

The Impact of Crisis Communication on Levels of Acute-Traumatic Stress Disorder as a Result of the September 11, 2001, Terrorist Attacks on the United States

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Abstract

The purpose of this study was to examine an individual's level of receiver apprehension, crisis knowledge (perceived knowledge of the 9/11 crisis), and acute traumatic stress disorder (avoidance, intrusion, and hyperarousal) in a college sample seven days after the 9/11 terrorist attacks. We found that receiver apprehension positively related to avoidance and hyperarousal and negatively to intrusion. Additionally, crisis knowledge was negatively related to receiver apprehension, avoidance, and hyperarousal, but not related to intrusion. However, in a canonical correlation analysis receiver apprehension, avoidance, intrusion, and hyperarousal loaded negatively on the first variate while crisis knowledge loaded positively on the first variate. On the second variate, only crisis knowledge and intrusion positively loaded on the variate while the other variables (receiver apprehension, avoidance, and hyperarousal) did not load meaningfully.

The events of September 11, 2001, undoubtedly changed the course of the United States' perception on the rest of the world faster than any other single event since the Japanese bombing of Pearl Harbor during World War II. For the first time, mass amounts of American citizens were using words like "Taliban," "burka," "Afghanistan," and "Al Qaeda" in casual conversations (Stirs, 2001). Although the cultural consciousness was raised as a result of the 9/11 events, many argue that the actual impact on daily life in the United States' citizenry has been minimal (Maher, 2002).

The real impact of September 11, 2001, will only be seen in hindsight over the next few decades. However, more immediately a great deal of research has been conducted on the impact that 9/11 has had on individuals in the areas of public health (Difede & Hoffman, 2002; Melnik, 2001) and psychiatric disorders (Franklin, Young, & Zimmerman, 2002; Galea et al., 2002; Schlenger et al., 2002).

The purpose of the current study was to expand the understanding of crisis communication by examining how perceived understanding of the crisis and receiver apprehension affected an individual's level of acute traumatic stress disorder in the week following 9/11. To understand the basis of the hypotheses in this study, the following sections will examine the research in crisis communication, receiver apprehension, and acute-traumatic stress disorders.

Crisis Communication

To understand what is meant by the term "crisis," one must understand the difference between a risk and a crisis, which can best be explained through two basic concepts: hazard and outrage. A hazard is anything that has the potential for causing morbidity and mortality (Sandman, 1994). Outrage, on the other hand, is the emotional response a person has when presented with a specific risk (Gordon & Rowan, 2002). Sandman (1987, 1991) believes that "risk" is the combination of both the hazard and the outrage. Ultimately, risk is about possible exposure to a hazard and the accompanying outrage.

The difference between a risk and crisis is about actual exposure to a real hazard or traumatic event. If an individual reads a pamphlet on what to do if exposed to anthrax, the pamphlet is a form of risk communication because no exposure to the hazard (anthrax) has actually occurred. However, if an individual reads the same pamphlet after being exposed to anthrax, that pamphlet is now functioning outside the world of possibility but in actual exposure; and therefore, the pamphlet is a tool of crisis communication. The line between risk and crisis communication is often blurred because in the corporate world people who handle risk communication are often the same people who perform crisis communication. Ultimately, the difference between a risk and a crisis is the actual exposure to a hazard (Wrench, 2002). To apply this distinction to the terrorist attacks of 9/11, people within the United States were not being inundated with information about what to do if the United States was attacked (risk communication); the public was given information on how to handle the existence after an actual attack (crisis communication).

Most of our understanding of crisis communication comes in the work done in organizations after it has exposed the general public to some form of hazard (Baron, 2001; Combs & Holladay, 2001; Ogrizek & Guillery, 1999; Williams & Olaniran, 1994, 1998, 2002; Williams & Treadaway, 1992). The problem with this corporate perspective on crisis communication is that it only focuses on image maintenance and keeping a positive presence in the public eye. However, crises come in more forms than just when an organization accidentally leaks a poison gas into the environment. For this reason, examining other types of crises (such as the 9/11 crisis) in relation to crisis communication is extremely important.

One very important aspect of a crisis is an individual's perception of her or his knowledge about the crisis situation. People respond to a crisis situation based on the amount of information they receive (Ogrizek & Guillery, 1991). The people affected by exposure to a hazard will often react positively or negatively based on the information they receive (Henry, 2000). Henry believes that one of the single worst things that a crisis communicator can do is block information to those stakeholders affected by a hazard. At the same time, just because a crisis communicator makes all pertinent information available to people during a crisis does not mean that people will be informed or perceive themselves as informed about the crisis. For this reason, it is necessary to examine the degree to which people perceive themselves as being knowledgeable about a crisis event (Wrench, 2002).

Receiver Apprehension

Receiver apprehension, or listener anxiety, is the "fear of misinterpreting, inadequately processing and/or not be able to adjust psychologically to messages sent by others" (Wheeler, 1975). The first part of this definition looks at the anxiety associated with not understanding what is being communicated, while the second part looks at the anxiety associated with psychological adjustment to sent messages. Beatty (1981) proposed that receiver apprehension was a product of cognitive backlog, or being unable to understand information using one's current schema. This perspective examines the first part of the definition of receiver apprehension. If information is very complex and technical, individuals may have greater difficulty understanding the information and become anxious trying to decode the information. Although this perspective was useful in understanding why people who are receiving highly technical risk communication experience receiver anxiety (Wrench, 2002), it does not really help to explain why people who receive crisis information would experience receiver anxiety.

To understand the reason why people receiving crisis information may be prone to receiver apprehension, the second part of the definition (psychological adjustment) is useful. Beatty, Behnke, and Henderson (1980) found that respondents scored higher on the receiver apprehension test when the information required psychological adjustment. In a situation where people are surprised and overwhelmed as the result of a crisis situation, it is possible that the traumatic stress of the actual situation would require greater psychological adjustment on the part of the receivers (Richmond, Wrench, & Gorham, 2001). Therefore, people who perceive to know a lot about a crisis event would require greater psychological adjustment and be less likely to feel anxious when receiving information during a crisis event.

H1: There will be a negative relationship between an individual's level of receiver apprehension and her or his perceived understanding of the crisis.

Acute-Traumatic Stress Disorder

Posttraumatic Stress Disorder (PTSD) is defined by the DSM-IV (1994) as a biopsychosocial disorder that is developed from:

exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity, or witnessing an event that involves death, injury, or threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate (p. 424).

To be diagnosed as suffering from this disorder, not only must the aforementioned criteria be met, but the person must also experience characteristic symptoms from three other sets of criteria: a) persistent re-experience of the original traumatic event; b) persistent avoidance of stimulus associated with traumatic event as well as decreased general emotional responsiveness, both of which could not be present before the event; and c) persistent symptoms of increased arousal. Once these

diagnostic criteria are met, then the person can be identified as having Chronic PTSD or Acute-Traumatic Stress Disorder (ATSD), with or without delayed onset. Chronic PTSD is defined as lasting in duration of three (3) months or more with some people experiencing their symptoms over their entire lifetime.

PTSD must not be confused with its close diagnostic cousin Acute-Traumatic Stress Disorder (ATSD). The criteria for onset and many of the symptoms are identical to PTSD; however, ATSD onset occurs within two days and does not persist beyond four weeks after the occurrence of the traumatic event. The keys to differential diagnosis include severity and duration of symptoms, as well as physical proximity of the individual to the site of the traumatic event. Both disorders can develop in individuals without any biological or psychological predispositions (APA, 1994). In addition, ATSD and PTSD are commonly accompanied by other psychological and behavior disturbances, such as substance abuse, co-morbid psychological disorders (e.g., panic and anxiety disorders), and marked changes in personality (Koocher, Norcross, & Hill, 1998).

Acute-Traumatic Stress Disorder (ATSD) is comprised of three categories of behaviors according to Weiss and Marmar (1997): avoidance (e.g., avoiding thoughts/feelings, avoiding activities, detachment from others, and diminished affect), intrusions (e.g., flashbacks, recollections, and dreams), and hyperarousal (e.g., difficulty staying/falling asleep, hypervigilance, and irritability). While it is common for people who suffer from ATSD or PTSD to have high levels of all three factors, it is not necessary. Many people who suffer from stress disorders will see an elevation in one factor but not in the other two. Ultimately, when people are exposed to a trauma situation, it is hard to determine how they will react. One study found that individuals who 1) had experienced other traumatic events, 2) had PTSD previously, and 3) has prior psychological problems were all more likely to develop ATSD as the result of a new traumatic event (Barton, Blanchard, & Hickling, 1996). It should also be noted that most people are able to recover from ATSD using their own coping skills (Bryant & Harvey, 1997; Bryant et al., 1998; Bryant, 2002). Whereas, people who suffer from Chronic PTSD need long-term care and usually end up in institutionalization or some form of psychopharmacological intervention.

In the wake of September 11, 2001, a number of studies have examined the longer-term effects that the terrorist attacks have had on the general United States' psyche. In a study conducted by Meinicke et al. (2002), 75% of the participants reported having problems attributed to the attacks; 48% of the participants reported that they experienced anger after the attacks; 12% of the participants with problems reported getting help; 3% of alcohol drinkers reported increased alcohol consumption, 21% of smokers reported an increase in smoking, and 1% of nonsmokers reported that they started to smoke after the attacks. Schlenger et al. (2002) found that PTSD levels tended to be higher in large metropolitan areas when compared to more rural communities in the wake of 9/11. One study by Ahern, Galea, Resnick, Kilpatrick, Bucavalius, Gold, and Vlahov (2002) found that the more one viewed the 9/11 coverage on television the higher an individual's PTSD levels were. This effect was compounded if a participant directly knew someone who died during the attack.

However, none of the research completed looking at PTSD or ATSD examined any communication variables outside the media or how individual perceptions of crisis

knowledge impacted their levels of stress disorders. For this reason, we offer the following two hypotheses for analysis in this study.

H2: There will be a positive relationship between an individual's level of receiver apprehension about crisis information and her or his level of acute-traumatic stress disorder.

H3: There will be a negative relationship between an individual's perceived understanding of the crisis and her or his level of acute-traumatic stress disorder.

Methods

The goal of this project was to examine the crisis communication that occurred during the week following the World Trade Center and Pentagon attacks on September 11, 2001, and how this communication affected individual levels of acute-traumatic stress disorder. To examine this communication phenomenon, this study examines the relationship between perceived understanding of a crisis and receiver apprehension with acute-traumatic stress disorder.

Participants and Method

Participants in this study were students attending a large mid-Atlantic University enrolled in one of three mid- to upper-division courses. All three courses were considered general education courses in the communication department and enroll students from the entire campus. All participants received extra credit for their participation in the project. For demographic purposes, participants were asked three questions: sex and age. The sample in this study had 233 (53.3%) males, 188 (45%) females, and 7 (1.7%) who did not respond. The mean age of the group was 21.07 ($SD = 3.68$) with a range from 19 to 49.

The participants were asked to fill out a short questionnaire that examined their perceptions of the crisis communication that occurred during the week following September 11, 2001. The administration of the survey itself was conducted on September 18, 2001, exactly seven days after the World Trade Center and Pentagon attacks. The reason this time frame was chosen was to allow researchers to examine early-onset acute-traumatic stress disorder.

On the day the survey was administered, all of the researchers were present and helped with the administration. One of the researchers is a licensed clinical counselor and one is a certified crisis interventionist. The expertise of both researchers were necessary in case any of the participants needed to talk to a professional as a result of the study's sensitive nature. The study did have institutional review board approval and supervision. As a result of the sensitive nature of the study and the time frame, the institutional review board would not allow questions about the possibility of a direct loss as a result of 9/11 to be included in the survey.

Study Survey

The survey consisted of 84 questions broken into three different sections, how the participants received crisis communication; the participant's response to the crisis

communication, and basic demographic information about the participants. The first section of the study asked the participants to 1) identify how they learned about the crisis, and 2) from where had most of their information about the crisis come. The participants indicated that they had learned about the crisis from a variety of different places: 185 (44.3%) from television, 66 (15.8%) from radio, 21 (5.0%) from a teacher, 98 (23.4%) from a friend, 26 (6.2%) from a relative, 8 (1.9%) from a co-worker, 2 (.5%) from the Internet, 12 (2.9%) from other sources. Additionally, the participants indicated that most of their information during the week after the crisis came primarily from television: 382 (91.4%) from television, 11 (2.6%) from radio, 1 (0.2%) from a teacher, 3 (.07%) from print media, 8 (1.9%) from a friend, 2 (0.5%) from a relative, 8 (1.9%) from the Internet, 3 (0.7%) from other sources.

The second section of the survey included a variety of questions that asked the participants to relay their perceptions about the crisis communication they had witnessed during the previous week. The exact nature of these questions will be discussed below under 'measures.' Lastly, the participants were asked to respond to three previously mentioned demographic questions: sex and age.

Measures

Crisis Knowledge Index

The Crisis Knowledge Index (CKI) was designed to determine an individual's perceived knowledge of a specific crisis. The scale was originally designed by Wrench (in press) to analyze how receivers perceive risk-oriented messages. The Risk Knowledge Index was retooled for this study to reflect crisis information instead of risk information. The CKI is a 10-item self-report measure that uses a 5-point Likert format ranging from "strongly agree" to "strongly disagree." The dimensionality of the 10 items from the CKI were analyzed using a principal component factor analysis. Three criteria were used to determine the number of factors to rotate: sampling adequacy, the scree test, and the interpretability of the factor solution. To examine sampling adequacy, Kaiser's Measure of Sampling Adequacy was used. The Kaiser's Measure of Sampling Adequacy obtained was .92, which is considered "marvelous" for conducting a factor analysis (Kaiser, 1974). The scree plot clearly indicated that there was only one factor with an eigenvalue above one counting for 54% of the variance. The factoring structure of the CKI can be seen in Table 1. Scores for the CKI can range from 10-50, with higher scores indicating a higher perceived knowledge about a specific crisis event. In this sample, the range was from 17-50. Alpha reliabilities were computed using Cronbach's (1951) method. The CKI had an alpha reliability of .90 ($M = 39.73$; $SD = 6.84$).

Receiver Apprehension Test

The Receiver Apprehension Test (RAT) is a self-report measure that examines and individual's apprehension towards receiving messages. The measure was designed to measure an individual's trait receiver apprehension. The RAT is a twenty-item measure developed by Wheelless (1975) that uses a 5-point Likert format ranging from "strongly agree" to "strongly disagree." Scores on the RAT can range from 20 to 100, and in this study scores were between 22 and 87. The RAT used in this study had a $M = 51.58$ with a $SD = 10.13$. The RAT had an alpha reliability of .85.

Impact of Event Scale-Revised

The Impact of Event Scale—Revised (IES-R) was devised by Weiss and Marmar (1997) to parallel the DSM-IV factors for posttraumatic stress disorder (PTSD): avoidance, intrusion, and hyperarousal. The Impact of Event Scale (IES) was originally created by Horwitz, Wilnder, and Alvarez (1979) to look at PTSD, but the IES did not measure hyperarousal, which the DSM-IV puts fourth in its criteria for PTSD, hence why the revised version was created (Weiss & Marmar, 1997). Respondents were asked to rate each of the 22 items using a five-step Likert scale ranging from 0 (not at all) to 4 (extremely) according to the past seven days. Previous research has shown that the IES-R scale has good predictive and content validity (Briere, 1997).

In the present study, the Impact of Event Scale-Revised (IES-R) (Horowitz et al., 1979) was used to measure the levels of acute-traumatic stress disorder following the terrorist attacks within the United States on September 11, 2001. This self-report scale was designed to specifically assess current subjective psychological distress for a defined life event (i.e., 9/11). None of the subjects personally witnessed the traumatic event in person; however, it can be stated with high confidence that the subjects were exposed to the event by reports on television, radio, or other people. Previous research has shown that the IES-R can be used to look at both PTSD and ATSD (CREST, 2004).

Scores on the IES-R can range from 8-40 for the avoidance factor, 7-35 for the intrusion factor, and 7-35 for the hyperarousal factor, all of which were seen in this study. The alpha reliability for avoidance in this study was .75 ($M = 19.01$; $SD = 5.45$); for intrusion, .83 ($M = 19.76$; $SD = 5.73$); and hyperarousal, .82 ($M = 16.22$; $SD = 5.87$).

Results

The first hypothesis predicted that there would be a negative relationship between an individual's level of receiver apprehension and her or his perceived understanding of the crisis. To analyze this hypothesis, a Pearson Product Moment correlation was calculated. The hypothesis was supported, $r(418) = -.32, p < .0001$. The second hypothesis predicted that there would be a positive relationship between an individual's level of receiver apprehension and her or his level of posttraumatic stress disorder. To analyze this hypothesis, each of the subscales of the Impact of Event Scale-Revised was correlated with the Receiver Apprehension Test using Pearson Product Moment correlations: $r(418) = .45, p < .0001$; intrusion, $r(418) = .24, p < .0001$; and hyperarousal, $r(418) = .38, p < .0001$. This hypothesis was supported.

The third hypothesis predicted that there would be a negative relationship between an individual's perceived understanding of the crisis and her or his level of posttraumatic stress disorder. To analyze this hypothesis, each of the subscales of the Impact of Event Scale-Revised was correlated with the Crisis Knowledge Index using Pearson Product Moment correlations: avoidance $r(418) = -.23, p < .0001$; intrusion, $r(418) = .01, p > .05$; and hyperarousal, $r(418) = -.18, p < .0001$. This hypothesis was partially supported. All correlations can be seen for the first three hypotheses in Table 2.

As a post-hoc analysis of the data, a canonical correlation was performed between the communication variables and the posttraumatic stress disorder variables. The communication variables set included perceived understanding of the crisis and the

receiver apprehension variables, and the posttraumatic stress disorder variable set included avoidance, intrusion, and hyperarousal.

The first canonical correlation was .50, $\chi^2(6) = 136.06, p < .0001$. The second canonical correlation was .20, $\chi^2(2) = 16.04, p < .0001$. Receiver apprehension (-.96) and crisis knowledge (.58) were both positively loaded on the first variate. Avoidance (-.91) and hyperarousal (-.76) were strongly loaded on the first variate, but intrusion (-.41) was only moderately loaded on the first variate. On the second canonical variate, crisis knowledge (.82) had its highest loading and receiver apprehension was minimally loaded (.29). Additionally, intrusion (.82) had its highest loading on the second variate while avoidance (-.19) and arousal (.28) were minimally loaded. All canonical variate loadings can be seen in Table 3.

Discussion

The purpose of the current study was to expand the understanding of crisis communication by examining how perceived understanding of the crisis and receiver apprehension affected an individual's level of acute-traumatic stress disorder in the week following 9/11. To understand the results in this study, we will first look at the relationship between perceived understanding of a crisis and receiver apprehension and then examine the results related to acute-traumatic stress disorder.

Crisis Knowledge and Receiver Apprehension Results

This study found a negative relationship between an individual's level of perceived understanding about 9/11 and her or his receiver apprehension. This result is similar to the relationship found between perceived understanding of a risk and receiver apprehension reported by Wrench (in press). The results from this part of the study indicate that the perceived amount of information a person received during a crisis situation impacts her or his ability to adjust psychologically to the situation. As Beatty, Behnke, and Henderson (1980) pointed out, if people do not adjust psychologically to information from a receiver, they will experience more apprehension while trying to receive that information. Ultimately this finding further validates the notion that Henry (2000) had about making sure that the stakeholders impacted by the traumatic event or hazard are kept informed about the crisis.

Acute-Traumatic Stress Disorder Results

The second major category of results in this study consists of those results examining acute-traumatic stress disorder. To examine the results in this section, a discussion of the relationship between perceived understanding of a crisis and receiver apprehension will be approached separately followed by an analysis of the results from the canonical correlation.

ATSD and Crisis Knowledge

The major category of results in this section examines the relationship of acute traumatic stress disorder (avoidance, intrusion, and hyperarousal) and an individual's perceived understanding of the 9/11 crisis situation. Before the results are discussed, it should be noted that the correlations found in this part of the study were minimal, so

while significant, the degree to which these results are meaningful can be questioned. The results indicated that the greater degree to which one perceived that he or she understood the 9/11 crisis the lower his or her level of avoidance and hyperarousal were. However, there was no relationship between perceived understanding of the 9/11 crisis and an individual's level of intrusive thoughts about the crisis.

The negative relationships that were found between perceived understanding of the 9/11 crisis with avoidance and hyperarousal supported the original hypothesis in this study. It was suspected that the more an individual felt he or she knew about the 9/11 crisis the fewer avoiding behaviors he or she would exhibit and less the hyperarousal would be. While there is not a clear cut explanation for these results, it is suspected by the authors that as perceived information increases, a person's cognitive dissonance decreases, which will lower a person's stress level about a specific situation.

The lack of a significant relationship with intrusive thoughts could be due to the fact that intrusive thoughts are usually seen as flashbacks, recollections, and dreams, all of which are factors generally seen over a period of time (Weiss & Marmar, 1997), but may not really be as noticeable immediately following a crisis. Since this data was collected seven days after 9/11, it is possible that the intrusion factor described by the DSM-IV (1994) may not be as prominent. Additionally, unlike most tragic events, the events of 9/11 were replayed and replayed countless numbers of times on every major television station in the country and around the world. This constant bombardment of media images during those first seven days following the 9/11 crisis could have fulfilled the need that some people have for intrusions.

ATSD and Receiver Apprehension

The second set of findings related to acute-traumatic stress disorder involve the communication variable receiver apprehension. No previous research in the area of PTSD or ATSD examined any communication specific variables outside the media. Since this study was clearly a receiver-based study, the inclusion of receiver apprehension adds an interesting dimension to the overall understanding of both crisis communication and ATSD.

Receiver apprehension positively correlated with both avoidance and hyperarousal. The research discussed by Beatty and Payne (1981) on the association of receiver apprehension and cognitive complexity may help in understanding this finding. Beatty and Payne argued that the more complex a message is the more apprehensive a person will be when receiving that message. For many people, the simple enormity of the 9/11 crisis could have been too complex for them to accurately process, which in turn would increase their anxiety level. As their anxiety level about receiving the information increased, so would their overall stress level. Eventually, the person's stress would lead to avoidance behaviors and hyperarousal (Weiss & Marmar, 1997).

While it was hypothesized that all three factors of the Impact Event Scale-Revised (IES-R) would relate positively to receiver apprehension, the study found a negative correlation between receiver apprehension and the IES-R factor of intrusion. Most of the original research in the area of PTSD occurred with participants from the Vietnam War. This early research was primarily people recalling incidents that had occurred to them during the war. With 9/11, especially in the first seven days, people did

not have to rely on their memories of the event to relive the event; we could all watch the devastation over and over again on television. It is possible that the intrusion factor is negatively related to receiver apprehension in this study because the intrusion was simply not a manifestation of trauma during those first seven days because of the constant barrage of media images. It is also possible that those people who were already having 9/11 flashbacks, recollections, and dreams had been able to process the information more thoroughly than those people who were not having intrusions.

Canonical Correlation Results

The results from the canonical correlations in this study help to further validate some of the notions made above in this discussion section. The canonical analysis helped to further understand the relationships between ATSD with crisis knowledge and receiver apprehension. In this analysis, the loadings mirrored the correlations discussed above. Receiver apprehension (-.96) loaded the highest on the first variate followed closely by avoidance (-.91) and hyperarousal (-.76). Both crisis knowledge (.58) and intrusion (-.41) loaded moderately on the first variate, but stronger on the second variate: crisis knowledge (.82) and intrusion (.82). Overall, this analysis further explains the connection between receiver apprehension with avoidance and hyperarousal. However, these results need to be expanded to discuss the findings related to the second variate. Although both intrusion and crisis knowledge are above the .30 cut off point for traditional canonical analysis of the first variate, they both loaded higher on the second variate. The fact that they both load greater on the second variate is further indication that intrusion may not be an equal factor when examining acute-traumatic stress disorder.

Conclusion

This study admittedly set out to take advantage of a horrific situation in the United States. One of the largest problems scholars have in the field of crisis communication is that most of our research is based on case studies and not completely generalizable information. While the results from this study demonstrate that communication is a factor that influences an individual's level of acute-traumatic stress disorder, the actual relationship needs to be studied further in conjunction with future crises. While no one who studies crisis communication hopes to have a crisis occur for research material, the inevitability of a crisis occurring is a reality. Ultimately, through research in the field of crisis communication we can hope to have a better understanding of how to help and inform the public during a crisis situation in the future.

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Table 1

Principal Component Factor Analysis of the Crisis Knowledge Index

	Factor 1
1. I know the details of this crisis.	.73
2. I do not feel knowledgeable about the crisis that occurred.	-.69
3. The details of the crisis that occurred are very clear to me.	.77
4. I do not know enough about the crisis that occurred.	-.73
5. I do not comprehend the details of the crisis that occurred.	-.71
6. My knowledge of the crisis that occurred is limited.	-.66
7. I completely understand the details of the crisis that occurred.	.75
8. I feel knowledgeable about the details of the crisis that occurred.	.77
9. I comprehend the details of the crisis that occurred.	.76
10. The details of the crisis that occurred are not clear to me.	-.76

This factor analysis is unrotated.

Table 2

Correlations Between Receiver Apprehension, Crisis Knowledge, and PTSD

	Receiver Apprehension	Crisis Knowledge	Avoidance	Intrusion
Receiver Apprehension				
Crisis Knowledge	-.32*			
Avoidance	.45*	-.23*		
Intrusion	-.24	.01	.37*	
Hyperarousal	.38*	-.18*	.52*	.78*

*p < .0001

Table 3

Canonical Correlations Loadings

	Variate #1	Variate #2
Receiver Apprehension	-.96	.29
Crisis Knowledge	.58	.82
Avoidance	-.91	.19
Intrusion	-.41	.82
Hyperarousal	-.76	.28
Canonical Correlation	.50	.20

Both Canonical Correlations were significant at $p < .0001$