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Proxemic Effects on Information Seeking after the September 11 Attacks

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This research investigated the relationship between proximity to a crisis event and the desire for information to reduce uncertainty. The dataset was collected between two and five days after the terrorist attacks on September 11, 2001. It included 1329 responses from three different cities in the USA. Results indicate that as proximity to a crisis event increases, individuals report significantly higher levels of emotional response. Differences were also found among geographic region as to types of information desired.

Keywords: Proximity; 9/11; Information Seeking; Uncertainty Reduction

On September 11, 2001 (9/11), two hijacked airplanes were intentionally crashed into the World Trade Center in New York City, one plane was crashed into the Pentagon in Washington D.C., and another crashed into a field in Pennsylvania. Images of the second plane crashing into the World Trade Center were broadcast live, as news outlets covered the first in real time. These events comprised the largest terrorist attack in world history.

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Terrorist attacks attract a great deal of media coverage, and thus are given the status as crisis events. Crisis events are those that are specific, surprising, and create high uncertainty and perceived threat (Seeger, Venette, Ulmer, & Sellnow, 2002). Other examples of crises include chemical or nuclear disasters (Bhopal Union Carbide and Three Mile Island); major plane crashes, space exploration catastrophes (Columbia); public health threats such as *E. coli* or the recent hepatitis scare associated with Chi Chi's restaurant chain. Crises are also marked by high levels of potential danger (such as loss of life), fast actions by public officials to counteract the potential threat, and are unanticipated events that throw off the everyday patterns of life.

The events of 9/11 clearly constitute a crisis and have been called "the worst crisis in modern US history," (Seeger, Venette, Ulmer, & Sellnow, 2002, p. 57). Moreover, there was a real threat of more terrorist attacks to follow. It was probably because of this that President George W. Bush responded quickly, stating four hours after the initial attack "[m]ake no mistake, the United States will hunt down those responsible for these cowardly acts" (as cited in Greenberg, 2002, p. xvi). These attacks were unanticipated by most Americans, who lived in the mindset of "those things only happen in other countries."

The very nature of crisis events produces uncertainty in individuals. Uncertainty is an uncomfortable state creating a drive for uncertainty reduction (Berger, 1987). As Berger and Burgoon (1995) explained, one source of uncertainty is the belief that individuals have about the world. Many Americans thought of the nation as safe from foreign terrorism before 9/11. The events of 9/11 created uncertainty concerning these beliefs motivating individuals to seek information to either reinforce these beliefs or reduce the uncertainty. This type of uncertainty can create what Weick (1995) calls a cosmology episode, when individuals suddenly and deeply feel that their universe is no longer a rational, orderly system. Weick (1993) believes statements such as "I've never been here before, I have no idea where I am, and I have no idea who can help me," illustrate the human reaction to these extremely uncertain and threatening events (pp. 634–635). In order for individuals to maintain reason and order in their universe, they seek certainty and predictability. This drive for information and certainty is a consequence of crisis (Berlyne, 1960). The drive to obtain information is especially potent when outcomes involved with the uncertain events could be potentially rewarding or harmful (Heath & Gay, 1997) and in situations where the potential risk is largely or completely uncontrollable (Miller, 1987).

The events of 9/11 produced a great deal of uncertainty, confusion, and lack of predictability. People had not experienced attacks of this magnitude on American soil. Moreover, the events were threatening to physical, emotional and psychological well-being. People were injured and killed. The stock market was shut down and the world's largest economy was jolted. Because the events were potentially very harmful and were uncontrollable, people sought out information concerning the attacks, especially since a great deal of uncertainty existed about additional terrorist attacks.

In general when uncertainty represents potential danger, as is characteristic of crisis, people actively engage in information seeking (Brashers, Neidig, Haas, Dobbs, Cardillo & Russell, 2000). They will seek this information from a variety of sources, and will constantly update their information. Mass media can be expected to be the dominant source (Murch, 1971), possibly because the media are generally thought to be valuable and timely sources of information (Heath, Liao, & Douglas, 1995).

One popular model for how information about risk is sought and processed was created by Griffin, Dunwoody and Neuwirth (1999). This model includes several variables but one that is absent is proximity. This is probably because most risk information studies deal with risks that are community or locally based. However, 9/11 presented a risk that potentially affected all Americans, though they were not all equally close to the actual risk event.

Although there is seemingly no literature on proximity, a somewhat related study casts some light on how it may be related to information seeking in crisis situations. Smith and Wilson (2000) tested proximity as a moderator of children's reactions to news stories. They found that proximity of a crime story did not matter for very young children (6–7 year olds), but, for 10–11 year olds, proximity of a crime led to increased fear and an increased feeling of vulnerability. They cite the fact that younger children are not developed enough to understand proximity. However, older children do, and it leads to greater perceptions of being at risk. This suggests that adults might also feel more at risk when presented with a close threat, leading to more information seeking behavior.

In this article, proximity is conceptually defined as closeness in terms of geographic distance. For this study, Detroit represents a city with high proximity to New York City, and Fargo, North Dakota and Little Rock, Arkansas represent cities with less proximity to New York. People are expected to feel more frightened and more at risk if they live closer to a focal point of a crisis (New York). Thus, the first hypothesis of the article is:

H1: Proximity will be positively related to fright.

As was stated above, as perceptions of uncertainty and risk increases, the desire to seek out information to reduce uncertainty also increases (Berger, 1987). Thus, the second hypothesis is:

H2: Proximity will be positively related to amount of reassuring information sought.

Along with traditional forms of media, new forms of media are increasingly available for information seeking. One medium that may be highly used for this purpose is the Internet. However, crisis information seeking and the Internet has garnered little research attention to date (Jones & Rainie, 2002). Moreover, proximity may impact how useful different types of media are seen as. It is possible that

reassuring information is more available through some media than others. If this is the case, some types of media would be seen as more useful. If not, then there may be no differences. Thus, the following research question is offered:

RQ1: How will proximity affect the perceived usefulness of different types of media used to seek information?

Method

The dataset used for this study was collected within five days after the terrorist events of September 11, 2001. Survey questionnaires were circulated in the cities of Detroit, Michigan; Fargo, North Dakota; and Little Rock, Arkansas. There were 1329 questionnaires used in the dataset; respondents ranged in age from 12 to 61 with a mean of 22.52 (*SD* 7.22). The sample consisted of 686 females (52 percent) and 641 males (48 percent).

Measures

The survey instrument contained a series of measures designed to assess how useful media was after the 9/11 attacks. Respondents were also asked about their emotional and behavioral reactions to the events. Finally, standard social locator items asked about the gender and age of respondents.

Media usefulness was measured by asking subjects how useful TV, radio, the Internet and print media were for disseminating different types of information about the attacks, including items about the scope of the damage, cause of the tragedy, implications of the tragedy, other threats, closures and cancellations, reassuring information from political leaders, reassuring information from religious leaders, who might have been affected, and rescues and survivors. Responses to these items were recorded on a 1 to 5 scale, from “not useful” to 5 “useful.” The nine types of information were assessed for four media types (TV, radio, internet, and print). Scores for each medium were summed and divided to create indices of usefulness for each medium in providing information about the attacks. Reliabilities for these indices were 0.90, 0.95, 0.96, and 0.94, respectively.

Emotional reactions to the attacks were measured through a series of seven 1–5 Likert scale items, with 1 indicating “strongly disagree” and 5 “strongly agree.” The items asked respondents how confused, angry, depressed, frightened, sorrowful, sad, and calm they were.

Results

Hypothesis 1 predicted that individuals in close proximity to the site of the 9/11 attacks would report more fear than those who are further away. Univariate analysis of variance performed on ratings of fright as a function of proximity was significant,

$F(2,1314) = 7.46, p < 0.01$. A Tukey-HSD post-hoc test reveals that there was a significant difference in reported fear ratings between respondents in Detroit ($M = 3.83, SD = 1.15$) and those in Fargo ($M = 3.24, SD = 1.10$), with the Detroit residents reporting more fright than those in Fargo.

Hypothesis 2 predicted that the need for reassuring information following the attacks would be greater for individuals in close proximity to the event than for those further away. This hypothesis was not supported. Omnibus ANOVA tests comparing need for reassuring information based on proximity were significant on both outcome variables; need for reassuring information from religious leaders ($F(2,1319) = 12.33, p < 0.01$) and need for reassuring information from political leaders ($F(2,1319) = 4.83, p < 0.01$). However, Tukey-HSD post-hoc tests reveal that significantly more reassuring information from political leaders was sought by Little Rock respondents ($M = 3.42, SD = 1.06$) than by Detroit respondents ($M = 3.21, SD = 1.10$). Similarly, significantly more reassuring information from religious leaders was sought by Little Rock respondents ($M = 3.00, SD = 1.12$) than by Detroit respondents ($M = 2.70, SD = 1.16$) and Fargo residents ($M = 2.78, SD = 1.00$).

The research question asked about differences in perceived usefulness of various media sources for information as a function of geographic area. Univariate analysis of variance comparisons were significant across all four types of media—TV: $F(2,1167) = 7.12, p < 0.01$; radio: $F(2,1123) = 19.00, p < 0.01$; print: $F(2,1078) = 11.11, p < 0.01$, and the Internet: $F(2,1058) = 12.33, p < 0.01$. The medium perceived as most useful for information in all three areas was television (it was the only medium with mean ratings of greater than four, which it had for all three cities), and Tukey-HSD post hoc analyses show that it was perceived as being significantly more useful by respondents in the Detroit area ($M = 4.27, SD = 0.73$) than by those in Little Rock ($M = 4.05, SD = 1.05$). Radio followed a similar pattern, as it too was rated as significantly more useful by Detroit respondents ($M = 3.32, SD = 1.04$) than by those in Little Rock ($M = 2.74, SD = 1.39$). Looking at print media, Fargo and Detroit residents perceived it as nearly equal in usefulness (Fargo $M = 3.05, SD = 1.29$; Detroit $M = 3.04, SD = 1.19$) and significantly more useful than Little Rock residents ($M = 2.64, SD = 1.49$). Finally, the Internet was perceived as significantly more useful by Fargo ($M = 2.70, SD = 1.27$) and Detroit residents ($M = 2.63, SD = 1.35$) than by Little Rock residents ($M = 2.25, SD = 1.54$). Overall, Little Rock residents found media less useful following the 9/11 attacks than people in either Detroit or Fargo.

Discussion

This investigation examined the way in which proximity influences information seeking after a crisis event. Uncertainty and proximity were expected to be motivating factors in information seeking about the crisis event. It was predicted that individuals in close proximity to the site of the 9/11 attacks would report more fear than those who were further away, and the data was consistent with this prediction. Detroit is

geographically closer to New York and Washington D.C. than Little Rock or Fargo, and respondents in Detroit reported being more frightened than those in Fargo and Little Rock.

It was also predicted that the need for reassuring information following the attacks would be greater for individuals in close proximity to the event than for those further away. The data did not support this. Residents of Little Rock wanted more reassuring information from both political leaders and religious leaders. This may suggest that Little Rock residents felt that they were not in immediate danger from the attacks and were looking for messages that would support this notion. Alternatively, this may be related to cultural elements regarding this area of the country. Little Rock, Arkansas, is referred to as “the buckle of the bible belt.” Often individuals with a strong faith have an external locus of control, believing that events are in the control of God. This may indicate a preference for information from authority figures, which may explain why residents of Little Rock sought information from both political and religious leaders.

The research question asked about differences in perceived usefulness of various media sources for information as a function of geographic area. Residents of Little Rock found the media to be less useful than those in Detroit and Fargo, as noted earlier. This may be related to what types of information Little Rock residents wanted. They generally wanted reassuring information from both political leaders and religious leaders, and if this information was not provided by any of the forms of media, residents might consider the media less useful.

These results are useful for several government agencies, first respondents and emergency managers. The ability of individuals involved in crisis events to correctly process information and make reasoned decisions is often seriously reduced compared to individuals in everyday conditions. Knowing patterns of information seeking will allow practitioners to use the best possible mediums in order to give instructions and relay information. Instructions about threat, cause, dangers and directions will help in preventing further casualties and allowing the crisis response to move forward. Furthermore, having people do something (like boiling water to save for drinking or stocking up on batteries) brings about a sense of empowerment, creating an impression that the individual has some control in the situation (Seeger et al., 2002), knowing what medium to use to distribute such information will help in calming an anxious public.

For messages to be most effective they need to meet the needs of the audience and they must reach that audience. Knowing the desires and information seeking habits of individuals based geographic location and proximity to a crisis event will allow for message to be tailored meeting those specific needs. Although this may create more work in the initial message design, the results will aid in the management of the crisis and meet the needs of the general public.

There are some important limitations of this study. The sample collected from each city is not proportional to the city’s population. Additionally, the study used a convenience sample of primarily college students as indicated by the mean age and

standard deviation. There are also some concerns about the memory of individuals as indicated through self-report data. The measures are based upon the memories of respondents between two and five days after the attacks. Although this is a short period of time, there is still potential for error in the reports of the respondents.

Another limitation of this study lies within its measurement. Because the study was put together very quickly in order to collect data rapidly after the attacks, many variables were measured with only one item. Unfortunately, this means that the quality of the measures cannot be determined using traditional methods. Researchers working in this area would be well served by having a stock survey with multiple items for each variable created ahead of time. This would mean that only slight modifications would be necessary, and data could still be collected rapidly.

Directions for future research are suggested from the results of this study. First, the relationship between proximity to an event and the desire for information needs to be further explained. This article begins that work. Second, other variables beside proximity could also be examined. For example, as well as being the most proximal city in the sample, Detroit is also the most similar to New York in terms of size. Similarity to a crisis location, whether it be in size, SES, political views, etc., is another variable that may impact people's fear and information seeking behaviors, and future studies should address this. Third, it is also of note that the concept of proximity only deals with crisis communication when the crisis is of such a large scale, that it affects a large region (such as an entire country). If the crisis only affects a neighborhood, for example, then everyone involved is of similar proximity to the event. However, some individuals may have other kinds of connections to the event representing a kind of interpersonal proximity. As populations become more mobile, the probability that more people will be related to events in this way becomes greater. Moreover, media increasingly cover these kinds of events in detail and in real time. All crises, in these ways, are increasingly severe and global.

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