Social media sites like Twitter and Facebook have provided a place where real-time interactions and conversations can be tracked, allowing eWOM researchers the unique opportunity to examine how ideas and content spread online (Chu & Kim, 2011).

Kietzmann and Canhoto (2013) applied the disconfirmation model to users perceptions of online content in an attempt to ascertain what motivates them to share content through social media and how they decide what outlet to use. They interpreted their results as eWOM being the outcome of an emotional reaction based on an appraisal process of a positive, neutral or negative experience.

Related to the kinds of experiences that can increase eWOM, the expectancy-disconfirmation model proposes that exceeding expectations or falling below expectations has a

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significant effect on perceptions of satisfaction (Oliver, 2010). Thus, if an experience is surprising, the likelihood of telling others increases. Additionally, previous satisfaction research has shown that a neutral experience, or one that met expectations, resulted in indifference and decreased the likelihood of content being shared (Nyer, 1997). This overall idea also has support within arousal studies conducted by Berger and Milkman (2012), which found low arousal responses to messages, such as sadness and contentment, resulted in less content sharing, both in person and online. However, no studies were found in the literature that examined if the medium used to present content was related to the likelihood of users to share content.

After considering the results of Berger and Milkman (2012), Kietzmann and Canhoto (2013) and the current crisis communications literature, the following hypothesis was made:

H3: Deny messages are more likely to be shared online than diminish or rebuild messages.

This direction was selected because most crisis communications studies (Coombs & Holladay, 2002; Hwang & Cameron, 2008; Coombs, Frandsen, Holladay, & Johansen, 2010) note that publics typically prefer a more accommodative crisis response strategy. The opposite crisis response strategy would seem to generate more anger causing social sharing of deny messages to increase online.

Third-Person Effects Model

A sociologist named W. Phillips Davison (1983) coined the term Third-Person Effect (TPE) and was the first to study the phenomena. Its idea came when an unnamed historian pointed Davison to a discovery he had made in some military documents from the Second World War concerning how US military leaders reacted to a propaganda effort administered by the Japanese (Davison,

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1983). The Japanese had created a leaflet aimed at black U.S. soldiers attempting to persuade them to not fight. No one knows if the leaflet was effective, but U.S. military officials believed it would be successful, which caused them to reassign black soldiers shortly afterward.

After 28 years of Third-Person Effect (TPE) research, many aspects of what informs individual perceptions of how much more "others" will be persuaded by a mediated message has been documented. But despite continued interest and growth in this area, TPE is still considered a model rather than a theory. This is due to an inability to explain its fundamental statement of the relationship among its variables (Andsager & White, 2007). The model is consistent in predicting that the effect can be observed (Perloff, 1993; Paul, Salwen, & Dupagne, 2000; Hee Sun, Hye Eun, Hye Jeong, Dong Wook, Jiyoung, & Hyunjin, 2014), but no studies or researchers have been able to articulate in a generalizable way exactly why this effect occurs. On a basic level, the effect is described as happening when a person perceives that others will be influenced by a message, but does not believe the message has an effect on himself. This is also closely correlated with an increase in support of censorship of messages that cause TPE, which is demonstrated through the military example previously mentioned (Davison, 1983) and more recent studies (Shin & Kim, 2011; Dewberry, 2014; Bernhard & Dohle, 2014). From the literature related to this model and crisis communications research, the following hypotheses were formulated:

H4: A third-person effect will be observed across all three mediums.

H5: More third-person effects will be reported for deny messages.

The direction for H5 is indicated because the crisis communications literature suggests that individuals least prefer organizations that take an advocative crisis response strategy during

a crisis. One can infer that most individuals will not accept the corporate crisis response strategy but believe their friends, neighbors and other citizens would be persuaded. Davison (1983) and others (e.g., Perloff, 1993; Rojas, Shah, & Faber, 1996; Lo & Wei, 2002) found that a person who perceives a message as being harmful to others will want to censor the message. From this, an additional hypothesis was proposed:

H6: The presence of a third-person perceptual gap will predict a decrease in intentions for social network sharing of crisis messages.

Most TPE research has not asked participants to rate the desirability of the messages presented to them. Instead, the majority of it has been based on researcher assumptions (Andsager & White, 2007). In the handful of studies that controlled for this, an interesting reversal of TPE has sometimes, but not consistently, been observed in what is called a First Person Effect (Paul, Salwen, & Dupagne, 2000). This occurs when a person encounters a persuasive message that she believes is acceptable to be persuaded by, and perceives that others would not be influenced as much as her. For example, this person may encounter a message about the environmental benefits of recycling. Viewing this message as a positive one, she may believe, or admit, that she finds it to be highly influential. However, when she considers her neighbors, friends and people in another geographic region, she is likely to report that they will not be as influenced by the same message as her.

It could be presumed that individuals would be less likely to share content online if they don't believe others would be influenced by it. However, the results of some advertising studies suggest the opposite: consumers are more likely to share ads that express their self-concepts (Taylor, Strutton, & Thompson, 2012).

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The reverse relationship of TPE and First Person Effect (FPE) hints at another important aspect of this area of research: social distance. Social distance can be described as an individual's perception of just whom the "other" is with which they are making comparisons. This was an important, but often omitted, aspect of early TPE research. The original way Davison described this relationship was that a message's "greatest impact will not be on 'me' or 'you,' but on 'them' -- the third persons" (Davison, 1983, p. 3). Later research revealed that the "other" could fit into one of four discernable or nondiscernable categories: self-referent, nonreferent, message-referent and general referent (Andsager & White, 2007).

The medium used for persuasive messages has not provided many insights for TPE researchers. Andsager and White (2007) pointed to this possibly being due to all mediums requiring a certain level of cognitive processing that results in different individual interpretations of effects. The result has been no predictable direction for or magnitude of effects from specific channels. Although the authors made a recommendation for future research to focus on medium exposure and the cognitive processes that inform TPE determinations, there is a lack of evidence of studies evaluating new media channels or common content within them, such as information graphics.

Recent research points to the need to find a behavioral connection to observations of TPE and FPE (Andsager & White, 2007). If the model could predict how people will behave based on detection of TPE or FPE, then it would most likely be labeled a theory. However, there are very few studies that examine this line of reasoning.

Cognitive Appraisal and Emotional Response

Richard S. Lazarus began conducting research focused on cognitive and affective responses to a

variety of situations in the 1950s. Before this time, most research related to emotion was focused on social disorders, specifically trauma connected to war experiences, rather than the general populace (Lazarus, 1999). Lazarus saw the need for an expansion of research about stress because he witnessed it affecting a larger population than just returning soldiers. Sixty years later, his theories are the basis for interdisciplinary research across the social sciences.

Appraisal theory attempts to make it possible to make a guess about what a person has been thinking from what the person is feeling, and vice versa, which means we should be able to predict an emotional reaction if we know beforehand what that person is thinking, and the environment he or she is facing (Lazarus, 1999).

Lazarus (1966) explains that appraisal, which is clearer than perception, connotes an evaluation of the personal significance of what is happening. He has identified two kinds of appraisal: primary and secondary. Primary is related to whether or not what is happening is relevant to a person and secondary relates to what can be done about a stressful situation.

Lazarus (1999) found that the concept of a threat arises when a person with an important goal faces an environmental condition that endangers the attainment of that goal. Similarly, Lazarus, Dees and Osler (1952) determined that stress occurs when a particular situation threatens the attainment of some goal. These two terms are closely related, but are best differentiated by the fact that stress is an internal reaction while a threat is external.

Stressful situations can sometimes lead to what seems to be illogical responses. Lazarus (1999) believed the reason emotional responses sometimes seem illogical was due to a lack of knowledge about a given situation. Due to this, faulty assumptions are made that can lead to fear, sadness or anger, which are some of the most studied emotions in psychology.

Weiner, Graham, and Chandler (1982) found that anger tends to increase perception of

and sensitivity to frustrating events, triggers hostile thoughts, and energizes or intensifies actions toward the source of provocation.

A tangent line of research related to Lazarus' work is mood. Ellis and Ashbrook (1991) noted several studies where a positive mood was found to facilitate the recall of affectively positive material on memory. This same mood-congruency effect on performance was not evident or was less apparent when the effect of a negative mood on the recall of negative material was investigated. Since mood can shape recall rates, research is needed in crisis communications as to what modes of information transmission result in better comprehension.

Rucker and Petty (2004) found a connection between how persuasive a message is and how closely the emotional overtones of the message match the emotional state of the message receiver. A related study by Fabrigar and Petty (1999) determined that matching individuals who have affective or cognitive based attitudes with persuasive messages that are affectively or cognitively based resulted in the messages being perceived as more persuasive than if these attributes were mismatched.

A study from Simons, Detenber, Roedema, and Reiss, (1999) found that how a stimulus is presented affects emotion and attention. They conducted an experiment that tested how participants' emotional states changed when motion was added to still images and when screen size changed. Although no information graphics were used, it does provide an indication that a difference from traditional message formats may have an effect on viewer emotion. A hypothesis was developed from this insight:

H7: Information graphics will cause more acute emotional responses than equivalent news stories and news videos.

Recent research from Jin and Cameron (2007) has begun to merge crisis communications and emotional response theories by focusing on PR practitioners in crisis situations. Jin, Pang, and Cameron (2007; 2008) have also extended their inquiry by including emotional responses from stakeholder publics. Their work has produced the Integrated Crisis Mapping Model, which is "a public-based, emotion-driven perspective where different crises are mapped on two continua, the organization's engagement in the crisis and primary public's coping strategy" (Jin, Pang, & Cameron, 2012, p. 1)

Chapter III. Methodology

Recruitment

The Amazon.com Mechanical Turk (MTurk) website was used to recruit participants. MTurk is a crowdsourcing service administered by Amazon that allows anyone to establish one of two types of accounts: Requestor or Worker. A Requestor is a person who can transfer money into the MTurk website and use it to pay Workers for almost any task that can be accomplished online. A quick glance at the site will show tasks ranging from language translation to data analysis to researching companies. A task within MTurk is called a HIT, which stands for Human Intelligence Task. A HIT usually has a short description of the task the Requestor wants completed, how much will be paid to Workers who complete the HIT and what qualifications are needed to complete the HIT.

Mason and Suri (2012) found through multiple studies that Workers on MTurk have a median age of 32 and 55 percent are female. The current workforce using MTurk is composed of more than 500,000 people from 190 countries who tend to be "…overeducated, underemployed, less religious, and more liberal than the general population" (Paolacci and Chandler, 2014). Most researchers tend to agree that MTurk is not an accurate representation of the general U.S. population, but it provides a better convenience sample than using college students. Numerous studies have been conducted examining the quality of data collected using MTurk, with the results being viewed positively (Bates & Lanza, 2013). Crump, McDonnell and Gureckis (2013) replicated more than seven experimental psychology tasks using MTurk to evaluate its usage for behavioral research. They found that the data collected on MTurk was comparable to what has been collected in lab settings.

Participants

Study participants were drawn through self-selection and placed into nine groups of at least 30 (n = 275). This provided an alpha level of 0.05, a power of 0.81 and critical F at 1.87 for an ANOVA to determine fixed effects, special, main effects and interactions. These numbers were calculated using a post hoc analysis in G*Power, a free statistical power analyses software solution created by faculty at the Institute for Experimental Psychology in Dusseldorf, Germany (Faul, Erdfelder, Lang, & Buchner, 2007; Faul, Erdfelder, Buchner, & Lang, 2009).

A tenth group was included with this study as an additional manipulation check. This group consisted of 45 participants who were randomly assigned through self-selection from within MTurk. A post hoc analysis from G*Power was used again, which displayed an alpha of 0.05, power of 0.997 and critical F at 2.25. Both questionnaires used in the study allowed for oversampling to ensure validity.

Within Mechanical Turk, a headline link was used to recruit participants with a short description explaining the amount of time required to complete the questionnaire. The short description included general information about the study. Each participant was paid $2.50 USD for completing the study. No grants were received to cover expenses, thus all funding was provided by the researcher, which totaled $987.25, including a 10 percent fee collected by MTurk for its service.

Items were included in the questionnaire to ensure humans were participating instead of "bots," which are programs written to randomly select answers in surveys and perform other functions online. These kinds of questions are sometimes called "attention checks," because they are often constructed in a misleading way, which requires the participant to read the entire question before answering. Not answering these questions correctly is a sign that the respondent

was a bot or not actively engaged in the study, thus, the researcher disregarded their submissions.

Between the two questionnaires, a total of 396 Workers submitted HITs. Among them, 37 were rejected due to no survey response being recorded for them. Another 15 responses were removed due to a technical error in the manipulation check questionnaire. The final 24 responses removed were due to attention check failures.

Design

A mixed-methods factorial design experiment was utilized. It incorporated a 3 (crisis response strategy: deny/diminish/rebuild) x 3 (medium: text/video/information graphic) factorial design where each group received two stimuli from different mediums (i.e., a news story and an information graphic). No groups received two stimuli from the same medium.

The within-subjects experimental structure allowed for two identical experiments using different stimuli to be conducted simultaneously without the need to double the number of participants. Two crisis scenarios were created to evaluate perception differences related to crisis type, with one being focused on health and the other on technology.

The between-subjects aspect of the design was necessary to prevent learning effects. Since the content of each stimulus was designed to be equivalent to the content in the other stimuli related to a crisis scenario, it was important that each participant did not see more than one stimulus from the same crisis scenario. Table 1 shows the randomized pairings of stimuli in each questionnaire, with the medium independent variable (IV) lists first followed by the crisis response strategy IV in each condition:

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Table 1. Randomized stimulus pairings

	Pepsi	**Facebook**
Survey 1	Video/Rebuild	Graphic/Deny
Survey 2	Text/Rebuild	Video/Diminish
Survey 3	Graphic/Deny	Text/Rebuild
Survey 4	Graphic/Diminish	Text/Deny
Survey 5	Video/Diminish	Graphic/Rebuild
Survey 6	Video/Deny	Graphic/Diminish
Survey 7	Graphic/Rebuild	Text/Diminish
Survey 8	Text/Diminish	Video/Deny
Survey 9	Text/Deny	Video/Rebuild

Once an MTurk Worker agreed to accept the HIT, she was provided a link to a survey. There were also instructions that a code would be listed at the end of the questionnaire and that the Worker would need to return to the MTurk HIT and enter the code in order to be paid. Additionally, the participant was instructed that her Worker identification number would need to be entered at the end of the survey in order to verify completion for payment. This procedure recommended by Paolacci, Chandler and Ipeirotis (2010) in a study focused on best practices for using MTurk for survey research. The Worker ID is a randomized number that is not published with a Worker's name or any other identifying material. Amazon created this system to ensure that individuals could provide proof of their work without identifying themselves. This number is automatically provided to Requestors when a HIT is submitted. The purpose of the participant including it in the external survey was for payment verification only.

The external link to the questionnaire sent participants to a webpage created by the researcher and hosted using Amazon Web Services (AWS) S3. S3 (Simple Storage Service) is a place where users can store online content and post basic websites. No data was collected

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through the site; it only served as an automatic redirect to one of the ten questionnaires. Some javascript code was used to randomly place participants into one of the ten groups. The process was immediate, so most, if not all participants were unaware of this step. This process was used to ensure that participants were evenly sorted into the ten groups for the study.

The questionnaire forms were created using the Google Forms app, which is included with the Virginia Commonwealth University's subscription to Google Apps for Education. Each Form was connected to a Google Spreadsheet that recorded data as soon as each participant submitted it. Partial responses cannot be collected using Google Forms, so only complete responses were received. Each form also contained a custom script written by Amit Agarwal, a technology columnist and web developer (Agarwal, n.d.). The code was used to automatically turn off a survey when the preset number of responses for it had been met.

A disclaimer was included within the MTurk HIT explaining that if the participant was directed to a form that had been closed, they should close that form's window and click the survey link within the HIT again to open a new form. The researcher was notified by email each time a form was automatically closed, alerting him to remove that link from the AWS S3 website, which was randomly sorting participants into the experimental groups. It was possible that participants could see closed forms, but the researcher attempted to remove the links quickly to avoid any confusion.

VCU IRB granted the study exempt status September 23, 2014. All data was collected in a 12-hour period Oct. 3, 2014 between 10 a.m. and 11:45 p.m. For a visualization of the experimental process used, please see Figure 2.

From within Google Forms, an excel file was downloaded for each survey and the data was adjusted so that it would import into SPSS, a data analysis software package. The

adjustments included deleting timestamps, MTurk worker IDs and converting any text based data into numbers, such as male = 1 and female = 2. Once the data was ready, .csv files were created and uploaded to SPSS.
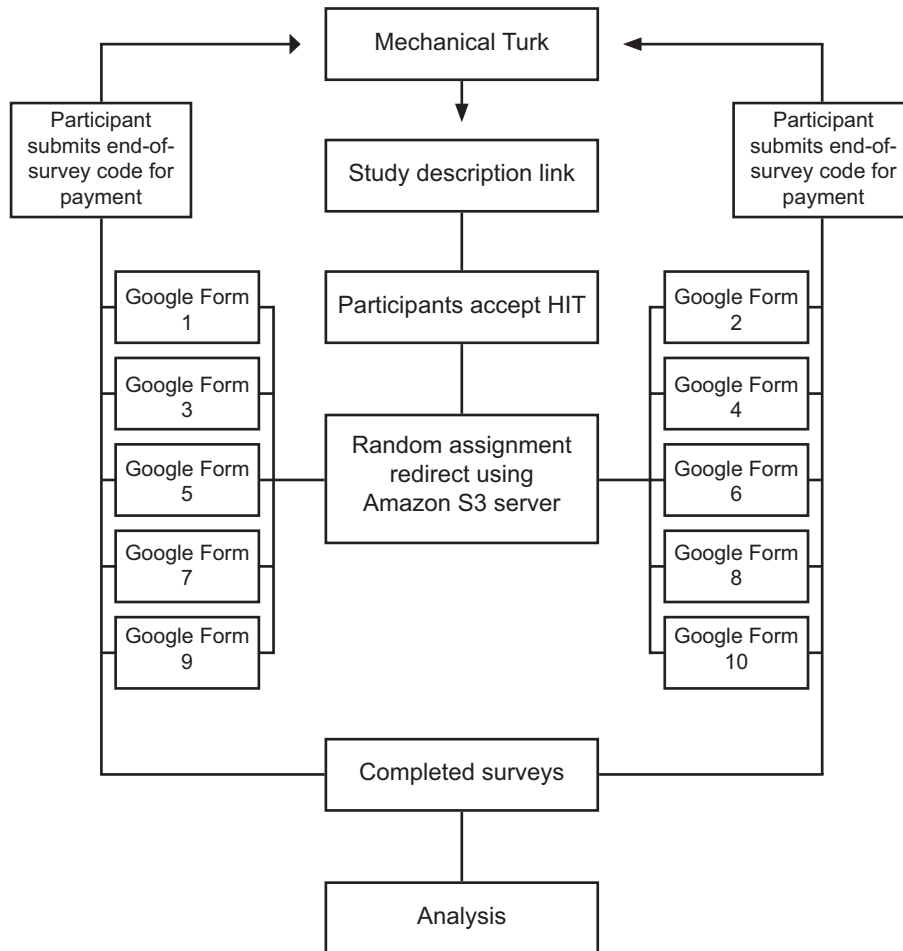
Figure 2. Flow of participants through each stage of the experiment

The single Worker request setting in MTurk was important because it was structured to allow each Worker to submit only one time. This ensured that the same person wasn't able to complete the questionnaire multiple times. It also allowed for each participant to only earn a maximum of $2.50 USD. No 1099-MISC forms were needed since this amount is far below the

required minimum reporting amount for independent contractors, which is currently $600 USD (Department of the Treasury, 2014). This also benefited the participants' expectation of privacy because they did not need to identify themselves to the researcher.

Although participants were randomly sorted the condition that they joined, there was not any identifying information presented to them that would indicate a difference among the groups. It was a blind selection process and everyone using MTurk who had successfully completed at least 50 HITs had an equal chance of participating.

The 10th group was included as an extra confounding control to determine if all of the stimuli for the two created scenarios were perceived as having equivalent content. The participants in this group, unlike the others, saw all stimulus materials.

IRB approval was granted for the study September 23, 2014 and it was launched Friday, Oct. 3 at 8:01 a.m. and closed the same day at 10:25 p.m.

Confidentiality/Post-Study Explanation

The primary concern for confidentiality relates to the collection of MTurk Worker IDs. The IDs were only visible to the researcher and not made available to even the dissertation committee. After payments were processed, the "batch," which is the collection of responses to the study, was deleted from MTurk. Since an external questionnaire form was used, Amazon's servers never stored data collected from the study.

The Google Spreadsheet used to store all data had the column deleted that contained Worker IDs after payments were processed. Any downloaded .csv versions of the database used for SPSS analysis were deleted and the trash completely overwritten using the most secure setting.

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No individual responses were or will be published online or in any other setting. The codes used in the forms were not unique to users, but were unique to each group in the study (which means there were a total of 10 different codes entered into MTurk for confirmation purposes, with members of each group submitting the same code).

It cannot be said that the participants were anonymous, because researchers have demonstrated that the MTurk Worker IDs can be used to find personal information about the users. This is due to Amazon using the same ID for multiple services it offers, such as Amazon Marketplace. When Workers contacted the researcher with questions during the study, their names and email addresses identified them as well (these emails were promptly deleted after any issues were resolved). However, since the IDs were scrubbed from the dataset and not released, a high-level of confidentiality was achieved.

No email addresses or other identifying information were collected.

An explanation was also included at the end of each questionnaire detailing that the crises depicted in the study were fabricated for the experiment and that the videos, news stories and information graphics were created by the researcher. The brands were only selected due to their popularity and high level of awareness among US citizens.

Stimulus Materials

The experiment involved the creation of two hypothetical crises. The first was a theft of private information from Facebook among people who had entered their credit cards to pay for services through the site. This scenario was selected because of the size and popularity of the organization. It is also plausible since similar situations have happened to it and other organizations.

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The second scenario involved PepsiCo and a bottling mistake where many of its soft drink brands did not have preservatives added, which poses a health risk. Again, this scenario was selected because of the size of the organization and its high level of brand awareness among consumers. This scenario is also reasonable because there have been numerous situations involving possible health problems from improperly processed foods.

Both organizations were selected because most adults above the age of 18 in the U.S. have heard of them and most likely have interacted with the brands. According to the 2013 Harris Interactive Reputation Quotient (Harris Interactive, 2013), PepsiCo had a very good/good reputation at 74.47 and Facebook a fair/poor reputation at 65.63 on a 100-point scale. Thus, PepsiCo is ranked well while Facebook's score is somewhat low.

The groups in both scenarios were divided into divisions according to the dichotomous poles of the SCCT crisis response continuum. The two poles were labeled by crisis response strategies Coombs (2007) named "deny and rebuild." Coombs also labeled the midpoint between the two poles as "diminish." The static stimuli were stored online using Amazon S3 while videos were hosted using a private YouTube account the researcher created. The only way to access any of the stimulus materials was with a direct link. Direct links to the stimuli were included in the Google Forms used to administer the questionnaires.

All stimuli were created by the researcher and evaluated by the dissertation committee. An assumption made within the experiment was that a message conveyed in different mediums will be perceived equivalently by an online audience. To ensure this was possible, an additional manipulation check was created as the tenth group. The check involved using a repeated measures ANOVA to determine participant perceptions of equivalency among the stimuli.

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Pilot study

A pilot study was administered in July 2011 to ensure that it was possible for individuals to agree that the content of a crisis message doesn't change due to it being presented in different mediums.

An experiment was created using a between-subjects design to limit carry-over effects among groups. Using MTurk, three surveys were posted with each being limited to 10 subjects (N=30). The only difference among the surveys was that each presented an apologetic crisis communications response from Tokyo Electric Power, Inc., otherwise known as TEPCO, in one of three forms: 1.5-minute news video, 168-word news release or information graphic.

The video was embedded and playable within the survey using the free Vimeo player. Links to the information graphic and news release were provided in the survey, but the documents opened in a different browser window. The survey was tested across browsers (Firefox, Safari and Chrome), across platforms (Apple and PC) and on the Mechanical Turk interface before being launched.

Every effort was taken to ensure that the message remained constant across mediums. The video was obtained online from Japan's NHK World website. This was largely due to convenience, but using real-world crisis communications is desirable because the research results translate to reality much easier than hypothetical experimental data. The beginning and end of the video were cut from the original to reduce its length to slightly less than 1.5 minutes. No content was edited from within the retained portion of the news segment. This was an attempt to keep the video true to its original message and to control the amount of time needed to examine it versus the other mediums.

A 168-word news release was written and based upon a news release from TEPCO that

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mirrored the topic of the news video. Some text was omitted and other text from the video was added to maintain consistency. The format and graphic from the real TEPCO news release were included on the experimental release to preserve authenticity.

The information graphic was fabricated for this study. The main points and essential information from the news video and news release were included in the graphic as well as design elements from the news release to maintain consistency and authenticity.

The participants were instructed to view/read the crisis response and then complete a series of questions. The second section of the survey asked the participants to view/read the other two forms of the message and answer another series of questions. Revealing the three treatments to all groups at the end of the survey was used to confirm perceptions that the message was seen as being equivalent across the different mediums.

IRB approval for pilot study results was not requested. The population was not large enough to consider its results reliable. The purpose of pilot study was to ensure MTurk would function as expected related to survey randomization, data collection and participant recruitment. Some problems were observed and the survey process refined as a result of conducting the pilot study, specifically Google Forms was substituted for data collection instead of the MTurk interface. MTurk displayed the collected data in a randomized order, which made analysis difficult. It was also determined that allowing the data collected to be stored within the MTurk servers was not acceptable according to IRB and confidentially standards.

Measurement and Data Analysis

Independent variables

IV1: Medium: news release, news video, information graphic

IV2: Crisis response type: deny, diminish, rebuild

The section below provides details about the variables:

Independent Variable 1: Medium

Two crisis stories were created for two organizations. A news release, video and information graphic were created to tell the stories. Each set contains the same story, but told across three formats. Every effort was made to ensure the story for each organization was perceived by participants as having the same main points.

Independent Variable 2: Crisis Response Type

Each story listed was translated intro three different versions of crisis response strategy: deny, diminish and rebuild. The deny crisis response strategy was used for both corporations in a way that placed blame for the crises on either an employee or outside entity. The diminish crisis response strategy was used to convey that the crisis was not severe. The rebuild response included an apology from both corporations.

Overall, the layout, design and most text were identical. However, the crisis responses from the two organizations changed to match the response type.

Manipulation Check

The combination of medium and crisis response type resulted in nine different treatment conditions that included both organizations. A tenth condition was created as a confounding variable control group using a different sample of questionnaire participants. This group was provided each version of the story in sets (i.e., all deny stories in the three formats were presented together) and asked to evaluate their equivalency.

Dependent variables

DV1: Electronic Word of Mouth (eWOM) [anticipated behavior]

DV2: Affect

DV3: Cognition

DV4: Third-person effect

The section below provides full descriptions of the dependent variables.

Dependent Variable 1: Electronic Word of Mouth

Electronic Word of Mouth (eWOM) was measured according to the likelihood the participant would share the crisis content through a social network or by other electronic means. This was primarily accomplished through an adaptation of the disconfirmation scale (Moore & Shuptrine, 1984).

Dependent Variable 2: Affect

Affect evaluated a variety of emotions after being exposed to the crisis communications stimuli. These included anger and fear resulting from the message, but also satisfaction and indifference related to the organization's crisis response strategy.

Dependent Variable 3: Cognition

Cognition was measured through attention checks, recognition of primary and secondary points made in the stimuli in addition to reasoning related to the crisis response strategy of the message.

Dependent Variable 4: Cognition

Third-person effect was measured as a social relation of the participant's proximity to "others" (i.e., friend, neighbor or someone in their state). Perceived effects and predispositions were also included.

Procedure/Questionnaire Design

A short, text-based promotional message generally describing the experiment and how the participant would be paid was included in MTurk. Once the participant clicked the link, read the brief promotional message, accepted the HIT and then clicked the survey link to begin, he or she was automatically directed to one of the questionnaires.

Each questionnaire consisted of an introduction covering the types of materials presented, the time required for completion and separate sections of questions related to each DV, with an additional section used to collect demographic information. The only questionnaire to deviate from this was the manipulation check, which had sections divided by the crisis response strategy IV. All questionnaires included a debriefing message with a code that was to be used to prove the survey was completed.

Some scales were adapted from previous research conducted in crisis communications, psychology and other fields:

The disconfirmation scale (Oliver, 2010) was adapted to measure the likelihood of eWOM transmission. It includes a set of questions focused on expectations before an experience and the feelings that occur afterward.

Jin, Pang, and Cameron (2007, 2008) and Jin (2009) determined there are four primary, discrete negative emotions (anger, sadness, fright and anxiety) that publics are most likely to feel in crisis situations. These were measured with items selected from Izard's (1977) Differential Emotions Scale (DES) (see Fredrickson, Tugade, Waugh, & Larkin, 2003). A positive emotion was also included from the scale, enjoyment, since some publics may be pleased with an organization's response to a crisis. Another item was created and added, which was indifference, to gauge the level of relevance to the study participants.

Cognition focused on threat appraisal, where statements from a 36-item scale developed by Duhachek (2005) were used. The scale asks participants to reflect on statements connected to how they would cope with the crisis situation presented to them. For example, the following items are included in the scale: Think about the best way to handle things, Seek out others for comfort, and Distract myself to avoid thinking about it.

Third-person effect (TPE) was measured using four types of items developed in a study by Meirick (2005). Social distance was measured with questions that ranged from vague to specific, such as "How much do you think others would be affected by the message?" versus How much do you think your friends would be affected by the message? Social distance is important for TPE because it differentiates who participants are thinking about when answering survey items.

Perceived effects were measured with questions using the following structure: "How do you think _____ affects the likelihood that _____ will believe the message?" The blanks were filled with the crisis message mediums (video, text or infographic) and the specific types of people used in the Social Distance items.

Perceived predispositions were measured with questions such as this one: "How would you describe the following people's attitudes toward _____?" The blank was filled with the organization's crisis response messages that related to deny, diminish and rebuild response strategies.

Perceived similarity related to how the participant viewed their relationship to others who may be influenced by a message. The following was among the items that could be used for this scale: "How strongly do you identify with the following groups?"

Some additional measures to gauge attitudes and purchasing intentions toward the brands

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before and after seeing the stimuli were adapted from Sung and Yang (2008) and Lyon and Cameron (2004). These included statements such as "I am likely to recommend this organization's products to a friend," and "This organization is friendly."

Message equivalency confounding variable control

A large portion of participants were located in California (20 percent, n=9), with an average of one or two responses coming from 22 other states. Regarding education, 66 percent (n=30) had a college or advanced degree. Table 3 includes percentages of the participants from survey group 10 according to gender and age.

Table 2. Confounding variable control demographics

Gender

	Percent
Male	55.6% (n=25)
Female	44.4% (n=20)

(n=45)

Age

	Percent
18-24	8.9% (n=4)
25-34	68.9% (n=31)
35-44	8.9% (n=4)
45-54	4.4% (n=2)
55-64	8.9% (n=4)

(n=45)

This group was created to determine if message equivalency was achieved for each crisis response strategy across mediums. A repeated measures ANOVA was conduced with the results available in Table 3. The results were not significant, which means the spread of responses was similar across the IVs.

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Table 3. ANOVA to determine message equivalency

Tests of Within-Subjects Effects
Measure: 1.1, 2.1, 3.1, 5.1, 6.1, 7.1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Stance	Sphericity Assumed	2.563	5	.513	.691	.630
	Greenhouse-Geisser	2.563	3.499	.732	.691	.580
	Huynh-Feldt	2.563	3.839	.668	.691	.593
	Lower-bound	2.563	1.000	2.563	.691	.410

Table 4 shows the distribution of responses for the question "All three sources of information you viewed/read (video, news release and information graphic) included the same information."

Table 4. Distribution of means for the primary item related to message equivalency
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
@1.1	45	1	7	6.02	1.485
@2.1	45	1	7	5.98	1.438
@3.1	45	1	7	5.82	1.655
@5.1	45	1	7	5.76	1.510
@6.1	45	2	7	6.00	1.331
@7.1	45	3	7	5.93	1.268
Valid N	45				

Three additional questionnaire items were related to this topic and all had similar means to what is presented in Table 4.

Crisis severity confounding variable control

One item in survey groups 1-9 examined perceptions of crisis severity for each crisis scenario. Figures 3 and 4 show the means for responses to the question "How would you describe the severity of the event in this story?"
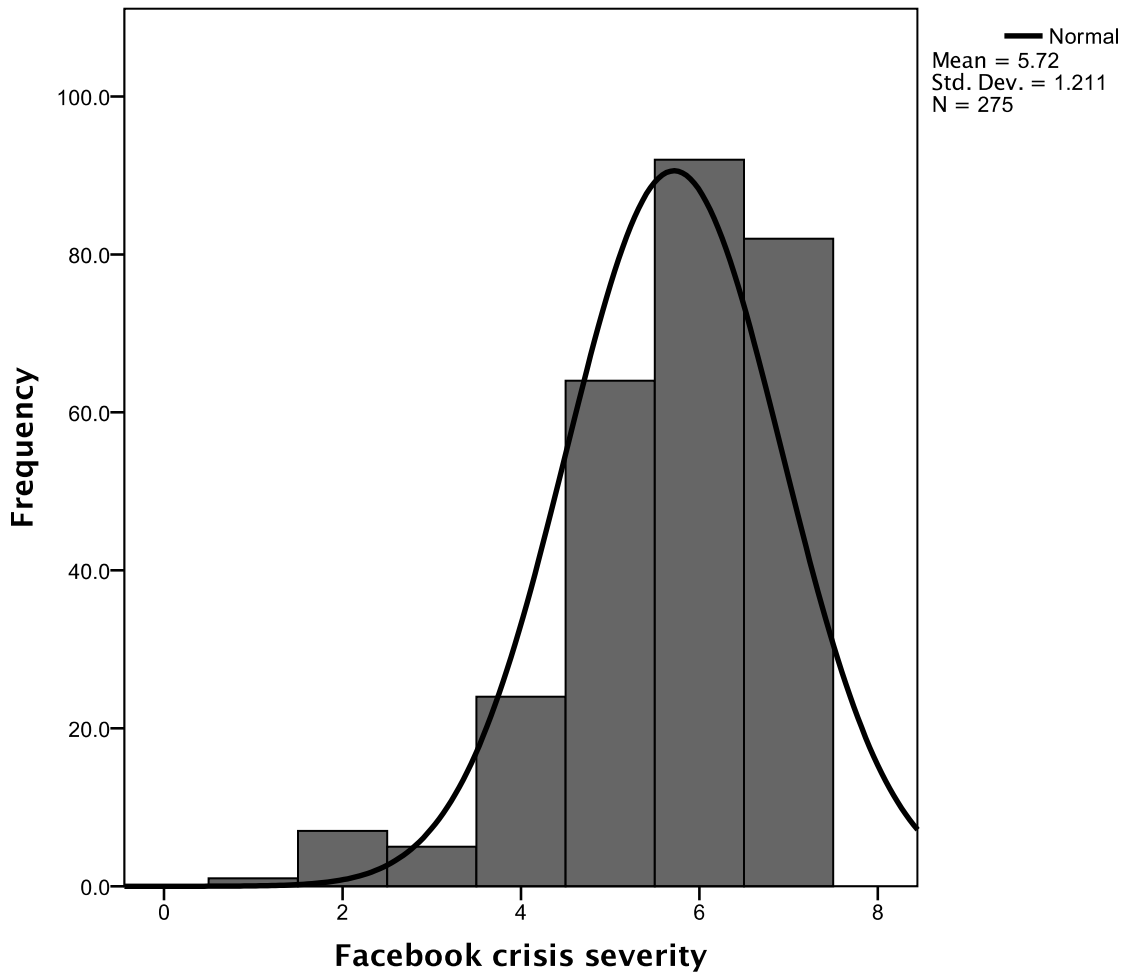
Figure 3. Perceptions of Facebook crisis severity
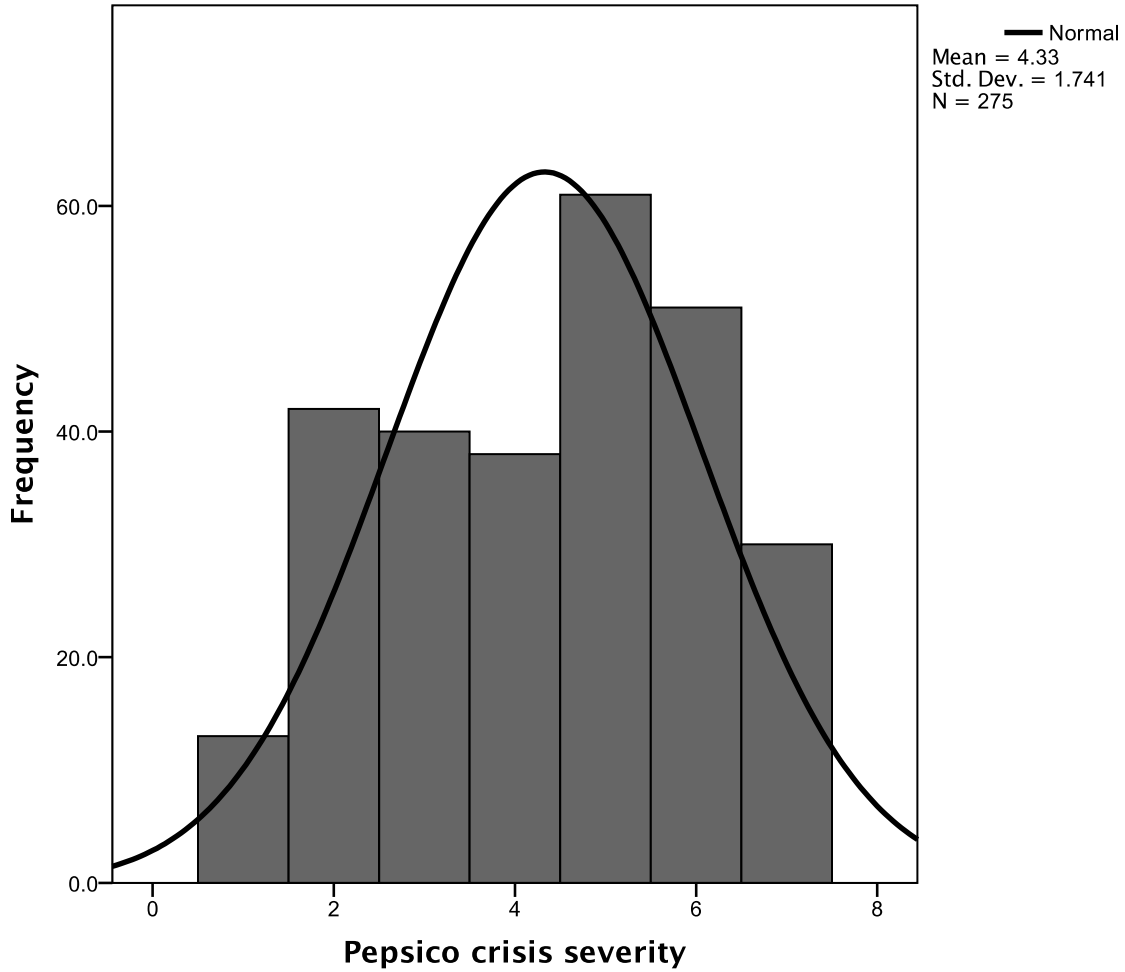
Figure 4. Perceptions of Pepsico crisis severity

The Pepsico scenario was not perceived by participants to be as extreme as the Facebook

scenario.

Experiment

The experiment was composed of 9 conditions with participants receiving repeated measures

related to two organizations: Pepsico and Facebook. The male/female ratio was almost even and

ages skewed younger, with 59 percent below 34. Table 5 shows the complete list of percentages

related to the gender and education demographics.

Table 5. Gender and education demographics

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	152	55.3	55.3	55.3
	Female	123	44.7	44.7	100.0
	Total	275	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	36	13.1	13.1	13.1
	25-34	129	46.9	46.9	60.0
	35-44	62	22.5	22.5	82.5
	45-54	20	7.3	7.3	89.8
	55-64	26	9.5	9.5	99.3
	65+	2	.7	.7	100.0
	Total	275	100.0	100.0	

The participants were heavily weighted toward college attendance, with 70 percent having at least completed some college. They were also spread across 44 states, with the biggest percentages coming from Florida (8.4 percent) and California (8 percent). Social media usage was low, with respondents reporting that they were average Facebook posters (M = 4.33), with

posts to YouTube (M = 3.04), Amazon product reviews (M = 2.81), Twitter (M = 2.68) and

Reddit (M = 2.51) being less frequent, but receiving more attention than Tumblr (M = 1.72) and

LinkedIn (M = 1.95, N=275).

Manipulation check for IV direction

A manipulation check was included within each questionnaire form to determine if the intended

direction for each crisis response strategy IV was being perceived accurately. The manipulation

check used the following question: How would you describe the way the organization responded

to the event? The available responses were (1) the organization denied anything severe is wrong,

(2) the organization blamed someone else, (3) the organization accepted responsibility and (4)

the organization didn't provide a response.

A one-way ANOVA was conducted for Pepsico to determine if study participants

correctly identified the crisis response strategies depicted in the stimuli. Participants were

exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild

(n = 91). There were no outliers present, as assessed by Q-Q Plots; but the data was not normally

distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no

homogeneity of variances (p < .001). The differences perceived between the groups was

statistically significant, $F_{(2,272)} = 7.982$, $p < .001$, $\omega^2 = .048$. The mean responses among the

members of the crisis response groupings slightly varied from deny (M = 3.74, SD = 0.59), to

diminish (M = 3.6, SD = 0.937), to rebuild (M = 4.0, SD = 0.365). Tukey post-hoc analysis

revealed that the mean increase from deny to rebuild (0.26087, 95% CI [0.026, 0.4958]) was

statistically significant (p = .025), as well as the mean increase from diminish to rebuild (0.3913,

95% CI [0.1564, 0.6262]) was statistically significant (p < .001), and no other group differences

were statistically significant.

Mean = 3.7818
Std. Dev. = .69121
N = 275
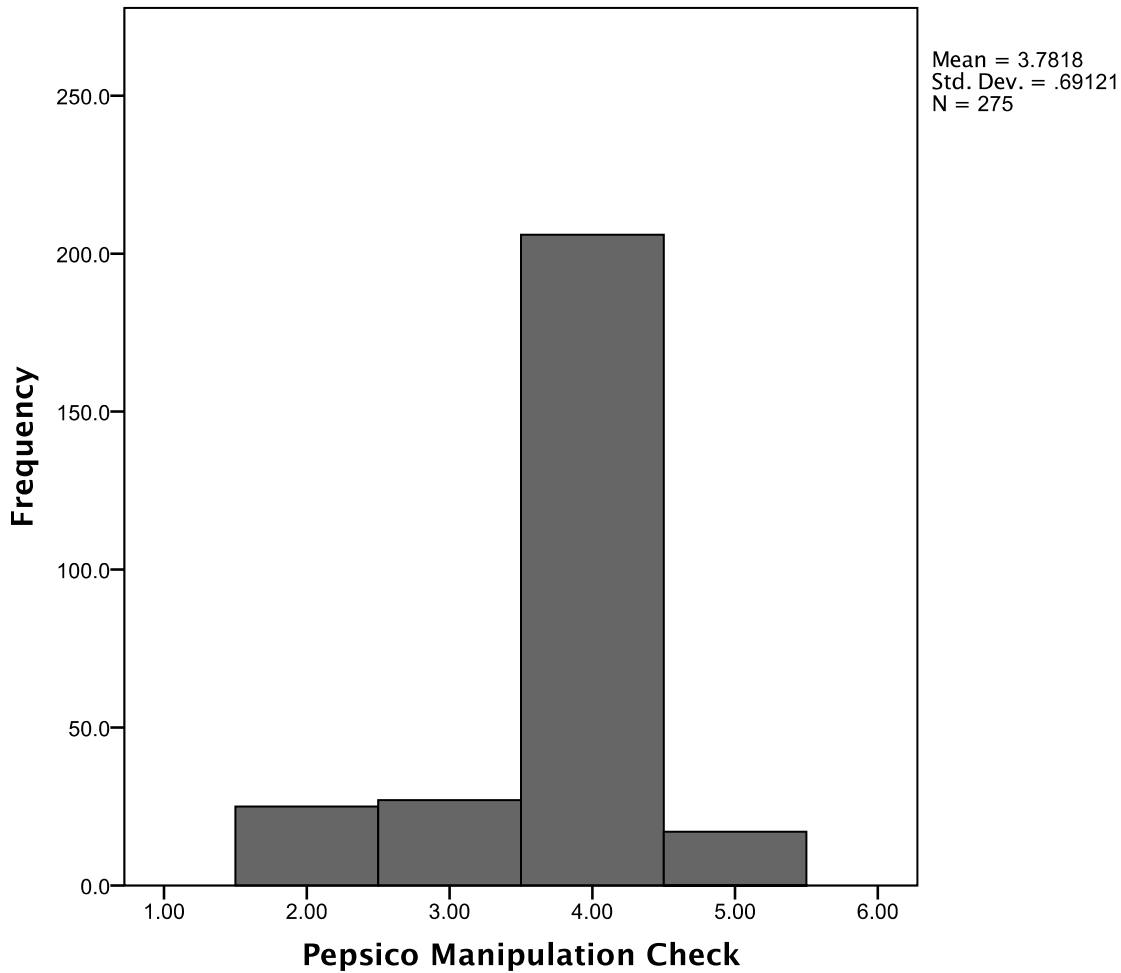
Figure 5. Pepsico manipulation check for crisis response strategy

A one-way ANOVA was also conducted for Facebook to determine if study participants correctly identified the crisis response strategies depicted in the stimuli. Participants were exposed to three different crisis response strategies: deny (n = 91), diminish (n = 91) and rebuild (n = 93). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p < .001). The mean responses among the members of the crisis

response groupings increased from deny (M = 3.84, SD = 0.8597), to diminish (M = 3.94, SD = 0.603), to rebuild (M = 3.97, SD = 0.4024), and the differences perceived between groups was not statistically significant, F (2,272) = 1.097, p = .336
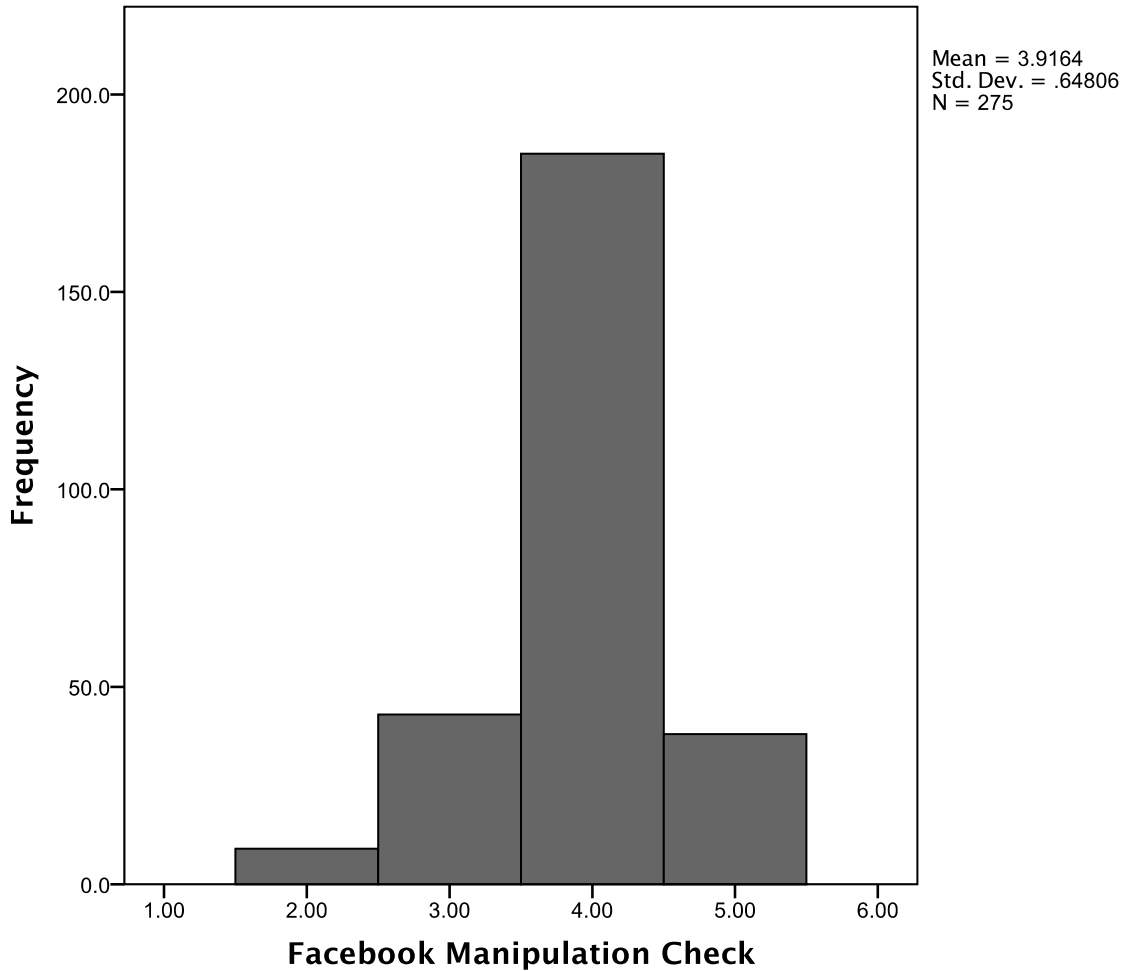
Figure 6. Facebook manipulation check for crisis response strategy

The manipulation check for crisis response type did not work as written for either crisis scenario, thus, the results are unclear as to whether or not the different crisis response types were perceived as intended. However, it does not affect results related to the medium used to

communicate crisis messages.

H1 proposed that information graphics would be more difficult to interpret than equivalent news stories and news videos.

A one-way ANOVA was conducted for Pepsico to determine if the perception of how difficult a crisis story was to understand was different for groups who received the story in different mediums. Participants received content in three mediums: news story ($n = 93$), news video ($n = 91$) and infographic ($n = 91$). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test ($p < .05$); and there was homogeneity of variances, as assessed by Levene's test of homogeneity of variances ($p = .626$). Perceptions of how difficult the story was to understand decreased from the news story ($M = 6.63$, $SD = 0.734$), to news video ($M = 6.58$, $SD = 0.844$), to infographic ($M = 6.5$, $SD = 0.778$), in that order, but the differences perceived between the groups was not statistically significant, $F_{(2,272)} = 0.273$, $p > .05$.

A second one-way ANOVA was conducted for Pepsico to determine if perceptions of the crisis story's organizational quality was different for groups who received the story in different mediums. Participants received content in three mediums: news story ($n = 93$), news video ($n = 91$) and infographic ($n = 91$). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test ($p < .05$); and there was homogeneity of variances ($p = .173$). Perceptions of the story's organizational quality decreased from the news story ($M = 6.27$, $SD = 0.861$), to news video ($M = 6.18$, $SD = 1.091$), to infographic ($M = 6.10$, $SD = 1.309$), but the differences perceived between the groups was not statistically significant, $F_{(2,272)} = 0.550$, $p > .05$.

A third one-way ANOVA was conducted for Pepsico to determine if perceptions of the crisis story's level of complexity was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 93), news video (n = 91) and infographic (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .225). Perceptions of the story's level of complexity slightly changed from the news story (M = 6.45, SD = 0.841), to news video (M = 6.26, SD = 0.964), to infographic (M = 6.34, SD = 1.013), but the differences perceived between the groups was not statistically significant, F (2,272) = 0.927, p > .05.

There were also no statistically significant interactions observed between the medium used and crisis response strategy when paired with story difficulty, story organization or story complexity.

A one-way ANOVA was conducted for Facebook to determine if the perception of how difficult a crisis story was to understand was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); there was also not a homogeneity of variances, as assessed by Levene's test of homogeneity of variances (p = .001). The differences perceived between the groups was statistically significant, F (2,272) = 5.634, p = .004, ω^2 = .42. Perceptions of how difficult the story was to understand decreased from the news story (M = 6.60, SD = 0.801), to news video (M = 6.44, SD = 0.853), to infographic (M = 6.13, SD = 1.195), in that order. Tukey post-hoc analysis revealed that the mean increase from infographic to news story (0.473, 95% CI [0.14, 0.81]) was

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statistically significant (p = .003), but no other group differences were statistically significant.
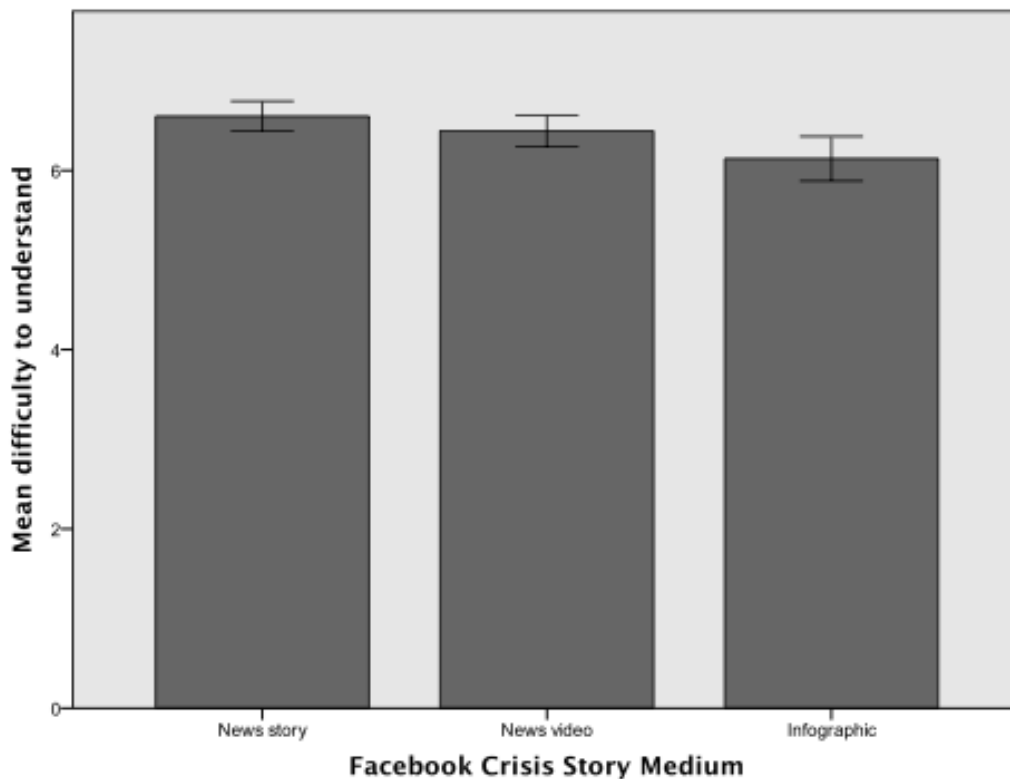
Figure 7. Facebook negative medium to understanding relationship

A second one-way ANOVA was conducted for Facebook to determine if perceptions of the crisis story's organizational quality was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was not a homogeneity of variances (p < .05). The differences perceived between the groups was statistically significant, $F (2,272) = 6.730$, $p = .001$, $\omega^2 = .04$. Perceptions of the story's organizational quality decreased from the news story (M = 6.33, SD = 0.844), to news

video (M = 5.99, SD = 1.137), to infographic (M = 5.68, SD = 1.505), in that order. Tukey post-hoc analysis revealed that the mean increase from infographic to news story (0.648, 95% CI [0.23, 1.07]) was statistically significant (p = .001), but no other group differences were statistically significant.

A third one-way ANOVA was conducted for Facebook to determine if perceptions of the crisis story's level of complexity was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was not a homogeneity of variances (p < .05). The differences perceived between the groups was statistically significant, F (2,272) = 4.935, p = .008, ω^2 = 0.28. Perceptions of the story's level of complexity decreased from the news story (M = 6.23, SD = 1.096), to news video (M = 6.00, SD = 1.073), to infographic (M = 5.66, SD = 1.492), in that order. Tukey post-hoc analysis revealed that the mean increase from infographic to news story (0.571, 95% CI [0.14, 1.00]) was statistically significant (p = .006), but no other group differences were statistically significant.

There were also no statistically significant interactions observed between the medium used and crisis response strategy when paired with story difficulty, story organization or story complexity. Thus, H1 was not supported.

H2 proposed that intentions to share information graphics online will be higher than those for equivalent news stories and news videos.

A one-way ANOVA was conducted for Pepsico to determine if likelihood to share a crisis story on social media was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 93), news video (n = 91) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .003). Perceptions of the likelihood to share the story on social media slightly changed from the news story (M = 2.89, SD = 1.997), to news video (M = 3.58, SD = 2.236), to infographic (M = 3.53, SD = 2.157), but the differences perceived between the groups was not statistically significant, F (2,272) = 2.988, p = .052.

A second one-way ANOVA was conducted for Pepsico to determine if the likelihood to share the story on Facebook was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 93), news video (n = 91) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .086). Perceptions of the likelihood to share the story on Facebook fluctuated from the news story (M = 3.60, SD = 2.232), to news video (M = 3.47, SD = 2.478), to infographic (M = 4.24, SD = 2.316), but the differences perceived between the groups was not statistically significant, F (2,272) = 2.816, p = .062.

A third one-way ANOVA was conducted for Pepsico to determine if the likelihood to share the story on Twitter was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 93), news video (n = 91) and

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infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .001). Perceptions of the likelihood to share the story on Twitter increased from the news story (M = 2.19, SD = 1.752), to news video (M = 2.56, SD = 2.222), to infographic (M = 2.75, SD = 2.229), but the differences perceived between the groups was not statistically significant, F (2,272) = 1.694, p > .05.

There were also no statistically significant interactions observed between the medium used and crisis response strategy when paired with the likelihood to share content through social media in general, Facebook or Twitter.

A one-way ANOVA was conducted for Facebook to determine if likelihood to share a crisis story on social media was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .001); and there was homogeneity of variances (p = .197). Perceptions of the likelihood to share the story on social media slightly changed from the news story (M = 3.88, SD = 2.389), to news video (M = 3.58, SD = 2.223), to infographic (M = 3.59, SD = 2.404), but the differences perceived between the groups was not statistically significant, F (2,272) = .474, p = .623.

A second one-way ANOVA was conducted for Facebook to determine if the likelihood to share the story on Facebook was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .001);

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and there was homogeneity of variances (p = .438). Perceptions of the likelihood to share the story on Facebook fluctuated from the news story (M = 4.20, SD = 2.428), to news video (M = 4.24, SD = 2.416), to infographic (M = 3.89, SD = 2.536), but the differences perceived between the groups was not statistically significant, F (2,272) = .545, p = .581.

A third one-way ANOVA was conducted for Facebook to determine if the likelihood to share the story on Twitter was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .001); and there was no homogeneity of variances (p = .965). Perceptions of the likelihood to share the story on Twitter slightly changed from the news story (M = 2.47, SD = 2.089), to news video (M = 2.49, SD = 2.052), to infographic (M = 2.37, SD = 2.042), but the differences perceived between the groups was not statistically significant, F (2,272) = .089, p = .914.

There were also no statistically significant interactions observed between the medium used and crisis response strategy when paired with story difficulty, story organization or story complexity. Thus, H2 was not supported.

RQ1: How do rebuild, deny and diminish crisis communication messages relate to affect?
A one-way ANOVA was conducted for Pepsico to determine if the "happy" affect measure changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of

variances (p = .009). Perceptions of the "happy" affect measure decreased from deny (M = 1.76, SD = 1.485), to diminish (M = 1.75, SD = 1.531), to rebuild (M = 1.43, SD = 1.127), but the differences perceived between the groups was not statistically significant, F (2,272) = 1.676, p = .189.

A second one-way ANOVA was conducted for Pepsico to determine if the "sad" affect measure changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .006). Perceptions of the "sad" affect measure increased from deny (M = 1.96, SD = 1.390), to diminish (M = 2.03, SD = 1.530), to rebuild (M = 2.34, SD = 1.827), but the differences perceived between the groups was not statistically significant, F (2,272) = 1.492, p = .227.

A third one-way ANOVA was conducted for Pepsico to determine if the "angry" affect measure changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .002). Perceptions of the "empathetic" affect measure fluctuated from deny (M = 2.65, SD = 1.980), to diminish (M = 2.02, SD = 1.533), to rebuild (M = 2.38, SD = 1.836), but the differences perceived between the groups was not statistically significant, F (2,272) = 2.865, p = .059.

Additional ANOVAs were conducted for 21 other affect items for Pepsico, but none were

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significant at p < .05 and there were no statistically significant interactions observed between the medium used and crisis response strategy when paired with the 24 questionnaire items.

A one-way ANOVA was conducted for Facebook to determine if the "happy" affect measure changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .289). Perceptions of the "happy" affect measure changed from deny (M = 1.52, SD = 1.268), to diminish (M = 1.53, SD = 1.353), to rebuild (M = 1.39, SD = 1.133), but the differences perceived between the groups was not statistically significant, F (2,272) = .358, p = .699.

A second one-way ANOVA was conducted for Facebook to determine if the "sad" affect measure changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .002). Perceptions of the "sad" affect measure fluctuated from deny (M = 2.14, SD = 1.767), to diminish (M = 2.24, SD = 1.980), to rebuild (M = 1.70, SD = 1.413), but the differences perceived between the groups was not statistically significant, F (2,272) = 2.567, p = .079.

A third one-way ANOVA was conducted for Facebook to determine if the "angry" affect measure changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild

(n = 91). There were no outliers, as assessed by Q-Q Plots; data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .044). The differences perceived between groups was statistically significant, F (2,272) = 3.117, p = .046, ω^2 = .015. Perceptions of the "empathetic" affect measure fluctuated from deny (M = 2.70, SD = 2.014), to diminish (M = 3.36, SD = 2.268), to rebuild (M = 2.68, SD = 2.017). Tukey post-hoc analysis revealed that the mean increase from deny to diminish (0.659, 95% CI [-0.08, 1.39]) was not statistically significant (p = .089), and no other group differences were statistically significant.

Additional ANOVAs were conducted for 21 other affect items for Facebook, but none were significant at p < .05 and there were no statistically significant interactions observed between the medium used and crisis response strategy when paired with the 24 questionnaire items.

RQ2: How do rebuild, deny and diminish crisis communication messages relate to supporting an organization during a crisis?

A one-way ANOVA was conducted for Pepsico to determine if perceptions of organizational stability changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .430). The differences perceived between groups was statistically significant, F (2,272) = 3.414, p = .034, ω^2 = .017. Perceptions of organizational stability fluctuated from deny (M = 5.03, SD = 1.501), to diminish (M = 5.51, SD = 1.297), to rebuild (M

= 5.46, SD = 1.285). Tukey post-hoc analysis revealed that the mean increase from deny to diminish (0.478, 95% CI [0.00, 0.95]) was statistically significant (p = .048), and no other group differences were statistically significant.

A second one-way ANOVA was conducted for Pepsico to determine if perceptions of "care for customers" changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were not outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .429). The differences perceived between the groups was statistically significant, F (2,272) = 3.414, p = .034, ω^2 = .027. Perceptions of "care for customers" increased from deny (M = 3.72, SD = 1.900), to diminish (M = 4.40, SD = 1.716), to rebuild (M = 4.49, SD = 1.905). Tukey post-hoc analysis revealed that the mean increase from deny to diminish (0.685, 95% CI [0.04, 1.33]) was statistically significant (p = .033), as well as the mean increase from deny to rebuild (0.777, 95% CI [0.14, 1.42]) was statistically significant (p = .013), and no other group differences were statistically significant.

A third one-way ANOVA was conducted for Pepsico to determine if perceptions of the organization being managed well changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .009). The differences perceived between the groups was statistically significant, F (2,272) = 4.011, p = .019, ω^2 = .021. Perceptions of the organization being managed well increased from deny (M = 4.58, SD = 1.724), to diminish (M =

5.07, SD = 1.481), to rebuild (M = 5.19, SD = 1.414). Tukey post-hoc analysis revealed that the mean increase from deny to rebuild (0.611, 95% CI [0.06, 1.16]) was statistically significant (p = .026), and no other group differences were statistically significant.

A fourth one-way ANOVA was conducted for Pepsico to determine if likelihood to recommend the organization's products to a friend changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .098). Likelihood to recommend the organization's products to a friend fluctuated from deny (M = 3.43, SD = 2.103), to diminish (M = 3.95, SD = 1.991), to rebuild (M = 3.91, SD = 1.848), and the differences perceived between the groups was not statistically significant, F (2,272) = 1.906, p = .151.

Additional ANOVAs were conducted for 8 other support items for Pepsico, but none were significant at p < .05 and no interaction effects between medium used and crisis response strategy were observed for the 12 items related to organizational reputation.

A one-way ANOVA was conducted for Facebook to determine if likelihood to recommend the organization's products to a friend changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 91), diminish (n = 91) and rebuild (n = 93). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .941). Likelihood to recommend the organization's products to a friend increased from deny (M = 4.33, SD = 1.521), to diminish (M = 4.58, SD = 1.585), to rebuild (M = 4.65, SD = 1.579), and the differences

perceived between the groups was not statistically significant, F (2,272) = 1.047, p = .352.

A second one-way ANOVA was conducted for Facebook to determine if perceptions of "care for customers" changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 91), diminish (n = 91) and rebuild (n = 93). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .454). The differences perceived between the groups was statistically significant, F (2,272) = 4.267, p = .015, ω^2 = .02. Perceptions of "care for customers" increased from deny (M = 3.15, SD = 1.725), to diminish (M = 3.68, SD = 1.855), to rebuild (M = 3.91, SD = 1.834). Tukey post-hoc analysis revealed that the mean increase from deny to rebuild (0.266, 95% CI [0.13, 1.39]) was statistically significant (p = .013), and no other group differences were statistically significant.

A third one-way ANOVA was conducted for Facebook to determine if perceptions of the organization being managed well changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 91), diminish (n = 91) and rebuild (n = 93). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .382). The differences perceived between the groups was statistically significant, F (2,272) = 4.456, p = .012, ω^2 = .03. Perceptions of the organization being managed well increased from deny (M = 3.97, SD = 1.703), to diminish (M = 4.46, SD = 1.587), to rebuild (M = 4.69, SD = 1.726). Tukey post-hoc analysis revealed that the mean increase from deny to rebuild (0.721, 95% CI [0.14, 1.30]) was statistically significant (p = .01), and no other group differences were statistically significant.

A fourth one-way ANOVA was conducted for Facebook to determine if perceptions of organizational stability changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 91), diminish (n = 91) and rebuild (n = 93). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test ($p < .05$); and there was homogeneity of variances (p = .442). The differences perceived between groups was statistically significant, $F(2,272) = 3.025$, $p = .05$, $\omega^2 = .015$. Perceptions of organizational stability increased from deny (M = 3.19, SD = 1.813), to diminish (M = 3.56, SD = 1.910), to rebuild (M = 3.88, SD = 2.021). Tukey post-hoc analysis revealed that the mean increase from deny to rebuild (0.695, 95% CI [0.03, 1.36]) was statistically significant (p = .04), and no other group differences were statistically significant.

Additional ANOVAs were conducted for 8 other support items for Facebook, but none were significant at $p < .05$ and no interaction effects between medium used and crisis response strategy were observed for the 12 items related to organizational reputation.

A partial relationship exists among decisions to support an organization during a crisis when deny and rebuild messages are used. Six instances of significant main effects were observed across both crisis scenarios that indicated an increase in organizational support among the participants who received a rebuild message.

H3 proposed that deny messages are more likely to be shared online than diminish or rebuild messages.

A one-way ANOVA was conducted for Pepsico to determine if likelihood to share a crisis story on social media changed due to different crisis response strategies within the story. Participants

were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .137). Likelihood to share a crisis story on social media decreased from deny (M = 3.43, SD = 2.029), to diminish (M = 3.33, SD = 2.224), to rebuild (M = 3.23, SD = 2.201), but the differences perceived between groups was not statistically significant, F (2,272) = 0.206, p = .814.

A second one-way ANOVA was conducted for Pepsico to determine if the likelihood to share the story on Facebook changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .605). Likelihood to share the story on Facebook fluctuated from deny (M = 3.84, SD = 2.341), to diminish (M = 3.85, SD = 2.436), to rebuild (M = 3.63, SD = 2.317), and the differences perceived between groups was not statistically significant, F (2,272) = 0.254, p = .776.

A third one-way ANOVA was conducted for Pepsi to determine if the likelihood to share the story on Twitter changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 92), diminish (n = 92) and rebuild (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .000). The differences perceived between groups was statistically significant, F (2,272) = 3.485, p = .032, ω^2 = 0.018. Likelihood to share the story

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on Twitter fluctuated from deny (M = 2.53, SD = 1.813), to diminish (M = 2.88, SD = 1.910), to rebuild (M = 2.08, SD = 2.021). Tukey post-hoc analysis revealed that the mean increase from rebuild to diminish (0.804, 95% CI [0.08, 1.52]) was statistically significant (p = .024), and no other group differences were statistically significant.

There were also no statistically significant interactions observed between the medium used and crisis response strategy when paired with the likelihood to share content through social media in general, Facebook or Twitter.

A one-way ANOVA was conducted for Facebook to determine if likelihood to share a crisis story on social media changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 91), diminish (n = 91) and rebuild (n = 93). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was no homogeneity of variances (p = .016). Likelihood to share a crisis story on social media fluctuated from deny (M = 6.41, SD = 0.882), to diminish (M = 6.27, SD = 1.317), to rebuild (M = 6.58, SD = 0.838), and the differences perceived between the groups was not statistically significant, F (2,272) = 2.028, p = .134.

A second one-way ANOVA was conducted for Facebook to determine if the likelihood to share the story on Facebook changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny (n = 91), diminish (n = 91) and rebuild (n = 93). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .632). Likelihood to share the story on Facebook dropped from deny (M = 3.49, SD = 2.326), to diminish (M = 3.19, SD = 2.422), to rebuild (M =

3.22, SD = 2.475), but the differences perceived between the groups was not statistically significant, $F_{(2,272)} = 0.455$, $p = .635$.

A third one-way ANOVA was conducted for Facebook to determine if the likelihood to share the story on Twitter changed due to different crisis response strategies within the story. Participants were exposed to three different crisis response strategies: deny ($n = 91$), diminish ($n = 91$) and rebuild ($n = 93$). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test ($p < .05$); and there was homogeneity of variances ($p = .906$). Likelihood to share the story on Twitter decreased from deny ($M = 2.79$, SD = 1.871), to diminish ($M = 2.71$, SD = 1.778), to rebuild ($M = 2.96$, SD = 1.829), but the differences perceived between the groups was not statistically significant, $F_{(2,272)} = 0.425$, $p = .654$.

There were also no statistically significant interactions observed between the medium used and crisis response strategy when paired with the likelihood to share content through social media in general, Facebook or Twitter.

Thus, H3 was not supported.

H4 proposed that a third-person effect would be observed across all three mediums. A linear regression for Pepsico established "message influence on self" could statistically significantly predict "message influence on others," $F(1,273) = 159.528$, $p < .0005$ and "message influence on self" accounted for 37 percent of the variability found in "message influence on others." The regression equation was: predicted "message influence on others" = 2.894012 + 0.451 x (message influence on self). Figure 8 depicts the relationship between the two variables across all mediums.
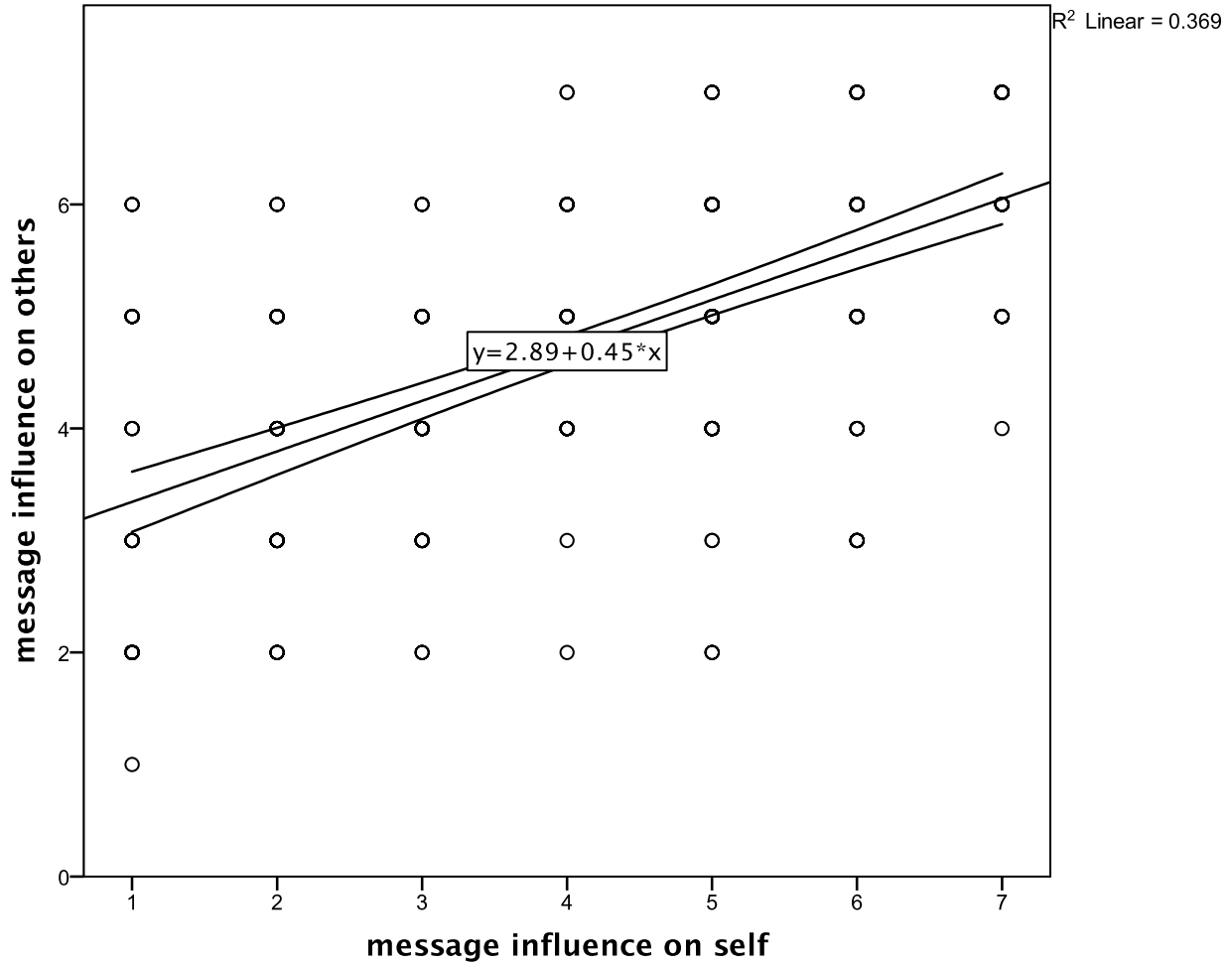
Figure 8. Third-Person Effect across all mediums related to "others"

A linear regression for Pepsico established "message influence on self" could statistically significantly predict "message influence on family members," $F(1,273) = 448.947$, $p < .0005$ and "message influence on self" accounted for 62 percent of the variability found in "message influence on family members." However, there were two outliers present, which were included in the analysis. The regression equation was: predicted "message influence on family members" = 1.495 + 0.726 x (message influence on self).
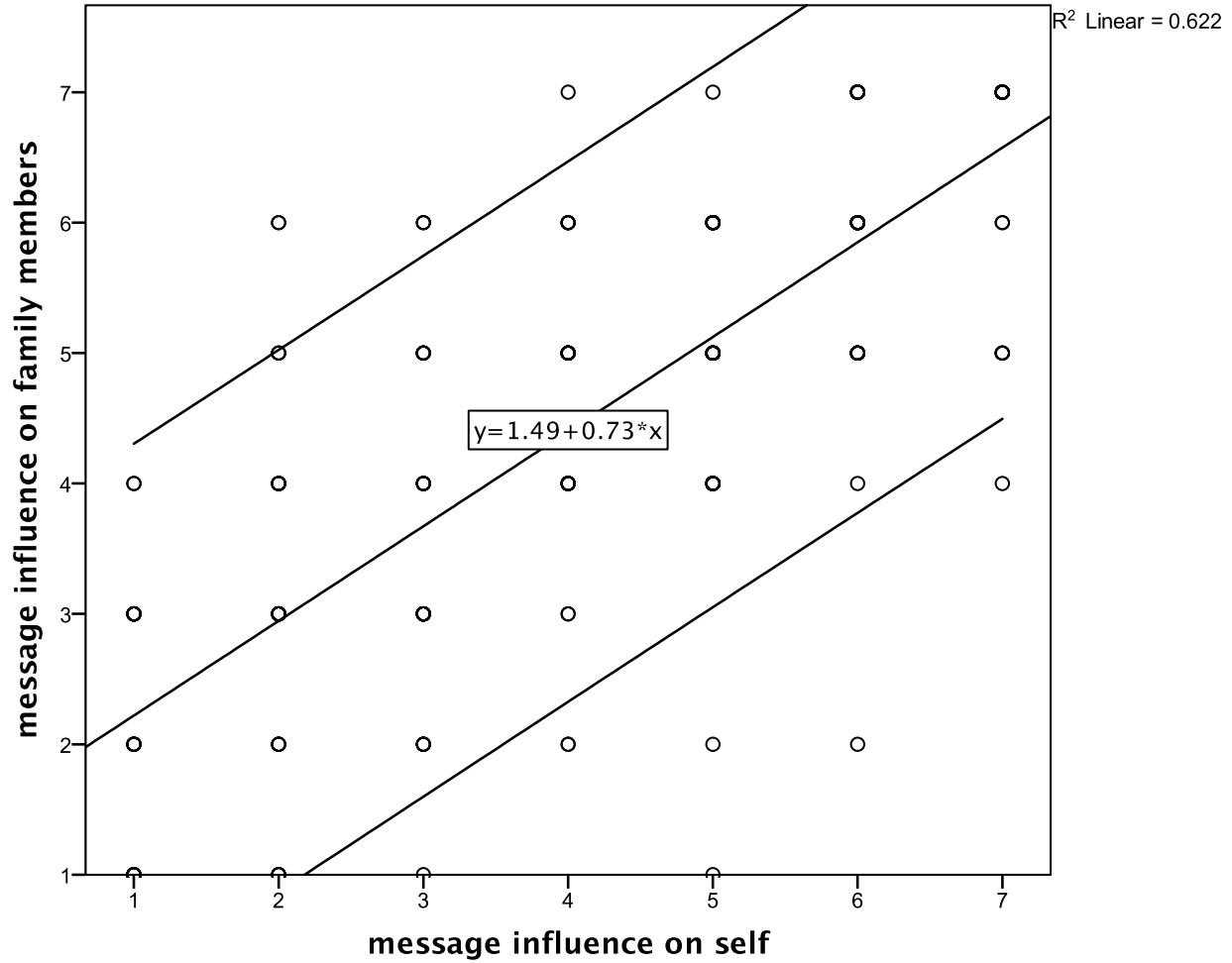
Figure 9. Third-Person Effect across all mediums related to "family members"

A linear regression for Pepsico established "message influence on self" could statistically significantly predict "message influence on friends," $F(1,273) = 448.947$, $p < .0005$ and "message influence on self" accounted for 62 percent of the variability found in "message influence on friends." The regression equation was: predicted "message influence on friends" = $1.495 + 0.726$ x (message influence on self).

A linear regression for Facebook established "message influence on self" could statistically significantly predict "message influence on others," $F(1,273) = 96.119$, $p < .0005$

and "message influence on self" accounted for 26 percent of the variability found in "message influence on others." However, there were two outliers present, which were included in the analysis. The regression equation was: predicted "message influence on others" = 3.240 + 0.397 x (message influence on self).

A linear regression for Facebook established "message influence on self" could statistically significantly predict "message influence on family members," $F(1,273) = 296.392$, $p < .0005$ and "message influence on self" accounted for 52 percent of the variability found in "message influence on family members." However, there were three outliers present, which were included in the analysis. The regression equation was: predicted "message influence on family members" = 1.470 + 0.699 x (message influence on self).

A linear regression for Facebook established "message influence on self" could statistically significantly predict "message influence on friends," $F(1,273) = 291.549$, $p < .0005$ and "message influence on self" accounted for 52 percent of the variability found in "message influence on friends." However, there were three outliers present, which were included in the analysis. The regression equation was: predicted "message influence on friends" = 2.194 + 0.615 x (message influence on self). Thus, H4 was supported.

H5 proposed that more third-person effects will be reported for deny messages.
A one-way multivariate analysis of variance was run for Pepsico to determine the effect of crisis response strategy on observations of Third-Person Effect. Two measures of Third-Person Effect were assessed: "message influence on self" and "message influence on others." Messages were conveyed using three crisis response strategies: deny, diminish and rebuild. Preliminary assumption checking revealed that data was not normally distributed, as assessed by Shaprio-

Wilk test (p < .05); there were univariate or multivariate outliers, as assessed by boxplot; there were linear relationships, as assessed by scatterplot; no multicollinearity (r = .607, p < .0005); and there was homogeneity of variance-covariance matrices, as assessed by Box's M test (p = .559). The differences between crisis response strategies on the combined dependent variables was statistically not significant, $F(4, 542) = 2.317$, p = .056; Wilks' Λ = .967; partial η^2 = .017. Although the effect was only moderate, Figure 10 has been included.
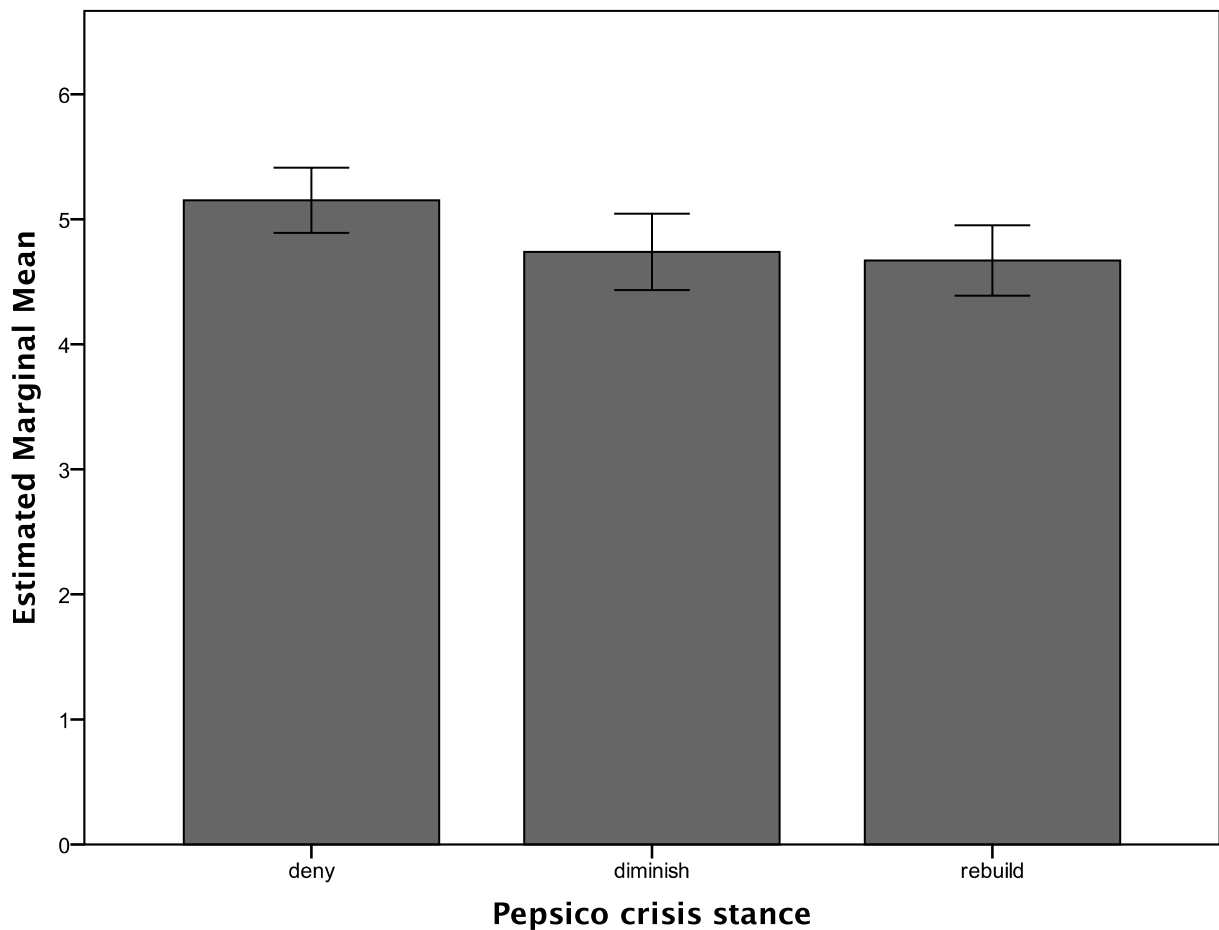
Figure 10. Estimated marginal mean for TPE for "other" and crisis response strategies

A one-way multivariate analysis of variance was run for Pepsico to determine the effect of crisis response strategy on observations of Third-Person Effect. Two measures of Third-

Person Effect were assessed: "message influence on self" and "message influence on family members." Messages were conveyed using three crisis response strategies: deny, diminish and rebuild. Preliminary assumption checking revealed that data was not normally distributed, as assessed by Shaprio-Wilk test ($p < .05$); there were no univariate or multivariate outliers, as assessed by boxplot; there were linear relationships, as assessed by scatterplot; no multicollinearity ($r = .806$, $p < .0005$); and there was homogeneity of variance-covariance matrices, as assessed by Box's M test ($p = .265$). The differences between crisis response strategies on the combined dependent variables was not statistically significant, $F(4, 542) = 17.71$, $p = .133$; Wilks' $\Lambda = .974$; partial $\eta2 = .013$.

A one-way multivariate analysis of variance was run for Pepsico to determine the effect of crisis response strategy on observations of Third-Person Effect. Two measures of Third-Person Effect were assessed: "message influence on self" and "message influence on friends." Messages were conveyed using three crisis response strategies: deny, diminish and rebuild. Preliminary assumption checking revealed that data was not normally distributed, as assessed by Shaprio-Wilk test ($p < .05$); there were no univariate or multivariate outliers, as assessed by boxplot; there were linear relationships, as assessed by scatterplot; no multicollinearity ($r = .789$, $p < .0005$); and there was homogeneity of variance-covariance matrices, as assessed by Box's M test ($p = .115$). The differences between crisis response strategies on the combined dependent variables was not statistically significant, $F(4, 542) = 19.41$, $p = .102$; Wilks' $\Lambda = .972$; partial $\eta2 = .014$.

There was also not a statistically significant interaction between medium used and crisis response strategy when "message influence on self" was matched with "message influence on others," "message influence on family" or "message influence on friends."

A one-way multivariate analysis of variance was run for Facebook to determine the effect of crisis response strategy on observations of Third-Person Effect. Two measures of Third-Person Effect were assessed: "message influence on self" and "message influence on others." Messages were conveyed using three crisis response strategies: deny, diminish and rebuild. Preliminary assumption checking revealed that data was not normally distributed, as assessed by Shaprio-Wilk test ($p < .05$); there were no univariate or multivariate outliers, as assessed by boxplot; there were linear relationships, as assessed by scatterplot; no multicollinearity ($r = .510$, $p < .0005$); and there was homogeneity of variance-covariance matrices, as assessed by Box's M test ($p = .408$). The differences between crisis response strategies on the combined dependent variables was not statistically significant, $F(4, 542) = .264$, $p = .901$; Wilks' $\Lambda = .996$; partial $\eta 2 = .002$.

A one-way multivariate analysis of variance was run for Facebook to determine the effect of crisis response strategy on observations of Third-Person Effect. Two measures of Third-Person Effect were assessed: "message influence on self" and "message influence on family members." Messages were conveyed using three crisis response strategies: deny, diminish and rebuild. Preliminary assumption checking revealed that data was not normally distributed, as assessed by Shaprio-Wilk test ($p < .05$); there were no univariate or multivariate outliers, as assessed by boxplot; there were linear relationships, as assessed by scatterplot; no multicollinearity ($r = .721$, $p < .0005$); and there was homogeneity of variance-covariance matrices, as assessed by Box's M test ($p = .068$). The differences between crisis response strategies on the combined dependent variables was not statistically significant, $F(4, 542) = .706$, $p = .588$; Wilks' $\Lambda = .990$; partial $\eta 2 = .005$.

A one-way multivariate analysis of variance was run for Facebook to determine the effect

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of crisis response strategy on observations of Third-Person Effect. Two measures of Third-Person Effect were assessed: "message influence on self" and "message influence on friends." Messages were conveyed using three crisis response strategies: deny, diminish and rebuild. Preliminary assumption checking revealed that data was not normally distributed, as assessed by Shaprio-Wilk test (p < .05); there were univariate or multivariate outliers, as assessed by boxplot; there were linear relationships, as assessed by scatterplot; no multicollinearity (r = .719, p < .0005); and there was homogeneity of variance-covariance matrices, as assessed by Box's M test (p = .372). The differences between crisis response strategies on the combined dependent variables was not statistically significant, $F_{(4, 542)} = .489$, p = .744; Wilks' Λ = .993; partial η^2 = .004.

There was also not a statistically significant interaction between medium used and crisis response strategy when "message influence on self" was matched with "message influence on others," "message influence on family" or "message influence on friends."

Thus, H5 was not supported.

H6 proposed that the presence of a third-person perceptual gap would predict a decrease in intentions for social network sharing of crisis messages.

A Pearson's product-moment correlation was run for Pepsico to assess the relationship between "message influence on others" and likelihood to share crisis content through social media. Preliminary analyses showed the relationship to be linear but not all variables were normally distributed, as assessed by Shapiro-Wilk test (p < .05), and there was one outlier. There was a moderate positive correlation between "message influence on others" and likelihood to share crisis content through social media, r(273) = .371, p < .0005, with "message influence on others"

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explaining 14 percent of the likelihood to share crisis content through social media.

A Pearson's product-moment correlation was run for Pepsico to assess the relationship between "message influence on family members" and likelihood to share crisis content through social media. Preliminary analyses showed the relationship to be linear but not all variables were normally distributed, as assessed by Shapiro-Wilk test ($p < .05$), and there were some outliers. There was a moderate positive correlation between "message influence on family members" and likelihood to share crisis content through social media, $r(273) = .419$, $p < .0005$, with "message influence on family members" explaining 18 percent of the likelihood to share crisis content through social media.

A Pearson's product-moment correlation was run for Pepsico to assess the relationship between "message influence on friends" and likelihood to share crisis content through social media. Preliminary analyses showed the relationship to be linear but not all variables were normally distributed, as assessed by Shapiro-Wilk test ($p < .05$), and there were some outliers. There was a moderate positive correlation between "message influence on friends" and likelihood to share crisis content through social media, $r(273) = .445$, $p < .0005$, with "message influence on friends" explaining 20 percent of the likelihood to share crisis content through social media.
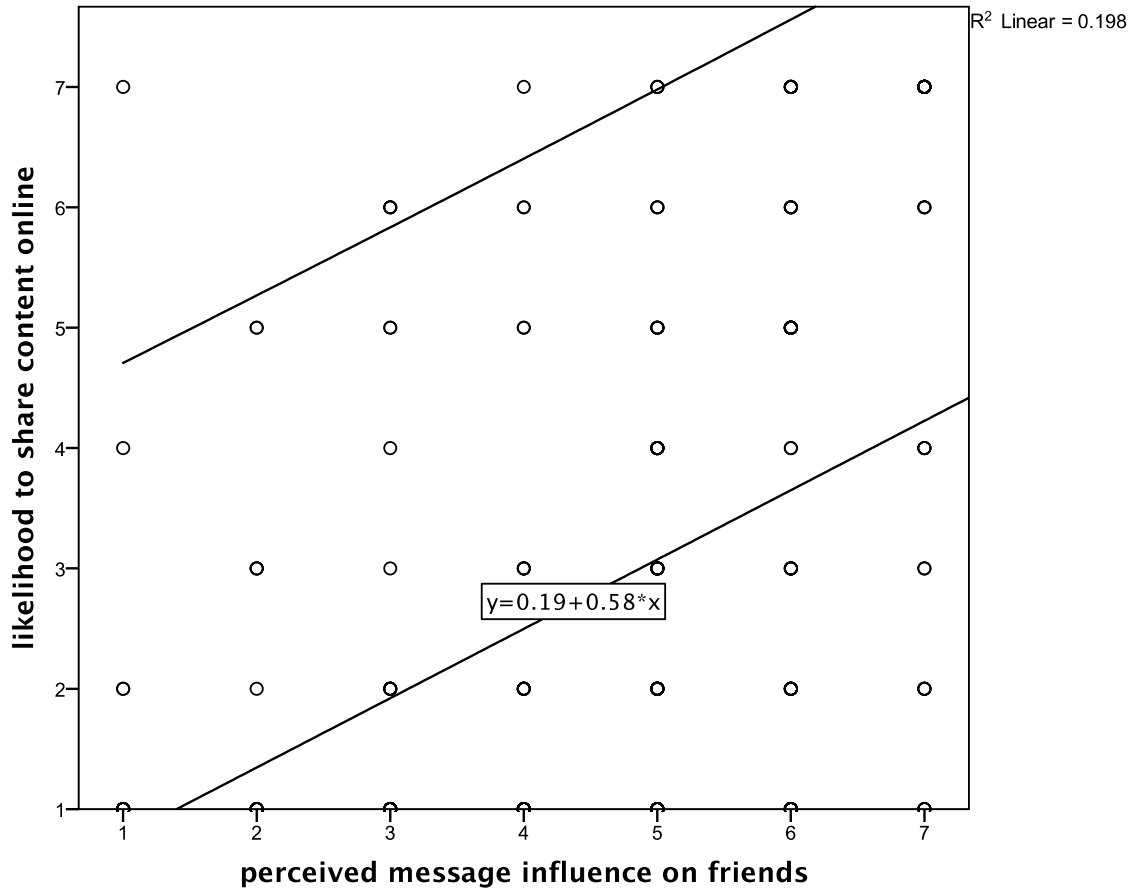
Figure 11. TPE related to friends prediction of online content sharing

A Pearson's product-moment correlation was run for Facebook to assess the relationship between "message influence on others" and likelihood to share crisis content through social media. Preliminary analyses showed the relationship to be linear but not all variables were normally distributed, as assessed by Shapiro-Wilk test ($p < .05$), and there were some outliers. There was a moderate positive correlation between "message influence on others" and likelihood to share crisis content through social media, $r(273) = .283$, $p < .0005$, with "message influence on others" explaining 8 percent of the likelihood to share crisis content through social media.

A Pearson's product-moment correlation was run for Facebook to assess the relationship between "message influence on family members" and likelihood to share crisis content through

social media. Preliminary analyses showed the relationship to be linear but not all variables were normally distributed, as assessed by Shapiro-Wilk test (p < .05), and there were some outliers. There was a moderate positive correlation between "message influence on family members" and likelihood to share crisis content through social media, r(273) = .386, p < .0005, with "message influence on family members" explaining 15 percent of the likelihood to share crisis content through social media.

A Pearson's product-moment correlation was run for Facebook to assess the relationship between "message influence on friends" and likelihood to share crisis content through social media. Preliminary analyses showed the relationship to be linear but not all variables were normally distributed, as assessed by Shapiro-Wilk test (p < .05), and there were some outliers. There was a moderate positive correlation between "message influence on friends" and likelihood to share crisis content through social media, r(273) = .369, p < .0005, with "message influence on friends" explaining 14 percent of the likelihood to share crisis content through social media. Thus, H6 was supported.

H7 proposed that information graphics would cause more acute emotional responses than equivalent news stories and news videos.

A one-way ANOVA was conducted for Pepsico to determine if the "interested" affect measure was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 93), news video (n = 91) and infographic (n = 91). There were outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .802). Perceptions of the "interested" affect measure changed from the news story

(M = 5.12, SD = 1.693), to news video (M = 5.47, SD = 1.601), to infographic (M = 5.44, SD = 1.551), but the differences perceived between the groups was not statistically significant, F (2,272) = 1.353, p = .260.

A second one-way ANOVA was conducted for Pepsico to determine if the "concerned" affect measure was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 93), news video (n = 91) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .263). Perceptions of the "concerned" affect measure fluctuated from the news story (M = 3.84, SD = 1.941), to news video (M = 4.19, SD = 2.065), to infographic (M = 3.93, SD = 1.931), but the differences perceived between the groups was not statistically significant, F (2,272) = .757, p = .470.

A third one-way ANOVA was conducted for Pepsico to determine if the "empathetic" affect measure was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 93), news video (n = 91) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .05); and there was homogeneity of variances (p = .058). Perceptions of the "empathetic" affect measure fluctuated from the news story (M = 5.03, SD = 1.703), to news video (M = 4.88, SD = 2.016), to infographic (M = 5.07, SD = 1.806), but the differences perceived between the groups was not statistically significant, F (2,272) = .265, p = .767.

Additional ANOVAs were conducted to find main and interaction effects for 21 other affect items for Pepsico, but none were significant at p < .05.

A one-way ANOVA was conducted for Facebook to determine if the "interested" affect measure was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .001); and there was homogeneity of variances (p = .648). Perceptions of the "interested" affect measure decreased from the news story (M = 5.27, SD = 1.613), to news video (M = 5.18, SD = 1.694), to infographic (M = 5.14, SD = 1.877), but the differences perceived between the groups was not statistically significant, $F_{(2,272)} = .139$, p = .870.

A second one-way ANOVA was conducted for Facebook to determine if the "concerned" affect measure was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .001); and there was homogeneity of variances (p = .824). Perceptions of the "concerned" affect measure fluctuated from the news story (M = 4.07, SD = 2.159), to news video (M = 3.97, SD = 2.179), to infographic (M = 3.91, SD = 2.122), but the differences perceived between the groups was not statistically significant, $F_{(2,272)} = .119$, p = .888.

A third one-way ANOVA was conducted for Facebook to determine if the "empathetic" affect measure was different for groups who received the story in different mediums. Participants received content in three mediums: news story (n = 91), news video (n = 93) and infographic (n = 91). There were no outliers present, as assessed by Q-Q Plots; and the data was not normally distributed for each group, as assessed by Shapiro-Wilk test (p < .001); and there was

homogeneity of variances (p = .697). Perceptions of the "empathetic" affect measure decreased

from the news story (M = 5.25, SD = 1.883), to news video (M = 5.20, SD = 1.803), to

infographic (M = 4.80, SD = 1.979), but the differences perceived between the groups was not

statistically significant, F (2,272) = 1.564, p = .211.

Additional ANOVAs were conducted to find main and interaction effects for 21 other

affect items for Facebook, but none were significant at p < .05. Thus, H7 was not supported.

Chapter V. Discussion

Before discussing the results of the hypotheses, there are two questions related to the independent variables that need addressed. In order for these variables to have their intended effects, they needed to meet two standards: (1) were both scenarios used in the experiment perceived as crises? and (2) were the messages in each condition across mediums perceived as containing equivalent information?

For the first question, it is clear the Facebook scenario was viewed as being a true crisis. However, participants were divided regarding Pepsi. From the demographic data collected, the participants used Facebook more than any other social media site (a list of the most used social media sites can be seen in Table 6). Regarding Pepsico product usage, one Likert-type item included before participants were exposed to the crisis scenarios, "I am likely to use this organization's products." The numbers were mixed related to its product usage ($M = 4.68$, $n = 275$). Since usage levels of both company's products was similar, the notion of one organization being disproportionally more popular than the other can be discarded. The difference in viewpoints regarding the severity of the crisis is not possible to determine from the limited data, but the perceived personal threat was most likely more extreme regarding credit card data being stolen versus preservatives being missing from some soft drinks. This perspective makes sense because a mild stomach upset is a temporary problem, not lifelong. However, the credit damage from a stolen credit card used by thieves can follow a person for many years.

There have also been numerous instances in the news regarding large retailers who have had a similar situation happen to the Facebook crisis scenario, which could have primed the minds of the participants to be more responsive to it.

The timing may have played a role as well. If the participants viewed the soft drink crisis

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communications as occurring too far after the crisis occurred, then it may not have been viewed as a crisis. However, the scenario with Facebook credit card information being stolen is a lingering problem than can last for years.

Table 6. Participants' most used social media sites

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Facebook	275	1	7	4.33	2.038
Twitter	275	1	7	2.68	1.838
Pinterest	275	1	7	2.02	1.529
Instagram	275	1	7	2.03	1.697
YouTube	275	1	7	3.04	2.049
LinkedIn	275	1	7	1.95	1.546
Google+	275	1	7	1.97	1.517
Reddit	275	1	7	2.51	2.033

(n=275)

For the second question, the discrepancy between message equivalency responses in the confounding variable control group may be due to second-guessing caused by the question types and format. The first group of four questions for each condition were all written in a positive manner, such as item 3, which stated "The news release included the same information as the video and information graphic." The second set of questions were all written in a negative manner, such as item 7, "If I only viewed the information graphic, I would not learn anything new by viewing the news release and video." The means for responses for the first group of questions were highly correlated at $p < .01$, as were the means for the second group of items.

There was also a noticeable drop in mean scores for the information graphic groups compared to the other mediums, which lends some credibility to the position of H1. Considering the variance in findings, it seems only safe to state that for only one item the responses leaned slightly more positively than negatively for the infographics group, while the others were definitively positive. Thus, the overall analysis points to the messages being perceived as equivalent by the participants.

The results of the manipulation check for the crisis response strategy IV pose a concern for the overall results of the study. It is most likely the cause behind no interaction effects being observed between the IVs as well. Since the majority of participants selected the rebuild strategy for both crisis scenarios, the study results are skewed based on this similarity in perceptions. Considering the results are based on three truly different messages, Coombs (2008) assessment that accommodative messages, whether apologetic or not, are generally perceived the same way. This study may serve as an example of how far an organization can move from an extreme accommodative stance and still be considered accommodative. Regardless of how the crisis response strategy IV is perceived, the study findings related to the medium IV were not affected, but most likely more representative as a result of less variation in the experiment.

H1 proposed that information graphics would be more difficult to interpret than equivalent news stories and news videos. The data indicated the participants did not experience any additional difficulty understanding content in any of the mediums. One can presume most individuals in the U.S. have developed a fairly robust visual literacy due to the large amount of electronic devices and advertisements that come in every shape and form. U.S. consumers are taught to decipher chart-based nutrition information attached to most all food products, navigate complex traffic systems in large cities using universal symbols and how to synthesize the

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unfathomable amount of information available online. Due to this cultural setting, it makes sense that MTurk users would not indicate problems deciphering a message in different formats. Although H1 was not supported, this finding is important because no other study has controlled for message equivalency across mediums to determine if infographics are more difficult to understand than more traditional forms of communication. Since the results were significant that the infographics were easier to understand, it lends credibility to anecdotal claims from information visualizers like Aaron Koblin, who said in an interview, "a lot of this stuff, you visualize it and it instantly makes sense" (2007c). It also lends support for continued research into persuasive strategies to use infographics for PR purposes. There is already evidence that organizations are responding to the positive results gained by making infographics, such as Hotels.com using them to supplement text-based stories available to journalists (Krum, 2013).

This finding is also important because it creates an argument for more collaboration among public relations practitioners and data visualizers. If infographics are easier to understand than other mediums, then they should become a standard part of organizational communications rather than a minor concern. Strategies for reporting corporate, government and nonprofit data in real-time should be used for branding and public service purposes. Rather than typical annual reports or census data tables, organizations have an opportunity to expand understanding of their operations and their effects in a way that makes people care. A clearer understanding of economic indicators or environmental changes, for example, may help people be more engaged and productive in society.

H2 proposed that intentions to share information graphics online would be higher than those for equivalent news stories and news videos. This was an interesting finding because some of the items included in the questionnaire, such as the likelihood to share using Facebook and

Twitter, resulted in an inverse relationship among the mediums. The information graphic was, in most cases, the least likely of the three to be shared, with the text-based news story being the most likely. This contradicts the findings from Rogers, (2014) of the most popular tweets on Twitter, which indicated photos and graphics increased the chances of content being retweeted. Perhaps the indication to share the text-based story more often was related to perceptions of the intended recipient's preferences versus actual behavior, but the data collected in this study doesn't provide a clear direction for the discrepancy.

Considering that infographics are less likely to be shared online, it may indicate that the design strategy used for this study was incorrect. There is no data currently available related to infographic design and specifically the relationship of layout to likelihood to share content online. There are also no other studies that have examined the use of infographics for crisis communications.

The relationship of H1 to H2 is important to consider. Even though infographics are easier to understand than the other message types, they are less likely to be shared online. One reason this my have happened in this study is due to the media sources being kept constant in each medium. CNN Money was always a text-based message no matter the crisis strategy. A local news outlet was always the video news story. But the news source for the infographic was not as obvious. Thus, it is possible the perceived differences among the news sources played a role in the infographic being the least likely to be shared.

During some crises, such as situations where lives are in danger, it may not be as important that a crisis message is shared by and organization's publics as it is shared *with* them. In a crisis, any way to fill the information void is useful, but making messages that are easy to understand is required. Since crisis communicators don't usually have the benefit of time on their

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sides to compile the necessary information and strategically design an infographic, it would be in their best interest to at least create templates for them before a crisis happens. This practice is already common with dark websites, which are special websites that made to replace an organization's main site immediately after a crisis happens (Sullivan, 2009). Infographics could be prepared in a similar way to ensure the template and anticipated key messaging needs are ready before a crisis happens.

Conversely, there are times when an organization wants its publics to share the content it creates. Since infographics are less likely to be shared than the same content presented in more traditional news forms, there may be a stigma associated with sharing infographics online. If individuals believe their online social connections will frown upon them sharing infographics, then as Berger and Milkman (2012) found, the message form lacks social currency and reduces the chances of messages being shared. Understanding audience attitudes toward infographics should help practitioners decide if it is a message type that is appropriate for their situations.

RQ1 asked how do rebuild, deny and diminish crisis communication messages relate to affect? Twenty-four items were included to test affective responses to the stimuli and none of the crisis response strategies used resulted in the means between groups to differ enough for a significant result. This may be due to the dates listed in the crisis materials being too distant from the date the participants saw them, or it could be a symptom of the population used for the experiment. The mean scores for most positive and negative emotions were so low, and could be interpreted as a general response of indifference. However, "indifference" was also an affect item that was included in this section, which also did not receive many positive responses for Pepsico (M = 3.2, SD = 2.1, n=275) or Facebook (M = 2.88, SD = 2.06, n=275). Thus, the participants seemed to be indifferent to indifference. Perhaps MTurk users are less emotional

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than more general populations, but a study by Crump, McDonnell and Gureckis (2013) doesn't support this viewpoint. Most likely, the stimuli did not arouse the participants enough for the affect items to register. This result could be due to the crisis scenarios used in the study. Since food contamination scares and credit theft are commonly reported in news outlets, the participants may have become apathetic toward these topics. Uncommon crisis scenarios would most likely have been better suited for generating affective responses.

This result also was likely due to the general perception among participants that all of the crisis responses were accommodative. Perhaps the takeaway for practitioners from this finding is not that the participants were indifferent to the messages, but content with the crisis responses. Being content is not a strong emotion, when compared to anger, which drives individuals to share content (Berger & Milkman, 2012). Thus, depending on a communicator's desired effect of a message, the crisis response strategy, either accommodative or advocative, not only has a relationship to how expensive a crisis will be for an organization, but also how likely messages are to be shared. Using this reasoning, an accommodative stance should result in fewer messages being shared, while an advocative stance, especially if it causes anger, should result in more content sharing.

RQ2 asked how do rebuild, deny and diminish crisis communication messages relate to supporting an organization during a crisis? Six items resulted in a significant difference among the deny and rebuild groups, with the rebuild strategy resulting in more organizational support. Generally, the diminish and rebuild messages produced equivalent means that were much higher than the denial messages. Support for the rebuild crisis response strategy raises some questions about the credibility of the crisis response strategy stimuli, since a difference was reported in the manipulation check. For example, the diminish crisis response strategy should fall somewhere in

the middle of responses rather than be equal to rebuild messages, according to Situational Crisis Communication Theory (SCCT). However, the diminish response in the stimuli may have been perceived as being too close to an accommodative strategy than to advocative.

Another way to interpret the results of RQ2 is to consider that participants detected a difference between the extremes of the crisis response continuum, for both scenarios. The wording of the manipulation check was most likely the reason for the skewed results toward the rebuild strategy, and not the content of the stimuli. If this reasoning is valid, the distinction of accommodative stances increasing public support during a crisis is an important finding for communicators. No relevant differences were observed for the medium related this RQ, which leaves multiple communication options open to crisis handlers. The results provide an indication of how practitioners should expect publics to react to the accommodative or advocative positions their organizations take during crises. This also leads to a question of how much online support an organization should seek to have for different types of crisis situations, which could become an additional factor within SCCT.

H3 proposed that deny messages are more likely to be shared online than diminish or rebuild messages. This hypothesis was a continuation of the reasoning found within RQ1, with the expectation that strong emotions would be generated from deny messages, which would in turn result in more content sharing online. This was not supported, however, a slight downward trend was apparent in the mean differences among groups, with deny messages having the highest likelihood to be shared and rebuild messages having the lowest.

Based on the literature reviewed for this study, an advocative crisis response strategy that publics don't agree with should trigger affective responses such as "anger" and "agitation," resulting in more sharing of those messages online. It seems, at least within the crises included in

this study, that the participants did not disagree with the denial crisis response strategy, but accepted it. As Berger and Milkman (2012) noted in their study, sadness and indifference are the two emotions that lead to the least amount of action. It is also plausible that the participants were not able to clearly differentiate the strategies embedded within the stimuli, which can be seen by the manipulation check showing a preference for the rebuild crisis response strategy across all stimuli. Regardless of factors that led to the participant responses, this finding indicates that none of the crisis response strategies were more likely to be shared than the others.

The finding for H3 also demonstrates that the likelihood of a crisis message being shared, no matter the crisis response strategy used, is quite low. This may be due to the crisis scenarios used in this study not including organizations to which the participants have a close connection. For example, when asked how often they used Facebook, the numbers were low. The responses related to their likelihood of using Pepsico products were also low. This mismatch explains the mostly indifferent responses to the affect items in the questionnaire as well as the decreased likelihood to share the crisis responses.

For crisis communicators, the findings are problematic because they indicate that crisis messages are not likely to be shared online. However, it seems safer to state, based on the findings of this study, specifically RQ1, and the literature reviewed, that indifference is a primary indicator that a message will not be shared.

H4 proposed that a Third-Person Effect will be observed across all three mediums. This hypothesis received the most support of all included in the study. Typically, a Third-Person Effect results in some form of desire for censorship, unless a first person effect is observed. The positive differences observed between "effects on self" versus others, family members and friends connects well with H6 and its focus on the behavioral relationship of these variables. This

effect was visible for each crisis response strategy as well, which is problematic since basic reasoning would indicate that rebuild messages evoke First Person Effects (FPE), thus reducing inclinations for message censorship. This finding may demonstrate that participants didn't like any of the crisis messages presented in the study, or that FPE is difficult to observe. The TPE meta-analysis conducted by Perloff (1993) supports this perspective about FPE. The finding also indicates the stimuli were all viewed as being persuasive.

TPE, as mentioned in the literature review, has never been conferred the status of a theory. It is still regarded as a model because behavioral effects cannot consistently be found when TPE is observed. This study attempted to find a correlation between behavioral intentions and TPE, but did not succeed. However, crisis communicators, PR practitioners and scholars can use the findings from H4 as a factor within their research to determine a publics' agreement with a crisis message. Higher observations of TPE generally result in an increased likelihood of censorship, thus detecting it can be used as a factor in studying audience agreement with a message.

H5 proposed that more third-person effects would be reported for deny messages. Only one item was close to supporting this hypothesis, with the others being far from significant. Again, this may be due to a high level of indifference among the participants regarding their perceptions of how the messages related to them and others, family members and friends. Or, it may mean, as with H3, the participants were not able to clearly differentiate the strategies embedded within the stimuli. It's also possible that there just is no relationship between these variables.

More studies are needed using different populations to confirm the findings for H5 since previous studies have indicated that publics do not typically like advocative crisis responses.

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However, it does lend additional support to what Turk, Jin, Stewart, Kim, & Hipple (2012) observed. They found that in some situations, an organization with a good reputation and a CEO who visibly responds to a crisis, an advocative response is preferred among publics. This study indicates that regardless of reputation, since Pepsico was selected due to having a good reputation and Facebook a poor one, perhaps CEO visibility has the most impact in how likely publics are to accept an advocative response. The reasoning behind this conclusion stems from TPE typically resulting in an increase in censorship intentions. Since deny responses did not demonstrate significant differences from the other crisis response strategies, the findings indicate the organizational responses were acceptable among study participants. But again, this must be qualified by the crisis response strategy manipulation check being unclear in its results compared to the difference perceived among the stimuli in RQ2.

H6 proposed that the presence of a third-person perceptual gap would predict a decrease in intentions for social network sharing of crisis messages. Both Pepsico and Facebook scenarios recorded a statistically significant decrease in the likelihood to share content when a third-person effect was observed. However, caution of this finding is warranted due to all groups recording a third-person effect in this study. The means for intentions to share the crisis messages were quite low, so it may indicate that crisis messages are just not material that publics want to share online. Testing this hypothesis was also difficult in the experimental setting used since none of the participants were placed in a position of feeling as if the crises were happening at that moment. Participant distance in both time and space from the crises could have contributed to a reduced sense of the need to share the content. But if the finding is taken at face value, it supports findings from previous studies that TPE results in a censorship reaction. The reasons the participants may want to censor the crisis content were not addressed in this study, but one can

speculate that a level of distrust or animosity existed among the participants toward the companies selected. If they truly viewed the messages as persuasive, but disagreed with them, it would make sense to feel the need to self-censor the content.

This finding is important for communicators who want crisis responses to spread online. Distrust in an organization's crisis response and/or the organization itself, even if it uses an accommodative response, can cause publics to not distribute a message among peers. The practice of reputation management before a crisis happens, based on this finding, is just as important as practicing it afterward.

H7 proposed that information graphics will cause more acute emotional responses than equivalent news stories and news videos. Similar to other findings in this study related to affect, 24 items attempted to measure and find relationships between emotional responses and the medium used for crisis communication. The data indicated that no relationship exists between affect and medium, which demonstrates that the medium is not the message, but instead, the content is what is most important. This finding also complements the finding in H1 that infographics are perceived to be easier to understand than other message types. Considering H1 and H7 together, infographics appear to be a reputable solution for some crisis communication and general communication purposes, without unintended affective or cognitive problems caused from using an alternative storytelling technique. Media outlets frequently search for visual content to accompany stories they produce, making infographics a useful part of most media relations strategies. Infographics should also be thought of as being economical in this sense because they are generally self-contained stories, which means they can be shared with multiple publics, including individuals, partners, government agencies, researchers and journalists. Since this study focused on a general online population, it would be useful for similar studies to be

conducted using a variety of publics to determine if their cognitive and affective responses reflect those captured in this study.

Limitations

The manipulation check did not clearly demonstrate the direction of the IVs related to crisis response strategy. After examining the data, the respondents favored the response that the organization had accepted responsibility for the crisis, even though denial and diminish responses were used. The heavier weighting from these perceptions may have distorted the data related to all crisis response strategies. This error creates some doubt in the results for all hypotheses related to crisis response strategy, but specifically H4 since it yielded significant results. However, H4 as written, predicted participants would prefer the rebuild strategy. Since the participants selected the rebuild response the most in the crisis response strategy manipulation check, their perceptions should be considered valid.

The participants in this study were only drawn from Mechanical Turk, which limits the generalizability of the findings. As mentioned earlier, other studies have found this population to be fairly representative of the general U.S. population, but it does skew more heavily toward higher education and computer knowledge. It is also worth noting that the Workers using Mechanical Turk try to complete tasks as quickly as possible in order to maximize their earnings to time invested ratio. The faster tasks are completed, the more tasks each Worker can do in a day, thus earning more money. This system may lead to survey participants who are not as focused as most studies need them to be.

The video actors were undergraduate students who were not broadcast majors or trained to be TV news personalities. A few comments were submitted from participants who noted their

"stiff" appearance and disliked their content delivery, but it was never noted that the broadcasts seemed fake. However, a perceived lack of authenticity may have been a confounding variable within the results.

One limitation related to cognition and affect is that most studies also include conation, which relates to observable behavior. Although this study asked participants how likely they would be to act in a particular way, it was not able to measure if they would in a real setting. This introduces the possibility of participants responding to behavioral items according to how they think they should act rather than how they really would.

More variety was also needed in the way that crisis severity was measured. Only one item directly tested it, when at least three were needed. This did not provide a clear indication of how the crises were perceived, making the overall results more difficult to generalize.

Views related to the news outlets used were also not collected in this study, which could be a confounding variable if participants reacted more to the source than the message. The news outlets also were not randomized across the mediums used. For example, CNN Money was the source for all text-based stories while Reuters was used for all information graphics. The TV news broadcasts looked more locally oriented than national. Participant bias toward the news outlets selected, when combined with the same news outlet being used for each medium, could be problematic for some of the findings in this study related to medium.

Areas for further research

This study and others have indicated that the medium used for communication does not generally have a significant effect on perceptions of the messages. However, it may be useful to more closely examine how medium relates to behavior, specifically mobile devices versus more

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traditional means of communication. The ability to act immediately regarding donations and purchases through mobile devices has not been thoroughly studied in relation to crisis communications.

More research is needed regarding first person effects and crisis communication. It seems possible individuals could experience Third-Person Effects leading them to support censorship of denial-oriented crisis communication messages, but regarding public health and safety messages, they most likely experience a first person effect. This, in turn, would support the likelihood of crisis communication health and safety messages being shared online.

Additional research is needed regarding design for information graphics related to crisis communications. This study relied on more general sources of design techniques and theories for infographics, but more data is needed to understand the effects of changes in message emphasis and design styles as they relate to viewer perceptions of crisis communications.

A closer examination is also needed of crisis response strategies, specifically using a longer list of crisis response strategy options, related to the likelihood of content sharing online. Again, it would be helpful to see mobile devices added to the variety of ways individuals experience crisis communication messages and react to them.

Views related to the news outlets used were not collected in this study. The combination of news source and crisis response strategy is another area for researchers to explore. There have been numerous studies dedicated to source credibility for traditional and nontraditional media outlets within the field of journalism, so there should be a number of studies that could be adapted or replicated to examine how or if organizational perceptions change based on the combination of crisis response strategy, news source reporting the story and the medium used, such as mobile, television and print.

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The likelihood to share content online seems to have a relationship to perceptions of crisis severity. Studies examining perceptions of crisis severity and behavioral reactions, such as the time between message exposure and sharing a reaction to the crisis message online, would also be interesting additions to crisis communications literature.

Crisis type is another area that could use additional research. This study examined two kinds of crises and differences in how they were perceived among participants. The interaction of how CEO visibility, crisis type, reputation and crisis response strategy could yield new insights and add another dimension to the SCCT framework.

Summary

The framework for crisis response strategies and when they are suitable for different situations is still being constructed within SCCT. The findings in this study continue the effort to uncover appropriate organizational responses to a variety of crisis situations, and they may help to expand interdisciplinary study of crisis communications, specifically among information visualizers.

This study found that infographics are not perceived as being more difficult to understand than equivalent stories places in text-based news stories or video news stories. After reviewing the literature, this is the first time infographics have been studied in this way, which should provide a foundation for future studies focused on infographics, across numerous disciplines. The fact that infographics were often viewed as being easier to understand than the other communication forms indicates that PR practitioners should consider incorporating them into organizational communication strategies, crisis related or not.

It was also found that rebuild messages result in increased support of an organization experiencing a crisis. The rebuild strategy utilized in this study focused on an apologetic

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response in both crisis scenarios, but also included personal, conversational-style quotes from the CEOs of the organizations dealing with crises. This finding builds on the growing body of research within SCCT of how small gestures, such as CEO visibility and the tone of crisis responses, can have a positive influence on outside support for an organization.

Additionally, a Third-Person Effect was observed across all mediums. This provides more validation for the existence of this phenomenon, but more importantly, the findings indicated a difference in perceptions when proximity was considered. TPE was reduced when participants considered their friends and families versus "others," which indicates that future research should continue to examine perceptions of who specifically might be affected by messages.

The presence of a third-person perceptual gap also predicted a decrease in intentions for social network sharing of crisis messages. This is consistent with previous studies exploring the theme of censorship as it relates to Third-Person Effect, but also provides a way crisis communicators can pre-test messages to increase the likelihood they are shared online.

Overall, this study demonstrates the viability of using infographics for crisis communication purposes. In some situations, infographics were perceived as equivalent to or preferred more than other forms of communication. This implication points to a need for crisis communicators to have the visual and analytical literacy necessary to coordinate information designers and should also nudge communications educators to incorporate data analysis and design into their curriculums. Doing so will require an increase in mathematical knowledge among students and practitioners, resulting in the ability to create more persuasive messages.

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Appendix A: Stimuli

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Preservatives missing from soft drinks

By Steve Hargreaves @hargrevesCNN June 2, 2014: 6:33 AM ET

PEPSICO

Five brands are affected, including Pepsi, Diet Pepsi and Mountain Dew.

New York [CNN Money]
PepsiCo released a statement today that more than 300,000 bottles of its soft drinks are missing the preservatives. The affected products include Pepsi, Diet Pepsi, Mountain Dew, Sierra Mist and Mug Root Beer in 2 liter and 16.9 ounce bottles.

Preservatives are used to extend shelf life and prevent growth of microorganisms. Indra Nooyi, Chairman and CEO of Pepsico, said this happened due to an employee being improperly trained in the mixing process.

So far, there have been 57 reports of illness believed to be connected to the affected soft drinks in New York, Kentucky, Arizona, California and Florida.

Anyone who has partially used bottles of these products purchased between March and April should dispose of them. Unused bottles may be returned for a full refund. ■

Figure A1. Pepsico news story with deny crisis response strategy.

Preservatives missing from soft drinks

By Steve Hargreaves @hargrevesCNN June 2, 2014: 6:33 AM ET

Five brands are affected, including Pepsi, Diet Pepsi and Mountain Dew.

New York [CNN Money]
PepsiCo released a statement today that more than 300,000 bottles of its soft drinks are missing the preservatives. The affected products include Pepsi, Diet Pepsi, Mountain Dew, Sierra Mist and Mug Root Beer in 2 liter and 16.9 ounce bottles.

Preservatives are used in these products to extend shelf life and prevent growth of microorganisms. Indra Nooyi, Chairman and CEO of Pepsico, said that most people who consume these drinks will be fine, but if microorganisms are present, some may experience a mildly upset stomach.

So far, there have been 57 reports of illness believed to be connected to the affected soft drinks in New York, Kentucky, Arizona, California and Florida.

Anyone who has partially used bottles of these products purchased between March and April should dispose of them. Unused bottles may be returned for a full refund. ▪

Figure A2. Pepsico news story with diminish crisis response strategy.

Preservatives missing from soft drinks

By Steve Hargreaves @hargrevesCNN June 2, 2014: 6:33 AM ET

PEPSICO

Five brands are affected, including Pepsi, Diet Pepsi and Mountain Dew.

New York [CNN Money]
PepsiCo is recalling more than 300,000 bottles of soft drinks after a manufacturing facility left out the preservatives. The affected products include Pepsi, Diet Pepsi, Mountain Dew, Sierra Mist and Mug Root Beer in 2 liter and 16.9 ounce bottles.

Preservatives are used in these products to extend shelf life and prevent growth of microorganisms. Indra Nooyi, Chairman and CEO of Pepsico, said the products are being voluntarily recalled and that the company is deeply sorry for anyone affected. She added that steps were already being made to ensure this doesn't happen again.

So far, there have been 57 reports of illness believed to be connected to the affected soft drinks in New York, Kentucky, Arizona, California and Florida.

Anyone who has partially used bottles of these products purchased between March and April should dispose of them. Unused bottles may be returned for a full refund. ■

Figure A3. Pepsico news story with rebuild crisis response strategy.

Figure A4. Pepsico infographic with deny crisis response strategy.

Figure A5. Pepsico infographic with diminish crisis response strategy.

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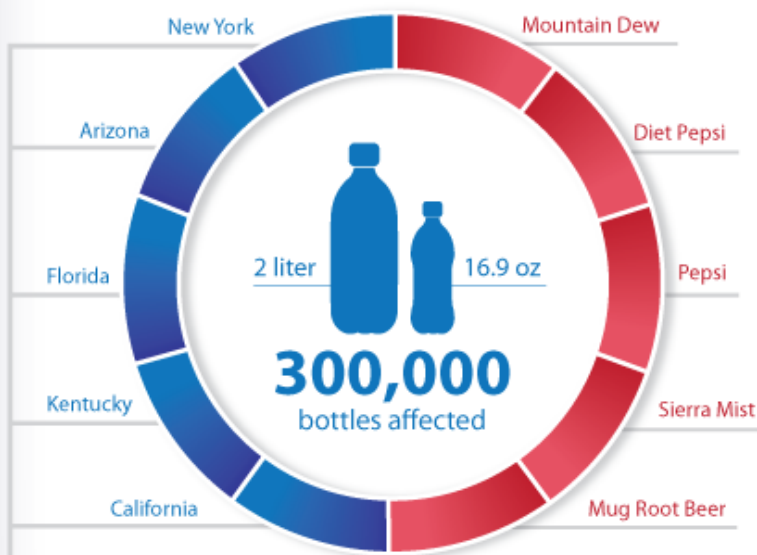
Figure A6. Pepsico infographic with rebuild crisis response strategy.

Figure A7. Screenshot from a Pepsico crisis news video. The same reporter and background were used for each video, with the same text changed as what is listed in Figures A1 – A3.

Millions of Facebook accounts hacked

By Steve Hargreaves @hargrevesCNN June 2, 2014: 6:33 AM ET

facebook ®

The Facebook payments system was targeted by hackers.

New York [CNN Money]
Facebook released a statement today that its servers containing credit card data were hacked by an unknown source. Approximately 7 million accounts may have been accessed.

The hackers used an unknown security flaw in the Facebook payments system, which allows users to make purchases within apps and games. Mark Zuckerberg, founder and CEO of Facebook, said Facebook Security had traced the breach to a location outside the United States. He declined to provide any further details.

The company had a similar situation in January when a group of employees visited a developer website that contained malware. Their computers became compromised and hackers were able to access proprietary information.

Facebook has more than 159 million monthly active users in the United States and approximately 27 million people used the Facebook payments system in 2012.

Figure A8. Facebook news story with deny crisis response strategy.

Millions of Facebook accounts hacked

By Steve Hargreaves @hargrevesCNN June 2, 2014: 6:33 AM ET

facebook ®

The Facebook payments system was targeted by hackers.

New York [CNN Money]
Facebook released a statement today that its servers containing credit card data were hacked by an unknown source. Approximately 7 million accounts may have been accessed.

The hackers used an unknown security flaw in the Facebook payments system, which allows users to make purchases within apps and games. Mark Zuckerberg, founder and CEO of Facebook, said the company had fixed the vulnerability within a few hours of the breach and that he's committed to improving its security features even more.

Facebook had a similar situation in January when a group of employees visited a developer website that contained malware. Their computers became compromised and hackers were able to access proprietary information.

Facebook has more than 159 million monthly active users in the United States and approximately 27 million people used the Facebook payments system in 2012.

Figure A9. Facebook news story with diminish crisis response strategy.

CNN Money
A Service of CNN, Fortune & Money

Millions of Facebook accounts hacked

By Steve Hargreaves @hargrevesCNN June 2, 2014: 6:33 AM ET

facebook ®

The Facebook payments system was targeted by hackers.

New York [CNN Money]
Facebook released a statement today that its servers containing credit card data were hacked by an unknown source. Approximately 7 million accounts may have been accessed.

The hackers used an unknown security flaw in the Facebook payments system, which allows users to make purchases within apps and games. Mark Zuckerberg, founder and CEO of Facebook, said he was sorry this occurred and that the flaw was fixed almost immediately. He added that the company would provide free credit protection to the affected users for the next 3 years.

The company had a similar situation in January when a group of employees visited a developer website that contained malware. Their computers became compromised and hackers were able to access proprietary information.

Facebook has more than 159 million monthly active users in the United States and

Figure A10. Facebook news story with rebuild crisis response strategy.

Figure A11. Facebook infographic with deny crisis response strategy.

Figure A12. Facebook infographic with diminish crisis response strategy.

Figure A13. Facebook infographic with rebuild crisis response strategy.

Figure A14. Screenshot from a Facebook crisis news video. The same reporter and background

were used for each video, with the same text changed as what is listed in Figures A8 – A10.

Appendix B: Experiment Questionnaire

Corporate Communications Study

Thank you for participating!

Study Description

This survey is divided into two parts. The first part will require you to watch a news video and then answer a series of questions related to your feelings and beliefs. The second part will involve viewing an information graphic and again answering the same series of questions related to your feelings and beliefs. At the end, you'll be asked four questions about yourself (gender, age range, etc).

Most of the questions in the survey allow a range of seven responses between two extremes. For example, some questions use the phrases "Very Unlikely" and "Very Likely." You may select any of the seven buttons between them to show how extreme your opinion is either direction. Buttons in the middle are equivalent to a neutral response.

The entire survey will take approximately 25 minutes to complete.

At the end of the survey you will receive a unique code that you will need to copy and paste into the Mechanical Turk hit in order to be compensated for your participation. You will also need to paste your Mechanical Turk ID into a box at the end of the survey for verification purposes.

Section I.
Please respond to the following questions about your general activities on the Internet.

1. **Part 1. Please describe how much you post content using the following services: ***
   1=Not at all, 7=All the time
   Mark only one oval per row.

	1	2	3	4	5	6	7
Facebook	◯	◯	◯	◯	◯	◯	◯
Twitter	◯	◯	◯	◯	◯	◯	◯
Pinterest	◯	◯	◯	◯	◯	◯	◯
Snapchat	◯	◯	◯	◯	◯	◯	◯
Wordpress or another blogging platform	◯	◯	◯	◯	◯	◯	◯
Instagram	◯	◯	◯	◯	◯	◯	◯
YouTube	◯	◯	◯	◯	◯	◯	◯
Tumblr	◯	◯	◯	◯	◯	◯	◯
LinkedIn	◯	◯	◯	◯	◯	◯	◯
Google+	◯	◯	◯	◯	◯	◯	◯
Reddit	◯	◯	◯	◯	◯	◯	◯
Amazon product review	◯	◯	◯	◯	◯	◯	◯
Yelp	◯	◯	◯	◯	◯	◯	◯

Section II.

Please answer some questions about Pepsico (soft drink manufacturer).

2. **Part 2. Please answer the following questions based on your viewpoint of Pepsico. ***
   1=Strongly Disagree, 7=Strongly Agree
   Mark only one oval per row.

	1	2	3	4	5	6	7
The organization is friendly.	◯	◯	◯	◯	◯	◯	◯
The organization is stable.	◯	◯	◯	◯	◯	◯	◯
The organization is practical.	◯	◯	◯	◯	◯	◯	◯
The organization is warm.	◯	◯	◯	◯	◯	◯	◯
The organization puts the care of its customers as its top priority.	◯	◯	◯	◯	◯	◯	◯
The organization looks like it has strong prospects for future growth.	◯	◯	◯	◯	◯	◯	◯
The organization is well-managed.	◯	◯	◯	◯	◯	◯	◯
The organization is socially responsible.	◯	◯	◯	◯	◯	◯	◯
The organization is financially sound.	◯	◯	◯	◯	◯	◯	◯
I am likely to recommend this organization's products to a friend.	◯	◯	◯	◯	◯	◯	◯
I am likely to use this organization's products.	◯	◯	◯	◯	◯	◯	◯
I am likely to request more information from this organization.	◯	◯	◯	◯	◯	◯	◯

Part 3. Please rate your perceived credibility of Pepsico by selecting the answer that best reflects your opinion.

3. **3.1 The organization is: ***
   Mark only one oval.

	1	2	3	4	5	6	7	
Unreliable	◯	◯	◯	◯	◯	◯	◯	Reliable

4. **3.2 The organization is: ***
   Mark only one oval.

	1	2	3	4	5	6	7	
Unintelligent	◯	◯	◯	◯	◯	◯	◯	Intelligent

5. **3.3 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Novice	◯	◯	◯	◯	◯	◯	◯	Expert

6. **3.4 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Dishonest	◯	◯	◯	◯	◯	◯	◯	Honest

7. **3.5 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Awful	◯	◯	◯	◯	◯	◯	◯	Sincere

8. **3.6 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Sinful	◯	◯	◯	◯	◯	◯	◯	Virtuous

Section III.

Please view the news video below, then begin the questions that follow. The story will open in a new window:

http://youtu.be/lAWlSsbCsFo

Part 4. Please answer the following questions based on the story.

9. **4.1 To me, this story is: ***

Mark only one oval.

	1	2	3	4	5	6	7	
Unimportant	( )	( )	( )	( )	( )	( )	( )	Important

10. **4.2 To me, this story is: ***

Mark only one oval.

	1	2	3	4	5	6	7	
Irrelevant	( )	( )	( )	( )	( )	( )	( )	Relevant

11. **4.3 To me, this story is: ***

Mark only one oval.

	1	2	3	4	5	6	7	
Boring	( )	( )	( )	( )	( )	( )	( )	Interesting

12. **4.4 To me, this story is: ***

Mark only one oval.

	1	2	3	4	5	6	7	
Not meaningful	( )	( )	( )	( )	( )	( )	( )	Meaningful

13. **4.5 To me, this story is: ***

Mark only one oval.

	1	2	3	4	5	6	7	
Worthless	( )	( )	( )	( )	( )	( )	( )	Valuable

Part 5. Please select the button for each adjective that best describes your feelings while you were experiencing the story.

14. **When I was experiencing the story, I felt: ***
1=Not at all, 7=Very much
Mark only one oval per row.

	1	2	3	4	5	6	7
Interested	◯	◯	◯	◯	◯	◯	◯
Mad	◯	◯	◯	◯	◯	◯	◯
Afraid	◯	◯	◯	◯	◯	◯	◯
Worried	◯	◯	◯	◯	◯	◯	◯
Delighted	◯	◯	◯	◯	◯	◯	◯
Happy	◯	◯	◯	◯	◯	◯	◯
Anxious	◯	◯	◯	◯	◯	◯	◯
Scared	◯	◯	◯	◯	◯	◯	◯
Indifferent	◯	◯	◯	◯	◯	◯	◯
Joyful	◯	◯	◯	◯	◯	◯	◯
Nervous	◯	◯	◯	◯	◯	◯	◯
Enraged	◯	◯	◯	◯	◯	◯	◯
Sad	◯	◯	◯	◯	◯	◯	◯
Downhearted	◯	◯	◯	◯	◯	◯	◯
Discouraged	◯	◯	◯	◯	◯	◯	◯
Fearful	◯	◯	◯	◯	◯	◯	◯
Angry	◯	◯	◯	◯	◯	◯	◯
Concerned	◯	◯	◯	◯	◯	◯	◯
Annoyed	◯	◯	◯	◯	◯	◯	◯
Unsatisfied	◯	◯	◯	◯	◯	◯	◯
Alarmed	◯	◯	◯	◯	◯	◯	◯
Agitated	◯	◯	◯	◯	◯	◯	◯
Sympathetic toward the company	◯	◯	◯	◯	◯	◯	◯
Empathetic for the people who suffered	◯	◯	◯	◯	◯	◯	◯

Part 6. Please indicate your response to the following questions:

15. **6.1. What was the central message of the story? ***
Mark only one oval.

◯ A Pepsico facility is causing water pollution.

◯ A Pepsico employee poisoned some of its products.

◯ Preservatives were not included in some Pepsico products.

◯ Dangerous chemicals were found in some Pepsico products.

16. **6.2 How would you describe the way the organization responded to the event?** *

Mark only one oval.

( ) The organization denied anything severe is wrong.

( ) The organization blamed someone else.

( ) The organization accepted responsibility.

( ) The organization didn't provide a response.

17. **6.3 How would you describe the severity of the event in this story?** *

Mark only one oval.

	1	2	3	4	5	6	7	
Minor problem for the organization	( )	( )	( )	( )	( )	( )	( )	Major crisis for the organization

18. **6.4 Overall the organization's response to the event was:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Much worse than expected	( )	( )	( )	( )	( )	( )	( )	Much better than expected

---

Part 7. Please respond to the following questions by selecting the answer that best reflects your opinions of the story.

19. **7.1 The story is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Hard to understand	( )	( )	( )	( )	( )	( )	( )	Easy to undertand

20. **7.2 The story is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Not organized well	( )	( )	( )	( )	( )	( )	( )	Organized well

21. **7.3 The story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Complicated	◯	◯	◯	◯	◯	◯	◯	Simple

22. **Part 8. Please respond to the following statements by selecting the answer that best reflects your attitude after experiencing the story.** *
1 = Strongly Disagree, 7 = Strongly Agree
Mark only one oval per row.

	1	2	3	4	5	6	7
I like the way information is presented.	◯	◯	◯	◯	◯	◯	◯
The source of the information is credible.	◯	◯	◯	◯	◯	◯	◯
The information is presented in a professional way.	◯	◯	◯	◯	◯	◯	◯
I'm likely to remember the information based on the way it was presented.	◯	◯	◯	◯	◯	◯	◯

Since experiencing the story, please use the following questions to report your perceptions of the organization.

23. **Part 9. Please answer the following questions based on your viewpoint of Pepsico.** *
1=Strongly Disagree, 7=Strongly Agree
Mark only one oval per row.

	1	2	3	4	5	6	7
The organization is friendly.	◯	◯	◯	◯	◯	◯	◯
The organization is stable.	◯	◯	◯	◯	◯	◯	◯
The organization is practical.	◯	◯	◯	◯	◯	◯	◯
The organization is warm.	◯	◯	◯	◯	◯	◯	◯
The organization puts the care of its customers as its top priority.	◯	◯	◯	◯	◯	◯	◯
The organization looks like it has strong prospects for future growth.	◯	◯	◯	◯	◯	◯	◯
The organization is well-managed.	◯	◯	◯	◯	◯	◯	◯
The organization is socially responsible.	◯	◯	◯	◯	◯	◯	◯
The organization is financially sound.	◯	◯	◯	◯	◯	◯	◯
I am likely to recommend this organization's products to a friend.	◯	◯	◯	◯	◯	◯	◯
I am likely to use this organization's products.	◯	◯	◯	◯	◯	◯	◯
I am likely to request more information from this organization.	◯	◯	◯	◯	◯	◯	◯

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Part 10. Please rate your perceived credibility of Pepsico by selecting the answer that best reflects your opinion.

24. **10.1 The organization is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Unreliable	◯	◯	◯	◯	◯	◯	◯	Reliable

25. **10.2 The organization is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Unintelligent	◯	◯	◯	◯	◯	◯	◯	Intelligent

26. **10.3 The organization is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Novice	◯	◯	◯	◯	◯	◯	◯	Expert

27. **10.4 The organization is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Dishonest	◯	◯	◯	◯	◯	◯	◯	Honest

28. **10.5 The organization is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Awful	◯	◯	◯	◯	◯	◯	◯	Sincere

29. **10.6 The organization is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Sinful	◯	◯	◯	◯	◯	◯	◯	Virtuous

Part 11. Please rate your observations below.

Based on the reaction from Pepsico and considering the severity of the event depicted, please respond to the following question. Sometimes people using Mechanical Turk don't always pay attention to the directions for every item closely, so researchers include questions to make sure whoever participates in a study is actually reading the questions. Thus, it is important that you select "No title was provided" for Part 12 even though CEO is the correct answer. Thank you for paying attention.

30. **Part 12. Who was quoted in the story as responding to the event?** *

Mark only one oval.

◯ The CEO

◯ The CFO

◯ The VP of Communications

◯ No title was provided

Part 13. Please indicate how you would perceive the influence of what happened in the story.

31. **13.1 How much do you think you were influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

32. **13.2 How much do you think other people like you would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

33. **13.3 How much do you think your family would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

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34. **13.4 How much do you think your friends would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

35. **13.5 How much do you think the users of Pepsico products would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

36. **13.6 How much do you think the competitors of Pepsico would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

37. **13.7 How much do you think business partners of Pepsico would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

38. **13.8 How much do you think residents of your city or town would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

39. **13.9 How much do you think residents in your state would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

40. **13.10 How much do you think others in general would be influenced by the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

Part 14. Please indicate your response to the following questions.

41. **14.1 The extent to which I thought about the story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Very little	◯	◯	◯	◯	◯	◯	◯	Very much

42. **14.2 The time I spent thinking about the story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Very little	◯	◯	◯	◯	◯	◯	◯	Very much

43. **14.3 The amount of attention I paid to the story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Very little	◯	◯	◯	◯	◯	◯	◯	Very much

Part 15. Please indicate the likelihood of the following behaviors after experiencing the story.

44. **15.1 If you viewed this message online, how likely would you be to leave a comment under the story?** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not likely	◯	◯	◯	◯	◯	◯	◯	Very likely

133

45. **15.2 If you were to leave a comment under the story, how would it be slanted?** *

Mark only one oval.

	1	2	3	4	5	6	7	
Negatively	◯	◯	◯	◯	◯	◯	◯	Positively

46. **15.3 On a normal day, how likely would you be to share this story using some form of social media?** *

Mark only one oval.

	1	2	3	4	5	6	7	
Not likely	◯	◯	◯	◯	◯	◯	◯	Very likely

47. **15.4 Considering the items on the following list, how likely would you be to use each one to share this story?** *

1=Not likely, 7=Very likely

Mark only one oval per row.

	1	2	3	4	5	6	7
Facebook	◯	◯	◯	◯	◯	◯	◯
Twitter	◯	◯	◯	◯	◯	◯	◯
Wordpress or another blogging platform	◯	◯	◯	◯	◯	◯	◯
Tumblr	◯	◯	◯	◯	◯	◯	◯
LinkedIn	◯	◯	◯	◯	◯	◯	◯
Google+	◯	◯	◯	◯	◯	◯	◯
Reddit	◯	◯	◯	◯	◯	◯	◯
Other service not listed	◯	◯	◯	◯	◯	◯	◯

Part 16. This is a check to ensure a human is completing the questionnaire.

134

48. **16.1 Based on the above image, pick the closest answer to the truth. ***
Mark only one oval.

- ( ) The cat is smelling a flower.
- ( ) The record is playing a cat.
- ( ) The cat is facing the turntable.
- ( ) You can hear the music the cat is making.

In the following sections and parts, you will be asked to answer the same set of questions from the previous pages, but for a different organization and situation.

Section IV.

Please answer some questions about Facebook.

49. **Part 17. Please answer the following questions based on your viewpoint of Facebook. ***
1=Strongly Disagree, 7=Strongly Agree
Mark only one oval per row.

	1	2	3	4	5	6	7
The organization is friendly.	( )	( )	( )	( )	( )	( )	( )
The organization is stable.	( )	( )	( )	( )	( )	( )	( )
The organization is practical.	( )	( )	( )	( )	( )	( )	( )
The organization is warm.	( )	( )	( )	( )	( )	( )	( )
The organization puts the care of its customers as its top priority.	( )	( )	( )	( )	( )	( )	( )
The organization looks like it has strong prospects for future growth.	( )	( )	( )	( )	( )	( )	( )
The organization is well-managed.	( )	( )	( )	( )	( )	( )	( )
The organization is socially responsible.	( )	( )	( )	( )	( )	( )	( )
The organization is financially sound.	( )	( )	( )	( )	( )	( )	( )
I am likely to recommend this organization's products to a friend.	( )	( )	( )	( )	( )	( )	( )
I am likely to use this organization's products.	( )	( )	( )	( )	( )	( )	( )
I am likely to request more information from this organization.	( )	( )	( )	( )	( )	( )	( )

Part 18. Please rate your perceived credibility of Facebook by selecting the answer that best reflects your opinion.

135

50. **18.1 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Unreliable	◯	◯	◯	◯	◯	◯	◯	Reliable

51. **18.2 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Unintelligent	◯	◯	◯	◯	◯	◯	◯	Intelligent

52. **18.3 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Novice	◯	◯	◯	◯	◯	◯	◯	Expert

53. **18.4 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Dishonest	◯	◯	◯	◯	◯	◯	◯	Honest

54. **18.5 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Awful	◯	◯	◯	◯	◯	◯	◯	Sincere

55. **18.6 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Sinful	◯	◯	◯	◯	◯	◯	◯	Virtuous

Section V.

Please view the information graphic below, then begin the questions that follow. The story will open in a

new window:

s3.amazonaws.com/research2.com/stimuli/InfographicFacebook1.png

---

Part 19. Please answer the following questions based on the story you just experienced.

56. **19.1 To me, this story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Unimportant	◯	◯	◯	◯	◯	◯	◯	Important

57. **19.2 To me, this story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Irrelevant	◯	◯	◯	◯	◯	◯	◯	Relevant

58. **19.3 To me, this story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Boring	◯	◯	◯	◯	◯	◯	◯	Interesting

59. **19.4 To me, this story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Not meaningful	◯	◯	◯	◯	◯	◯	◯	Meaningful

60. **19.5 To me, this story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Worthless	◯	◯	◯	◯	◯	◯	◯	Valuable

137

Part 20. Please select the button for each adjective that best describes your feelings while you were experiencing the story.

61. **When I was experiencing the story, I felt:** *
    1=Not at all, 7=Very much
    Mark only one oval per row.

	1	2	3	4	5	6	7
Interested	◯	◯	◯	◯	◯	◯	◯
Mad	◯	◯	◯	◯	◯	◯	◯
Afraid	◯	◯	◯	◯	◯	◯	◯
Worried	◯	◯	◯	◯	◯	◯	◯
Delighted	◯	◯	◯	◯	◯	◯	◯
Happy	◯	◯	◯	◯	◯	◯	◯
Anxious	◯	◯	◯	◯	◯	◯	◯
Scared	◯	◯	◯	◯	◯	◯	◯
Indifferent	◯	◯	◯	◯	◯	◯	◯
Joyful	◯	◯	◯	◯	◯	◯	◯
Nervous	◯	◯	◯	◯	◯	◯	◯
Enraged	◯	◯	◯	◯	◯	◯	◯
Sad	◯	◯	◯	◯	◯	◯	◯
Downhearted	◯	◯	◯	◯	◯	◯	◯
Discouraged	◯	◯	◯	◯	◯	◯	◯
Fearful	◯	◯	◯	◯	◯	◯	◯
Angry	◯	◯	◯	◯	◯	◯	◯
Concerned	◯	◯	◯	◯	◯	◯	◯
Annoyed	◯	◯	◯	◯	◯	◯	◯
Unsatisfied	◯	◯	◯	◯	◯	◯	◯
Alarmed	◯	◯	◯	◯	◯	◯	◯
Agitated	◯	◯	◯	◯	◯	◯	◯
Sympathetic toward the company	◯	◯	◯	◯	◯	◯	◯
Empathetic for the people who suffered	◯	◯	◯	◯	◯	◯	◯

Part 21. Please indicate your response to the following questions:

62. **21.1. What was the central message of the story?** *
    Mark only one oval.

    ◯ Facebook provided personal data about its users to government agencies.

    ◯ The Facebook payments system was breached by hackers.

    ◯ Facebook violated patent laws by using proprietary code in an app.

    ◯ A Facebook employee posted illicit images on the corporate blog.

63. **21.2 How would you describe the way the organization responded to the event? ***

Mark only one oval.

- ◯ The organization denied anything severe is wrong.
- ◯ The organization blamed someone else.
- ◯ The organization accepted responsibility.
- ◯ The organization didn't provide a response.

64. **21.3 How would you describe the severity of the event in this story? ***

Mark only one oval.

	1	2	3	4	5	6	7	
Minor problem for the organization	◯	◯	◯	◯	◯	◯	◯	Major crisis for the organization

65. **21.4 Overall the organization's response to the event was: ***

Mark only one oval.

	1	2	3	4	5	6	7	
Much worse than expected	◯	◯	◯	◯	◯	◯	◯	Much better than expected

---

Part 22. Please respond to the following questions by selecting the answer that best reflects your opinions of the story.

66. **22.1 The story is: ***

Mark only one oval.

	1	2	3	4	5	6	7	
Hard to understand	◯	◯	◯	◯	◯	◯	◯	Easy to undertand

67. **22.2 The story is: ***

Mark only one oval.

	1	2	3	4	5	6	7	
Not organized well	◯	◯	◯	◯	◯	◯	◯	Organized well

68. **22.3 The story is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Complicated	◯	◯	◯	◯	◯	◯	◯	Simple

69. **Part 23. Please respond to the following statements by selecting the answer that best reflects your attitude after experiencing the story.** *
1 = Strongly Disagree, 7 = Strongly Agree
Mark only one oval per row.

	1	2	3	4	5	6	7
I like the way information is presented.	◯	◯	◯	◯	◯	◯	◯
The source of the information is credible.	◯	◯	◯	◯	◯	◯	◯
The information is presented in a professional way.	◯	◯	◯	◯	◯	◯	◯
I'm likely to remember the information based on the way it was presented.	◯	◯	◯	◯	◯	◯	◯

Since experiencing the story, please use the following questions to report your perceptions of the organization.

70. **Part 24. Please answer the following questions based on your viewpoint of Facebook.** *
1=Strongly Disagree, 7=Strongly Agree
Mark only one oval per row.

	1	2	3	4	5	6	7
The organization is friendly.	◯	◯	◯	◯	◯	◯	◯
The organization is stable.	◯	◯	◯	◯	◯	◯	◯
The organization is practical.	◯	◯	◯	◯	◯	◯	◯
The organization is warm.	◯	◯	◯	◯	◯	◯	◯
The organization puts the care of its customers as its top priority.	◯	◯	◯	◯	◯	◯	◯
The organization looks like it has strong prospects for future growth.	◯	◯	◯	◯	◯	◯	◯
The organization is well-managed.	◯	◯	◯	◯	◯	◯	◯
The organization is socially responsible.	◯	◯	◯	◯	◯	◯	◯
The organization is financially sound.	◯	◯	◯	◯	◯	◯	◯
I am likely to recommend this organization's products to a friend.	◯	◯	◯	◯	◯	◯	◯
I am likely to use this organization's products.	◯	◯	◯	◯	◯	◯	◯
I am likely to request more information from this organization.	◯	◯	◯	◯	◯	◯	◯

Part 25. Please rate your perceived credibility of Facebook by selecting the answer that best reflects your opinion.

71. **25.1 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Unreliable	◯	◯	◯	◯	◯	◯	◯	Reliable

72. **25.2 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Unintelligent	◯	◯	◯	◯	◯	◯	◯	Intelligent

73. **25.3 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Novice	◯	◯	◯	◯	◯	◯	◯	Expert

74. **25.4 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Dishonest	◯	◯	◯	◯	◯	◯	◯	Honest

75. **25.5 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Awful	◯	◯	◯	◯	◯	◯	◯	Sincere

76. **25.6 The organization is:** *
Mark only one oval.

	1	2	3	4	5	6	7	
Sinful	◯	◯	◯	◯	◯	◯	◯	Virtuous

141

Part 26. Please rate your observations below.

Based on the reaction from Facebook and considering the severity of the event depicted, please respond to the following question. Sometimes people using Mechanical Turk don't always pay attention to the directions for every item closely, so researchers include questions to make sure whoever participates in a study is actually reading the questions. Thus, it is important that you select "No title was provided" for Part 27 even though CEO is the correct answer. Thank you for paying attention.

77. **Part 27. Who was quoted in the story as responding to the event?** *

Mark only one oval.

( ) The CEO

( ) The CFO

( ) The VP of Communications

( ) No title was provided

Part 28. Please indicate how you would perceive the influence of what happened in the story.

78. **28.1 How much do you think you were influenced by the story?** *

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	( )	( )	( )	( )	( )	( )	( )	Very much

79. **28.2 How much do you think other people like you would be influenced by the story?** *

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	( )	( )	( )	( )	( )	( )	( )	Very much

80. **28.3 How much do you think your family would be influenced by the story?** *

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	( )	( )	( )	( )	( )	( )	( )	Very much

142

81. **28.4 How much do you think your friends would be influenced by the story? ***

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

82. **28.5 How much do you think users of Facebook would be influenced by the story? ***

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

83. **28.6 How much do you think the competitors of Facebook would be influenced by the story? ***

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

84. **28.7 How much do you think business partners of Facebook would be influenced by the story? ***

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

85. **28.8 How much do you think residents of your city or town would be influenced by the story? ***

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

86. **28.9 How much do you think residents in your state would be influenced by the story? ***

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	◯	◯	◯	◯	◯	◯	◯	Very much

143

87. **28.10 How much do you think others in general would be influenced by the story?** *

Mark only one oval.

	1	2	3	4	5	6	7	
Not at all	⭕	⭕	⭕	⭕	⭕	⭕	⭕	Very much

Part 29. Please indicate your response to the following questions.

88. **29.1 The extent to which I thought about the story is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Very little	⭕	⭕	⭕	⭕	⭕	⭕	⭕	Very much

89. **29.2 The time I spent thinking about the story is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Very little	⭕	⭕	⭕	⭕	⭕	⭕	⭕	Very much

90. **29.3 The amount of attention I paid to the story is:** *

Mark only one oval.

	1	2	3	4	5	6	7	
Very little	⭕	⭕	⭕	⭕	⭕	⭕	⭕	Very much

Part 30. Please indicate the likelihood of the following behaviors after experiencing the story.

91. **30.1 If you viewed this message online, how likely would you be to leave a comment under the story?** *

Mark only one oval.

	1	2	3	4	5	6	7	
Not likely	⭕	⭕	⭕	⭕	⭕	⭕	⭕	Very likely

144

92. **30.2 If you were to leave a comment under the story, how would it be slanted? ***
    Mark only one oval.

	1	2	3	4	5	6	7	
Negatively	◯	◯	◯	◯	◯	◯	◯	Positively

93. **30.3 On a normal day, how likely would you be to share this story using some form of social media? ***
    Mark only one oval.

	1	2	3	4	5	6	7	
Not likely	◯	◯	◯	◯	◯	◯	◯	Very likely

94. **30.4 Considering the items on the following list, how likely would you be to use each one to share this story? ***
    1=Not likely, 7=Very likely
    Mark only one oval per row.

	1	2	3	4	5	6	7
Facebook	◯	◯	◯	◯	◯	◯	◯
Twitter	◯	◯	◯	◯	◯	◯	◯
Wordpress or another blogging platform	◯	◯	◯	◯	◯	◯	◯
Tumblr	◯	◯	◯	◯	◯	◯	◯
LinkedIn	◯	◯	◯	◯	◯	◯	◯
Google+	◯	◯	◯	◯	◯	◯	◯
Reddit	◯	◯	◯	◯	◯	◯	◯
Other service not listed	◯	◯	◯	◯	◯	◯	◯

95. **Part 31. Please include any comments, complaints, compliments or other thoughts you have. If there is nothing you would like to add, you may leave this area blank.**

    ....

    ....

    ....

    ....

    ....

Part 32. Demographic information

96. **32.1 What is your gender? ***

Mark only one oval.

◯ Male

◯ Female

97. **32.2 Where in the USA are you located? ***

Mark only one oval.

◯ Alabama

◯ Alaska

◯ Arizona

◯ Arkansas

◯ California

◯ Colorado

◯ Connecticut

◯ Delaware

◯ Florida

◯ Georgia

◯ Hawaii

◯ Idaho

◯ Illinois

◯ Indiana

◯ Iowa

◯ Kansas

◯ Kentucky

◯ Louisiana

◯ Maine

◯ Maryland

◯ Massachusetts

◯ Michigan

◯ Minnesota

◯ Mississippi

◯ Missouri

◯ Montana

◯ Nebraska

◯ Nevada

◯ New Hampshire

◯ New Jersey

◯ New Mexico

○ New York
○ North Carolina
○ North Dakota
○ Ohio
○ Oklahoma
○ Oregon
○ Pennsylvania
○ Rhode Island
○ South Carolina
○ South Dakota
○ Tennessee
○ Texas
○ Utah
○ Vermont
○ Virginia
○ Washington
○ West Virginia
○ Wisconsin
○ Wyoming
○ Other: ....

98. **32.3 In which range is your Age?** *

Mark only one oval.

○ 18-24
○ 25-34
○ 35-44
○ 45-54
○ 55-64
○ 65+

99. **32.4 What is the highest level of education you have completed?** *
Mark only one oval.

- ( ) some high school
- ( ) high school graduate
- ( ) some college
- ( ) trade/technical/vocational training
- ( ) college graduate
- ( ) some postgraduate work
- ( ) post graduate degree

Section VI.

Thank you for taking the time to complete this survey. The crises depicted were completely fictional and all materials, including quotes from the organizations, were fabricated by the researcher. The data collected from this study will be used to extend current knowledge of consumer reactions to crisis communications response strategies used by corporations.

CK492GG1692VNZ506

You will find the unique code needed to get paid posted above this text. Please copy and paste it into the HIT for Mechanical Turk.

100. ***Please enter your Mechanical Turk ID into the box below for payment verification purposes. Your ID will only be used for payment verification and will be deleted within 7 days of submission:** *

....

*How to find your Mechanical Turk ID

If you need help finding your ID, here is an image demonstrating where it can be found:
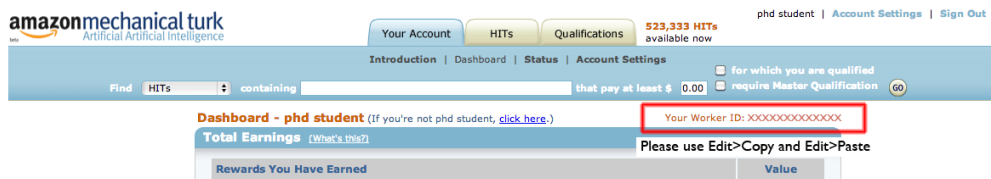
Appendix C: Confounding Variable Control Questionnaire

Corporate Crisis Communications Study

Thank you for participating!

Study Description

For this study, you will be asked to view three different versions of a story for two different organizations. For each version of the story, it will be presented in three different ways: as a news video, an information graphic and a news story. Thus, for each organization, you will see a total of 3 news videos, 3 information graphics and 3 news stories. All of them are very similar, with only minor differences, so close attention is needed to recognize the differences.

After each set of stories, you will complete a short survey followed by four questions asking basic information about yourself.

Most of the questions in the survey allow a range of seven responses between two extremes. For example, some questions use the phrases "Very Unlikely" and "Very Likely." You may select any of the seven buttons between them to show how extreme your opinion is either direction. Buttons in the middle are equivalent to a neutral response.

This survey can be finished in approximately 25 minutes.

Section I.

Please read the news story, view the information graphic and watch the video. When you click any of the links, they will open in new browser widows.

Text: s3.amazonaws.com/research2.com/stimuli/pText1.png
Graphic: s3.amazonaws.com/research2.com/stimuli/InfographicPepsico1.png
Video: http://youtu.be/EOEFgLQWv90

1. **Part 1. Please indicate your perception of the information presented in the video, news release and information graphic** *
1=Strongly disagree, 7=Strongly agree
Mark only one oval per row.

	1	2	3	4	5	6	7
All three sources of information you viewed/read (video, news release and information graphic) included the same information.							
The video included the same information as the news release and information graphic.							
The news release included the same information as the video and information graphic.							
The information graphic included the same information as the news release and video.							
If I only viewed the video, I would not learn anything new by seeing the news release and information graphic.							
If I only read the news release, I would not learn anything new by viewing the video and information graphic.							
If I only viewed the information graphic, I would not learn anything new by viewing the news release and video.							

2. **1.8 Of the three information sources presented, I liked the _____ the most.** *
Mark only one oval.

( ) News video

( ) News story

( ) Information graphic

Section 2.
Please read the news story, view the information graphic and watch the video. When you click any of the links, they will open in new browser widows.

Text: s3.amazonaws.com/research2.com/stimuli/pText2.png
Graphic: s3.amazonaws.com/research2.com/stimuli/InfographicPepsico2.png
Video: http://youtu.be/dhXsS70aoLg

3. **Part 2. Please indicate your perception of the information presented in the video, news release and information graphic** *

1=Strongly disagree, 7=Strongly agree

Mark only one oval per row.

	1	2	3	4	5	6	7
All three sources of information you viewed/read (video, news release and information graphic) included the same information.							
The video included the same information as the news release and information graphic.							
The news release included the same information as the video and information graphic.							
The information graphic included the same information as the news release and video.							
If I only viewed the video, I would not learn anything new by seeing the news release and information graphic.							
If I only read the news release, I would not learn anything new by viewing the video and information graphic.							
If I only viewed the information graphic, I would not learn anything new by viewing the news release and video.							

4. **2.8 Of the three information sources presented, I liked the _____ the most.** *

Mark only one oval.

( ) News video

( ) News story

( ) Information graphic

Section 3.

Please read the news story, view the information graphic and watch the video. When you click any of the links, they will open in new browser widows.

Text: s3.amazonaws.com/research2.com/stimuli/pText3.png
Graphic: s3.amazonaws.com/research2.com/stimuli/InfographicPepsico3.png
Video: http://youtu.be/lAWISsbCsFo

5. **Part 3. Please indicate your perception of the information presented in the video, news release and information graphic** *

1=Strongly disagree, 7=Strongly agree

Mark only one oval per row.

	1	2	3	4	5	6	7
All three sources of information you viewed/read (video, news release and information graphic) included the same information.	◯	◯	◯	◯	◯	◯	◯
The video included the same information as the news release and information graphic.	◯	◯	◯	◯	◯	◯	◯
The news release included the same information as the video and information graphic.	◯	◯	◯	◯	◯	◯	◯
The information graphic included the same information as the news release and video.	◯	◯	◯	◯	◯	◯	◯
If I only viewed the video, I would not learn anything new by seeing the news release and information graphic.	◯	◯	◯	◯	◯	◯	◯
If I only read the news release, I would not learn anything new by viewing the video and information graphic.	◯	◯	◯	◯	◯	◯	◯
If I only viewed the information graphic, I would not learn anything new by viewing the news release and video.	◯	◯	◯	◯	◯	◯	◯

6. **3.8 Of the three information sources presented, I liked the _____ the most.** *

Mark only one oval.

◯ News video

◯ News story

◯ Information graphic

Part 4. Please rate your observations below.

Based on the reaction from [organization name] and considering the severity of the event depicted, please respond to the following question. Sometimes people using Mechanical Turk don't always pay attention to the directions for every item closely, so researchers include questions to make sure whoever participates in a study is actually reading the questions. Thus, it is important that you select "No title was provided" for 4.1 even though CEO is the correct answer. Thank you for paying attention.

7. **4.1 Who was quoted in the [information graphic or news story or news video] as responding to the event? ***

Mark only one oval.

( ) The CEO

( ) The CFO

( ) The VP of Communications

( ) No title was provided

Section 4.

Please read the news story, view the information graphic and watch the video. When you click any of the links, they will open in new browser widows.

Text: s3.amazonaws.com/research2.com/stimuli/fbText1.png
Graphic: s3.amazonaws.com/research2.com/stimuli/InfographicFacebook1.png
Video: http://youtu.be/UgtJ_yD-TbQ

8. **Part 5. Please indicate your perception of the information presented in the video, news release and information graphic ***

1=Strongly disagree, 7=Strongly agree

Mark only one oval per row.

	1	2	3	4	5	6	7
All three sources of information you viewed/read (video, news release and information graphic) included the same information.	( )	( )	( )	( )	( )	( )	( )
The video included the same information as the news release and information graphic.	( )	( )	( )	( )	( )	( )	( )
The news release included the same information as the video and information graphic.	( )	( )	( )	( )	( )	( )	( )
The information graphic included the same information as the news release and video.	( )	( )	( )	( )	( )	( )	( )
If I only viewed the video, I would not learn anything new by seeing the news release and information graphic.	( )	( )	( )	( )	( )	( )	( )
If I only read the news release, I would not learn anything new by viewing the video and information graphic.	( )	( )	( )	( )	( )	( )	( )
If I only viewed the information graphic, I would not learn anything new by viewing the news release and video.	( )	( )	( )	( )	( )	( )	( )

9. **5.8 Of the three information sources presented, I liked the _____ the most. ***

   Mark only one oval.

   ( ) News video

   ( ) News story

   ( ) Information graphic

Section 5.

Please read the news story, view the information graphic and watch the video. When you click any of the links, they will open in new browser widows.

Text: s3.amazonaws.com/research2.com/stimuli/fbText2.png
Graphic: s3.amazonaws.com/research2.com/stimuli/InfographicFacebook2.png
Video: http://youtu.be/Lsf6PeeFpi4

10. **Part 6. Please indicate your perception of the information presented in the video, news release and information graphic ***

    1=Strongly disagree, 7=Strongly agree

    Mark only one oval per row.

	1	2	3	4	5	6	7
All three sources of information you viewed/read (video, news release and information graphic) included the same information.	( )	( )	( )	( )	( )	( )	( )
The video included the same information as the news release and information graphic.	( )	( )	( )	( )	( )	( )	( )
The news release included the same information as the video and information graphic.	( )	( )	( )	( )	( )	( )	( )
The information graphic included the same information as the news release and video.	( )	( )	( )	( )	( )	( )	( )
If I only viewed the video, I would not learn anything new by seeing the news release and information graphic.	( )	( )	( )	( )	( )	( )	( )
If I only read the news release, I would not learn anything new by viewing the video and information graphic.	( )	( )	( )	( )	( )	( )	( )
If I only viewed the information graphic, I would not learn anything new by viewing the news release and video.	( )	( )	( )	( )	( )	( )	( )

11. **6.8 Of the three information sources presented, I liked the _____ the most. ***

    Mark only one oval.

    ( ) News video

    ( ) News story

    ( ) Information graphic

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Section 6.

Please read the news story, view the information graphic and watch the video. When you click any of the links, they will open in new browser widows.

Text: s3.amazonaws.com/research2.com/stimuli/fbText3.png
Graphic: s3.amazonaws.com/research2.com/stimuli/InfographicFacebook3.png
Video: http://youtu.be/2_NDErmzT7A

12. **Part 7. Please indicate your perception of the information presented in the video, news release and information graphic** *
    1=Strongly disagree, 7=Strongly agree

    Mark only one oval per row.

	1	2	3	4	5	6	7
All three sources of information you viewed/read (video, news release and information graphic) included the same information.							
The video included the same information as the news release and information graphic.							
The news release included the same information as the video and information graphic.							
The information graphic included the same information as the news release and video.							
If I only viewed the video, I would not learn anything new by seeing the news release and information graphic.							
If I only read the news release, I would not learn anything new by viewing the video and information graphic.							
If I only viewed the information graphic, I would not learn anything new by viewing the news release and video.							

13. **7.8 Of the three information sources presented, I liked the _____ the most.** *
    Mark only one oval.

    ( ) News video

    ( ) News story

    ( ) Information graphic

Part 8. This is a check to ensure a human is completing the questionnaire.

14. **8.1 Based on the above image, pick the closest answer to the truth.** *
   Mark only one oval.

   - ( ) The cat is smelling a flower.
   - ( ) The record is playing a cat.
   - ( ) The cat is facing the turntable.
   - ( ) You can hear the music the cat is making.

Part 9. Demographic information

15. **9.1 What is your gender?** *
   Mark only one oval.

   - ( ) Male
   - ( ) Female

16. **9.2 Where in the USA are you located?** *
   Mark only one oval.

   - ( ) Alabama
   - ( ) Alaska
   - ( ) Arizona
   - ( ) Arkansas
   - ( ) California
   - ( ) Colorado
   - ( ) Connecticut
   - ( ) Delaware
   - ( ) Florida
   - ( ) Georgia
   - ( ) Hawaii

- ◯ Idaho
- ◯ Illinois
- ◯ Indiana
- ◯ Iowa
- ◯ Kansas
- ◯ Kentucky
- ◯ Louisiana
- ◯ Maine
- ◯ Maryland
- ◯ Massachusetts
- ◯ Michigan
- ◯ Minnesota
- ◯ Mississippi
- ◯ Missouri
- ◯ Montana
- ◯ Nebraska
- ◯ Nevada
- ◯ New Hampshire
- ◯ New Jersey
- ◯ New Mexico
- ◯ New York
- ◯ North Carolina
- ◯ North Dakota
- ◯ Ohio
- ◯ Oklahoma
- ◯ Oregon
- ◯ Pennsylvania
- ◯ Rhode Island
- ◯ South Carolina
- ◯ South Dakota
- ◯ Tennessee
- ◯ Texas
- ◯ Utah
- ◯ Vermont
- ◯ Virginia
- ◯ Washington
- ◯ West Virginia

○ Wisconsin

○ Wyoming

○ Other: ....

17. **9.3 In which range is your Age?** *

Mark only one oval.

○ 18-24

○ 25-34

○ 35-44

○ 45-54

○ 55-64

○ 65+

18. **9.4 What is the highest level of education you have completed?** *

Mark only one oval.

○ some high school

○ high school graduate

○ some college

○ trade/technical/vocational training

○ college graduate

○ some postgraduate work

○ post graduate degree

Section 7.

Thank you for taking the time to complete this survey. The crises depicted were completely fictional and all materials, including quotes from the organizations, were fabricated by the researcher. The data collected from this study will be used to extend current knowledge of consumer reactions to crisis communications response strategies used by corporations.

YZ960AA6940XEB253

You will find the unique code needed to get paid posted above this text. Please copy and paste it into the HIT for Mechanical Turk.

19. ***Please enter your Mechanical Turk ID into the box below for payment verification purposes. Your ID will only be used for payment verification and will be deleted within 7 days of submission: ***

....

*How to find your Mechanical Turk ID

If you need help finding your ID, here is an image demonstrating where it can be found:
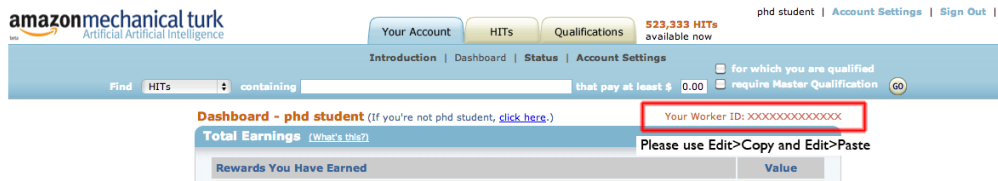
Powered by

Appendix D: Redirect code used in AWS S3

```html
<html>
<head>

<script type = "text/javascript">

function reDirect() {
Link = Math.round(Math.random() * 9);
                Url = new Array;
    Url[0] = "https://docs.google.com/forms/d/1v76vslZKysU5Zf9xQdZxdZCu4Zy8rDOZjqM4Br9U-W0/viewform";
    Url[1] = "https://docs.google.com/forms/d/1cbVL3P5zNqqUAgl3v7kkcZ6QDG7RE6R2v4a-HBWjA-s/viewform";
    Url[2] = "https://docs.google.com/forms/d/1pa-soiJNCFaaVI0x66cd0QeXk7TY09wYeBg_eNJ6HhU/viewform";
    Url[3] = "https://docs.google.com/forms/d/1e0DygDf0No18NOrIhIrQcKi_8LNxicx7FCsHKI_cYSU/viewform";
    Url[4] = "https://docs.google.com/forms/d/1aQnPrjidRpBqOUUuExoqKLQawMA1l6XzUVPtF43xC9k/viewform";
    Url[5] = "https://docs.google.com/forms/d/1ub1fgjYvHDTrD4YGmltfdlU795fpfxV2-mmptN7bISk/viewform";
    Url[6] = "https://docs.google.com/forms/d/1RFdvQfcHJp3x7NuGLsfE6sc_yvF7zLAIR7yG8-Z3w78/viewform";
    Url[7] = "https://docs.google.com/forms/d/1FwiNWkcIilQgixxPv811AaDk8iuhu08P8w_nV22uxiM/viewform";
    Url[8] = "https://docs.google.com/forms/d/1yjOqjnn7xjsoIUEsAtnTGtkl_E3G5zZw2bphw6LF2Tg/viewform";
    Url[9] = "https://docs.google.com/forms/d/1Nc-o-8hIUjJGbpLHatI09JpAm2wtmhElTk8pLLJvv_I/viewform";
window.location = Url[Link];
}

reDirect();

</script>

<meta charset="refresh"
content="2;url=https://docs.google.com/forms/d/1v76vslZKysU5Zf9xQdZxdZCu4Zy8rDOZjqM4Br9U-W0/viewform">

</head>

<body>
```

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<center>Vita</center>

<center>
Sean Michael Stewart
Birthdate: September 15, 1978
Birthplace: Cross Lanes, W.Va.
</center>

Education

Ph.D. Media, Art and Text. Virginia Commonwealth University, Richmond, Virginia. August 2007 – 2014.

Dissertation Title: Visualization, viewer and emotion: An empirical study of cognitive and affective responses to infographics used for crisis communication.

M.A.J. Journalism, Marshall University, Huntington, West Virginia. May 2004. Emphasis: Public Relations.

B.A. Journalism, Marshall University, Huntington, West Virginia. May 2002. Emphasis: Advertising. Minor: Graphic Design.

Teaching Experience

Assistant Professor Nido R. Qubein School of Communication
High Point University, High Point, N.C. August 2014 – present.

Administrative Service
Graduate Coordinator (Aug. 2014 - present).

Courses Taught
Practicum in Publicity Methods (COM 2265): Practical application of theories from Communication courses.

Strategic Message Development for Advertising (COM 3325): An introduction to the principles and practices of developing advertising messages designed to support the marketing of a specific product or service.

Research Methods (COM 4998/5100): Students learn how to review and evaluate quantitative and qualitative research and scholarly publications in addition to creating research studies.

Instructor School of Mass Communications
Virginia Commonwealth University, Richmond, Va. August 2010 – May 2014.
Full-time instructor with four-course schedule.

Courses Taught
Public Relations (MASC 323): includes the basics of public relations, from definition to

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application. Current events and how they relate to PR are discussed.

PR Graphics (MASC 334): an introductory graphic design class that combines tutorials with theories. Students develop a critical eye for layout and design while gaining experience with the Adobe Creative Suite applications.

Story (MASC 204): an advertising course focused on the creation of compelling stories that complement brand images.

Global Communications (MASC 151): explores how communication media and globalization drive each other and how they both impact the nation-state as well as international institutions.

Strategic PR in a Digital Environment (MASC 671): a graduate class that allows students to apply new technologies to a variety of public relations challenges.

Public Relations Research (MASC 425): A communications research class that incorporates a real-world client. Students organize and conduct surveys, focus groups, communications audits and content analyses.

Public Relations Campaigns (MASC 439): Research, planning, communication and evaluation all combined into a course that uses real-world clients.

Administrative Service
Special Assistant to the Director of Graduate Studies: temporary appointment focused on re-branding the online presence of the graduate program and establishing a mentoring network for students (Aug. 2012 – May 2014).

Committee Service
Career Development Advisor search committee member: ad hoc appointment to select an advisor for the School of Mass Communications (Dec. 2012 – Feb. 2013).

Collateral faculty search committee member: ad hoc appointment to select a PR sequence coordinator for the School of Mass Communications (Aug. 2011 – Dec. 2011).

Graduate Committee member: standing appointment within the School of Mass Communications that addresses graduate student policies and procedures (Aug. 2010 – present).

Technology Committee member: standing appointment within the School of Mass Communications that addresses technology issues (Aug. 2010 - May 2012).

Branding & Outreach Committee member: standing appointment within the School of Mass Communications that addresses technology issues (Aug. 2012 - present).

Website Ad Hoc Committee member: coordinated a website redesign for the School of Mass Communications (Aug. 2010 – May 2010).

Adjunct   School of Mass Communications

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| **Professor** | Virginia Commonwealth University, Richmond, Va. August 2009 – June 2010. |

Courses Taught
Public Relations (MASC 323), Digital Public Relations (MASC 431/691).

Additional Responsibilities
School of Mass Communications website maintenance.

| **Graduate Assistant** | School of Mass Communications
Virginia Commonwealth University, Richmond, Va. August 2007 to May 2009. |

Courses Taught
Public Relations (MASC 323), Public Relations Production (MASC 335).

Additional Responsibilities
Alumni Development Assistant, which included the production of alumni newsletters and collateral materials for the School of Mass Communications.

| **Instructor** | W. Page Pitt School of Journalism & Mass Communications
Marshall University, Huntington, West Virginia. August 2004 - May 2007.
Full-time instructor with four-course load, service and advising responsibilities. |

Courses Taught
University Studies (UNI 101): a seminar class focused on introducing new students to Marshall University. The class includes information ranging from study tips to navigating the local area.

Information Gathering & Research (JMC 102): an in-depth research class that includes government documents, scholarly resources, and various online sources in addition to learning and practicing interviewing techniques.

Graphics of Communication (JMC 241): an introductory graphic design class that combines tutorials with theories. Students develop a critical eye for layout and design while gaining experience with the Adobe Creative Suite applications.

Fundamentals of PR (JMC 330): includes the basics of public relations, from definition to application. Current events and how they relate to PR are discussed.

Advertising Layout & Design (JMC 383): a portfolio-building class for advertising majors. Students learn advanced design techniques, discuss design strategies and create both print and online portfolios.

Web Strategies (JMC 461/561): an undergraduate/graduate class that explores how the Internet has impacted all disciplines related to mass communication.

Committee Service
Shirley Reynolds Outstanding Teacher Award Committee: university standing appointment that recognizes the best teachers at Marshall University.

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University Functions Committee: university standing appointment that provides recommendations for graduation commencement speakers and honorary degree recipients.

Management Functions Committee: standing appointment within the School of Journalism & Mass Communications that selects scholarship and award recipients.

New Media Search Committee: Ad hoc appointment that selected a professor to teach New Media in the College of Fine Arts at Marshall University.

Professional Experience

President   Clearidiom, LLC. Huntington, West Virginia.
Advertising and public relations firm. July 2005 to May 2007.
Responsibilities: New account generation, bookkeeping and production of all work for clients.

Marketing Director   Fourth Estate & Third Sector. Huntington, West Virginia.
Journalism fellowship program funded by the John S. and James L. Knight Foundation. August 2004 to May 2007.
Responsibilities: Creation and distribution of newsletters, brochures and E-marketing materials.

Assistant Account Executive   Charles Ryan Associates, Charleston, West Virginia.
Strategic Communications firm. June 2004 - August 2004.
Responsibilities: Assisted management with crisis, stakeholder and client communications within the energy and healthcare sectors.

Graduate Assistant   Marshall University, Huntington, West Virginia.
Journalism & Mass Communications. Fall 2002 – Spring 2004.
Responsibilities: Supervised two Apple computer labs and assisted students learning graphic design.

Communications Intern   Camden Park. Huntington, West Virginia.
Amusement Park. Summer 2003.
Responsibilities: Assisted with planning and implementation of events, created employee newsletters, wrote/distributed radio and news releases, created an employee incentive (retention) program.

Communications Intern   W. Va. State Treasurer's Office. Charleston, West Virginia.
Communications Division. Summer 1999, 2000, 2001 & 2002.
Responsibilities: Spokesperson at fairs and festivals and illustrated two coloring books, "College Smart Kids" and "West Virginia Coloring Book."

Memberships/Community Service

Marshall University Ski Club
Faculty Advisor. Club organized and operated by students. Fall 2006 to Spring 2007.

Tri-State Civic Action Network
Member. Organization dedicated to economic growth in the Tri-State Area (West Virginia, Kentucky, Ohio). Fall 2006 to Fall 2007.

Huntington Regional Film Commission
Graphic design/ Website administrator. Organization that promotes film production and education in the Tri-State Area (West Virginia, Kentucky, Ohio). 2004 to 2007.

Public Relations Society of America
Member. 2004 to 2010.

Honors/Awards

2008: Excellence in Research Award - 3rd place student paper
Arab-US Association for Communication Educators (AUSACE) Conference.

2008: Casio Dream Diggs Contest - 3rd Place (High-tech category)
Contest sponsored by Casio, YouTube and Best Buy.

2005: J-Walk Fundraising Award
Presented to the faculty member whose class raises the most money for the J-Walk, a fundraising activity of the School of Journalism & Mass Communications at Marshall University.

2004: Outstanding Graduate Student Award
Presented to one graduate student by the School of Journalism & Mass Communications at Marshall University.

2004: W. Page Pitt Scholarship Recipient
Presented to multiple students by the School of Journalism & Mass Communications at Marshall University.

2003: JMC Alumni Association Outreach Award
Presented to one student for service that benefits the School of Journalism & Mass Communications Alumni Association.

2003: Outstanding Web Page Designer Award
Presented to one student by the School of Journalism & Mass Communications at Marshall University.

2002: Excellence in Advertising Layout and Design Award
Presented to one student by the School of Journalism & Mass Communications at Marshall University.

2001: Excellence in Advertising Layout and Design Award
Presented by the School of Journalism & Mass Communications at Marshall University.

2001: AAF Vance L. Stickell Internship nominee
Only one student per university may be nominated for this internship.

Presentations, Papers, Exhibitions and Publications

2013: Stewart, S. Verizon Grant Project Overview. Digital Pragmata Lightning Talk. Virginia Commonwealth University, Richmond, VA.

2013: Zhang, Y.; Jin, Y.; Porter, J. & Stewart, S., "Framing Depression: Cultural and Organizational Influence on Coverage of a Public Health Threat And Attribution Of Responsibilities In U.S. News Media," paper delivered at the AEJMC Conference, Washington, D.C., August 2013.

2012: Turk, J.V.; Jin, Y.; Stewart, S.; Kim, J. & Hipple, J.R. "Examining the Interplay of an Organization's Prior Reputation, CEO's Visibility and Immediate Response to a Crisis," *Public Relations Review*. Vol. 38, Issue 4. November 2012.

2011: Turk, J.V.; Jin, Y.; Stewart, S.; Kim, J. & Hipple, J.R., "Examining the Interplay of an Organization's Prior Reputation, CEO's Visibility and Immediate Response to a Crisis," paper delivered at the 14th annual International Public Relations Research Conference, Miami, FL, March 2011.

2009: Media Art and Text Inaugural Exhibition. MATX Gallery, Richmond, Va.
Film title: *Nano and you*

2009: Traversing Geographies. *Working Papers*. Vol. 3, Issue 1. Fall 2009. Produced in collaboration with Smith, J.; Figg, J.; Trever, K.; White, M. & Vickers, P.
Film title: *Intentional Fallacy*

2008: Narrative Shorts Film + Video Festival at California State University. Curated by Jason Tannen. Produced in collaboration with Smith, J.; Figg, J.; Trever, K.; White, M. & Vickers, P.
Film title: *Intentional Fallacy*

2008: Digital Fringe Festival. Melbourne, Australia. Produced in collaboration with Smith, J.; Figg, J.; Trever, K.; White, M. & Vickers, P.
Film title: *Intentional Fallacy*

2008: The One Show Education Festival, Student Exhibit, New York, NY
:30 Advertisement: Heinz Ketchup

2008: Stewart, S. "*Exporting our Memories: Consequences of a Digitally Archived World,*" paper delivered at the AUSACE Conference, Richmond, Va., November 2008.

2006: Marshall University PRSSA Career Development Workshop

Grants

2013: Stewart, S. Principle Investigator for "Building a Communications Technology Future for Virginia," a video series and interactive kiosk project highlighting technologies being utilized in communities across Virginia. $40,000 grant from Verizon.

2013: Stewart, S. Blackboard and other tools were utilized to create an online introductory public relations course capable of serving more than 100 students. $3500 from the Center for Teaching Excellence at Virginia Commonwealth University.