UNDERSTANDING THE PSYCHOSOCIAL IMPACT OF THE 9/11 TERRORIST ATTACKS: A QUALITATIVE ANALYSIS OF FOCUS GROUPS

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DEDICATION

For my best friend and love, Frank Scott

ACKNOWLEDGEMENTS

I would like to acknowledge the members of my dissertation committee and chairperson, Dr. Carol S. North. Dr. North exercised endless patience with me throughout this process and invested so much energy and time in preparing my dissertation. I would also like to thank the other members of my dissertation committee, Drs. Alina Suris, Jamaylah Jackson, Richard King, and David Pollio for their expertise, support, study design advice, and constructive feedback.

Drs. Kennard and Evans provided gentle feedback and support throughout my time in the program. Their warmth made me feel comfortable reaching out for help and advice during the most challenging times.

Thanks to each of the wonderful psychologists who supported and educated me along the way - Drs. Ladd, Whitfill, Moore, and Krebaum. I learned the importance of being compassionate and nonjudgmental with myself and with my clients. They encouraged me and built my confidence in times when I felt like I had no clue what I was doing. Without them, I would not be the blooming therapist I am today. I have learned from their example, and I look forward to continuing to learn from them in the future.

I would like to give a special thanks to Kim (i.e., Dr. Roaten). Kim has played many roles in my life throughout the past five or six years and will continue to be involved in my professional development next year as my postdoctoral fellowship supervisor. Most importantly, Kim has always been a role model for me. She is amazing at her job and still finds room for sarcasm and humor on the side. She cares about her patients and goes to great lengths to advocate for them. Kim has witnessed my personal

development and has helped me come out of my shell. She has also helped keep me sane during my last year of the program and has never hesitated to let me vent. Kim is definitely someone I will always aspire to model myself after, personally and professionally.

Thank you to my classmates and other students in the program who helped me keep things in perspective and stay positive. They provided both distraction and encouragement to focus on my writing whenever needed. I would also like to thank Redbull and various other energy drinks for helping me stay awake for weeks at a time and having only minimal side effects.

Thank you to my best friend, Colleen Fagan. Without her, I could not have made it through this process. She was there for me through every moment of the past four years. Her witty and often inappropriate comments always made me laugh in class and again at the end when I needed a pick me up while finishing my dissertation. Colleen is the type of friend that will always have your back and will never cast judgment. I have learned so much from her about being a great friend, person, and therapist. My friendship with her is undoubtedly the most important thing I have gotten out of graduate school.

I would also like to acknowledge my parents, Ted and Kati, and sister, Alli. My family has been there for me during my many years in school, and I'm sure they are looking forward to me finishing almost as much as I am. Their support and patience with my busy schedule were greatly appreciated. My boyfriend's family, especially Tonya and Randall, have been extremely supportive and have always believed in me. I'm grateful to have them in my life, in addition to my wonderful family.

Lastly, I would like to thank my boyfriend, Frank. Frank has been a major part of my personal growth over the past three and a half years. He has taught me to have fun, to laugh at the little things, and to live in the moment. Frank prevented me from losing my mind on so many occasions and reminded me that there's more to life than just school. He has stuck by me through good times and bad, and I cannot imagine my life without him. His friendship and love have meant the world to me.

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by

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DISSERTATION

Presented to the Faculty of the Graduate School of Biomedical Sciences

The University of Texas Southwestern Medical Center at Dallas

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

The University of Texas Southwestern Medical Center

Dallas, Texas

July 2012

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The University of Texas Southwestern Medical Center, 2012

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Abstract

Much of the 9/11 mental health research to date has been focused on PTSD and posttraumatic stress symptoms. To better understand the broader experience of individuals following a disaster, exploratory focus groups were conducted with individuals from directly-exposed agencies and not directly-exposed agencies and Spanish- and Mandarin-speaking individuals being served by not directly-exposed

agencies. Twenty-one focus groups with a total of 140 participants were conducted one to two years after 9/11. Transcribed focus group passages were coded into themes using qualitative analysis software. The five areas of concern identified in this study include the following themes: Disaster Experience, Emotional Sequelae, Workplace Issues, Coping, and Issues of Public Concern. The theme with the highest absolute number of passages for individuals from directly-exposed agencies was Emotional Sequelae. Issues of Public Concern was the theme with the highest absolute number of passages for individuals from not directly-exposed agencies, a Spanish-speaking focus group, and a Mandarin-speaking focus group. Most importantly, qualitative analysis of the content of discussion provided significant information about what was of greatest concern among directly-exposed and not directly-exposed focus groups and Spanish- and Mandarin-speaking focus groups following the 9/11 attacks. The variety of concerns discussed by participants across all groups highlighted both the unexplored and underexplored areas that may warrant future investigation as potential opportunities for development of post-disaster intervention. These concerns are much broader than simply PTSD or posttraumatic stress symptoms, which provides a different focus from that of most of the existing 9/11 mental health literature.

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CHAPTER ONE

Introduction

SCOPE AND SIGNIFICANCE

On the morning of September 11, 2001, the United States experienced the worst terrorist attack in American history. Four civilian airplanes were hijacked, three of which were purposely crashed into the World Trade Center (WTC) Twin Towers and the Pentagon, and the fourth crashed in a field in Pennsylvania. Over the next two hours, one WTC tower and then the other collapsed, followed by the collapse of four adjacent buildings (Farfel et al., 2008). An additional 32 buildings also sustained moderate to substantial damage (Farfel et al., 2008). Tens of thousands of individuals directly experienced or witnessed the 9/11 terrorist attacks against the WTC and Pentagon, and countless others viewed the events through media coverage (Smith, Rasinski, & Toce, 2001). Approximately 3,000 people were killed in New York City (NYC) alone, more than 71,000 jobs were lost, and labor and capital losses reached $36 billion in the months following the attacks (Bram, Orr, & Rapparport, 2002). The terrorist attacks of September 11 (9/11) were soon followed by a series of anthrax attacks and a "global war on terrorism."

Previous research has found that the psychological effects of trauma can manifest in a variety of ways (North, 2004b; North, Nixon, Shariat, Mallonee,

McMillen, Sptiznagel, et al., 1999; North, Pfefferbaum, et al., 2009). Emotional responses to trauma range from distress to serious psychiatric illness (especially posttraumatic stress disorder (PTSD), major depression, and also other anxiety disorders) (Adams, Boscarino, & Galea, 2006; DiGrande, Perrin, & Thorpe, 2008; Perrin et al., 2007; Yehuda & Hyman, 2005). The psychological effects can be expected to vary by exposure groups. For example, in directly-exposed groups, PTSD may develop in only some individuals; most, however, will experience psychological distress. In unexposed groups, PTSD by definition cannot occur, yet some individuals may be indirectly affected, many of whom may also experience psychological distress (DSM-IV-TR, 2000; North, 2004a). A number of studies have been conducted on the psychological effects of the 9/11 attacks in large populations, including both exposed and unexposed groups. The 9/11 mental health literature, like the broader trauma mental health literature (Bonanno, Galea, Bucciareli, & Vlahov, 2006), has focused on PTSD and posttraumatic stress symptoms (Galea et al., 2002; North, Pollio, et al., 2011; Rosen & Lilienfeld, 2007; Schlenger et al., 2002). Such studies have been conducted through standardized interviews and questionnaires with predetermined content to collect highly directed quantitative data of interest to the researchers. A potential disadvantage of using such a directed approach to collect research data is that important material may be overlooked or undiscovered if researchers do not consider it when designing or selecting research instruments.

Qualitative research provides an opportunity to discover information not available to quantitative studies that use directed approaches to the subject matter. Focus groups represent a ready means to obtain open-ended qualitative data. A focus group is a form of group interview that utilizes the material discussed by the research participants to generate qualitative data (Kitzinger, 1995). Focus groups facilitate the emergence of new concepts, allowing participants to identify and share what is of greatest concern to them (North, Pollio, et al., 2005). Broad, yet organized, open-ended instructions to focus groups facilitate exploration and clarification of participants' own views free of confinement or excessive direction of the discussion topics by researcher influence (Kitzinger, 1994).

The present study utilized qualitative data from focus groups conducted with members of agencies in the NYC area. These agencies included companies formerly housed in the WTC and immediate vicinity, other highly affected agencies that sustained fatalities and extensive property damage, and an agency in lower Manhattan serving populations affected by the 9/11 attacks. The members of these groups varied in exposure (e.g., location in the upper floors of the WTC towers during the attacks vs. location miles away). Different cultures were represented in the data collected, with the inclusion of one Mandarin-speaking and one Spanish-speaking focus group conducted with individuals served by the agency in lower Manhattan. The focus groups were conducted in the second year after the attacks. The purpose was to examine participants' thoughts, feelings,

perceptions, and concerns regarding the 9/11 terrorist attacks, to help advance understanding of the experience of the 9/11 attacks among various exposure and cultural groups.

Insufficient and inaccurate information about the concerns of survivors following traumatic events may lead to the development and implementation of interventions that are unresponsive or even counterproductive to survivors' actual needs (North et al., 2010). Because the majority of the existing literature has focused on PTSD as the primary psychosocial effect of 9/11, disaster interventions based on this literature may be too narrow in scope, may result in inappropriate interventions, and may fail to address other psychosocial concerns. Data from focus groups analyzed in this study will clarify survivors' concerns, explore whether these concerns are broader than posttraumatic stress symptoms, and identify any unidentified or underemphasized areas that may warrant further investigation.

CHAPTER TWO

Review of the Literature

I. Characteristics of Traumatic Events

Baum (1991) described "cataclysmic events" (i.e., disasters) as "stressors characterized by great power, sudden onset, excessive demands on individual coping, and large scope (affecting many people)." Disasters are typically outside the realm of normal, everyday experience, are beyond the immediate control of victims, and are considered to be as close to universally stressful as can be (Baum, 1991). Specific characteristics of disaster agents and individuals' exposure to them may contribute to the incidence and course of subsequent mental health problems.

Disaster Typology

The 9/11 terrorist attacks fit into a larger, well-established disaster typology as follows. Natural disasters (acts of nature) can be differentiated from manmade disasters (accidental and purposeful incidents). Catastrophes resulting from intentional human acts can be further separated into everyday criminal acts and terrorist acts (North, 2007). The most widely accepted typology of disaster

distinguishes three major categories: (1) natural disasters (e.g., earthquakes, tornadoes, and floods), sometimes referred to as "acts of God"; (2) technological accidents (e.g., mass transportation accidents, structural collapses, explosions, and toxic spills), which involve human error but no intent to cause harm; and (3) willful human-induced incidents (e.g., mass murders in public places or in the workplace and domestic/international terrorism) (North, 2007). Baum (1991) noted that manmade disasters have three primary characteristics: (a) they are unpredictable, (b) they lack a "low point" at which it is clear that "the worst is over" and people can focus on healing and rebuilding, and (c) knowledge of how to deal with the event and its aftermath is limited.

Terrorist acts are deliberate and intended "…to intimidate or coerce a government, the civilian population, or a segment thereof, in furtherance of political or social objectives" (*U.S. Code of Federal Regulations, 28 C.F.R. Section 0.85*). The goals of terrorism are to cause widespread fear, disrupt society, and generate distrust of government and authorities (Alexander & Klein, 2003). Terrorism seeks to intimidate vast numbers of individuals, not simply those in direct contact with the damaging agent (Pfefferbaum, North, & Pfefferbaum, 2005; Pfefferbaum, Pfefferbuam, North, & Neas, 2002). Terrorist acts tend to be random in targeting their intended victims (Stern, 1999), which contributes to a sense of helplessness following the event (Janoff-Bulman, 1989; Rosen & Lilienfeld, 2007).

Although there is some disagreement (Rubonis & Bickman, 1991), it is generally thought that acts of terrorism or other willful human-caused incidents may generate the most severe mental health sequelae (Baum, Fleming, & Davidson, 1983; Beigel & Berren, 1985; Frederick, 1980; Gleser, Green, & Winget, 1981; Norris, Friedman, Watson, et al., 2002; A. Y. Shalev, Tuval-Mashiach, & Hadar, 2004) and that natural disasters are associated with the mildest mental health consequences (Baum et al., 1983). It is also thought that disasters caused by malicious human intent may be especially difficult for survivors to comprehend and process emotionally, thus contributing to intrusion and avoidance symptoms (Janoff-Bulman, 1989; Norris, Friedman, & Watson, 2002).

Norris et al. (2001) concluded that adverse psychological effects are greatest when at least two of the following are present: (a) high levels of injury, threat to life, and loss of life; (b) human intent; (c) serious ongoing problems for the community; and (d) extreme damage to property. All of the above elements were abundantly present in the 9/11 terrorist attacks.

II. Psychological Effects of Disaster

Epidemiological studies indicate that the majority of adults have been exposed to at least one traumatic event (e.g., sexual assault, life-threatening

accident) at some point in their lifetimes (Bonanno et al., 2006). Although many people experience some level of distress after experiencing a traumatic event, only a fraction of those exposed will develop PTSD (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Of the various psychiatric disorders known to be associated with traumatic events, PTSD is the most frequently assessed and typically the most prevalent psychiatric disorder found in the majority of those exposed to a traumatic event (David et al., 1996; Foa, Stein, & McFarlane, 2006; Norris, Friedman, Watson, et al., 2002; North, Nixon, Shariat, Mallonee, McMillen, Spitznagel, et al., 1999; North, Smith, & Sptiznagel, 1994; Arieh Y. Shalev et al., 1998). Consequently, PTSD is considered the "signature diagnosis" of trauma (North, 2007; North, Suris, & Adewuyi, 2011). It follows that PTSD assessment has continued to be the primary focus of mental health research following a traumatic event or disaster (North, 2007).

DSM-IV Criteria for the Diagnosis of PTSD

PTSD is classified as an anxiety disorder in DSM-IV. It develops in some individuals who are exposed to traumatic events (criterion A) (DSM-IV-TR, 2000). Exposure to trauma can occur through direct personal endangerment by, witnessing, or "being confronted with" an event or events that involve actual or threatened death or serious injury to oneself or others (criterion A) (DSM-IV-TR, 2000). "Being confronted with" an event involves "learning about the unexpected

or violent death, serious harm, or threat of death or injury experienced by a [close] family member or other close associate" (DSM-IV-TR, p. 463).

In addition to requiring exposure to a qualifying traumatic event for the diagnosis of PTSD, the DSM-IV-TR requires at least one re-experiencing symptom (criterion B), three avoidance or numbing symptoms (criterion C), and two hyperarousal symptoms (criterion D) (DSM-IV-TR, 2000). The disturbance must also last for more than one month (criterion E) and cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (criterion F) to qualify for a diagnosis of PTSD (DSM-IV-TR, 2000).

Re-experiencing symptoms consist of: (1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions; (2) recurrent distressing dreams of the event; (3) acting or feeling as if the traumatic event were recurring; (4) intense psychological distress at the exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event; and (5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event (DSM-IV-TR, 2000).

Avoidance and numbing symptoms include: (1) efforts to avoid thoughts, feelings, or conversations associated with the trauma; (2) efforts to avoid activities, places, or people that arouse recollections of the trauma; (3) inability to recall an important aspect of the trauma; (4) markedly diminished interest or

participation in significant activities; (5) feelings of detachment or estrangement from others; (6) restricted range of affect; and (7) sense of foreshortened future (DSM-IV-TR, 2000).

Symptoms of hyperarousal include: (1) difficulty falling or staying asleep; (2) irritability or outbursts of anger; (3) difficulty concentrating; (4) hypervigilence; and (5) exaggerated startle response (DSM-IV-TR, 2000).

PTSD and the 9/11 Attacks

Previous research has provided a wealth of information about psychopathology, such as PTSD, in post-disaster settings with considerable relevance to mental health consequences that might be expected in association with the 9/11 terrorist attacks (Norris et al., 2001; North, Nixon, Shariat, Mallonee, McMillen, Spitznagel, et al., 1999). It was estimated that prevalence rates of "probable PTSD" were approximately 11.2% in the NYC metropolitan area (Schlenger et al., 2002). This rate is almost three times the prevalence of this construct measured across the rest of the country (Schlenger et al., 2002). The term "probable PTSD" was used in that study because diagnoses were made on the basis of screening instruments that do not assess full diagnostic criteria for PTSD (i.e., using a cutoff score of 50 on the PTSD Check List) (Schlenger et al., 2002), rather than conducting comprehensive evaluations of full diagnostic criteria including Criterion A, which helps explain why people in this and other

studies of populations without qualifying exposures as required by Criterion A were identified as being likely to have the disorder.

Limitations of Previous 9/11 Research

Following 9/11, researchers were eager to get into the field quickly and begin collecting information before the opportunity passed (North, 2004a). Thus, decisions were made quickly and expedient methods such as symptom measures were often adopted in lieu of a more rigorous diagnostic approach (North, 2004a). When interpreting disaster mental health data, it is important to clarify whether the construct measured represents psychiatric illness or some dimensional measure of symptoms (North, Suris, Davis, & Smith, 2009). Symptoms do not necessarily equate to psychopathology (North, Suris, et al., 2009; Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002), and the significance of posttraumatic stress symptoms outside the context of a diagnosis remains unclear (North, Suris, et al., 2009). Many posttraumatic stress responses may merely reflect normative responses to a traumatic event within a healthy population (North, Suris, et al., 2009).

Most self-report PTSD symptom measures do not account for one's actual exposure, specificity of symptoms in relation to a qualifying traumatic exposure, degree to which symptoms interfere with functioning or are of clinically significant proportions, duration of the disturbance, or other possible medical or

psychiatric explanations (North, 2007). Because many studies relied on symptom measures rather than assessing discrete diagnoses, they may have confused psychopathology with normal reactions (Rosen & Lilienfeld, 2007). The use of such measures may inflate overall population estimates of PTSD (North, 2007).

This overestimation of PTSD prevalence, especially in unexposed populations, contributes to the research field's tendency to focus on PTSD as the primary concern of disaster survivors, including survivors of the 9/11 terrorist attacks (North, 2007). Overestimation of PTSD may also be a product of the focus on PTSD that may lead to misinterpretation of normative responses as pathological. If research continues to focus on PTSD to the exclusion of other relevant issues, other possibly more pertinent concerns will likely continue to be overlooked and intervention responses may be misguided.

Other Psychological Effects of Disaster

Research conducted by North et al. (1999) with directly-exposed survivors of the Oklahoma City bombing suggests that emotional responses to terrorist acts can vary greatly. The severity of the psychological response may range from fleeting fear and distress to debilitating psychopathology (Shultz, Marcelin, Madanes, Espinel, & Neria, 2011). Emotional distress is a normative response following exposure to highly traumatic events (Benedek, Fullerton, & Usano, 2007; North, 2004a). Thus, it is important to distinguish between ordinary

distress and psychiatric illness to avoid unnecessarily pathologizing healthy populations (North, 2004a). Examples of distress that do not necessarily imply psychopathology following a traumatic event include demoralization (Dohrenwend, 1983), perceived stress (Thompson, Norris, & Hanacek, 1993), and negative affect (Phifer & Norris, 1989; B. Smith, 1996). North et al. (1999) found that PTSD criterion B (intrusion) and criterion D (hyperarousal), in the absence of criterion C (numbing), were not significantly associated with pre-disaster psychopathology, post-disaster comorbidity, or other indicators of psychiatric illness (North, Nixon, Shariat, Mallonee, McMillen, Spitznagel, et al., 1999). For traumatic events, intrusion and hyperarousal symptoms are thought to be the posttraumatic stress symptoms most reflective of normative (i.e., normal) responses (McMillen, North, & Smith, 2000).

After PTSD, major depression is the next most prevalent disorder found to occur in populations exposed to disaster (David et al., 1996; Green, Lindy, Grace, & Leonard, 1992). A population-based survey of adults living in households with telephones south of 110th St. in Manhattan found that 9.7% had symptoms consistent with a depressive disorder (Galea et al., 2002). Panic and phobic disorders may also be found in trauma-exposed populations, but less often than PTSD and major depression (David et al., 1996; Green et al., 1992; McFarlane, Atchison, Rafalowicz, & Papay, 1994; North, Nixon, Shariat, Mallonee, McMillen, Spitznagel, et al., 1999).

Alcohol use disorders are often considered to represent pathological outcomes of self-medication or efforts to cope with a traumatic event (Jacobsen, Southwick, & Kosten, 2001; Saxon et al., 2001; Zatzick, Roy-Byrne, & Russo, 2001). A recent study of ten disasters by North and colleagues (2010) found, however, that the vast majority of post-disaster alcohol use disorders actually represented a continuation or recurrence of preexisting problems and not development of new (incident) cases, a conclusion supported by findings of other research (Norris, Friedman, Watson, et al., 2002; North, Nixon, Shariat, Mallonee, McMillen, Sptiznagel, et al., 1999). Many studies have examined alcohol consumption rather than diagnosis of alcohol use disorders (North, Ringwalt, et al., 2010). Studies have reported that alcohol consumption is thought to increase following a disaster (J. A. Boscarino, B. G. Adams, & S. Galea, 2006; Boscarino, Kirchner, Hoffman, Sartorius, & Adams, 2011; Foa et al., 2006; Hasin, Keyes, Hatzenbuehler, Anaronovich, & Alderson, 2007; Joseph, Yule, Williams, & Hodgekinson, 1993; Sims & Sims, 1998; Smith, Chrisiansen, Vincent, & Hann, 1999; Vlahov, Galea, Ahern, Resnick, & Kilpatrick, 2004; Vlahov et al., 2002); however, this does not necessarily reflect pathology (J. A. Boscarino, R. E. Adams, & S. Galea, 2006). No study to date has addressed alcohol consumption and the development of alcohol disorders in the same individuals in relation to disaster exposure.

III. Other Effects of Disaster

A landmark comprehensive review of disaster mental health by Norris et al. (2002) examined data from 160 studies of disaster victims studied between 1981 and 2001. The combined sample in this study included more than 60,000 individuals from 120 different events, including floods, earthquakes, nuclear accidents, sniper attacks, bombings, etc. (Norris, Friedman, Watson, et al., 2002). Six sets of outcomes were examined (Norris, Friedman, Watson, et al., 2002): specific psychological problems, nonspecific distress, health problems and concerns, chronic problems with living, psychosocial resource loss, and problems specific to youth (Norris, Friedman, Watson, et al., 2002).

In the Norris et al. review (2002), *health problems and concerns* reflect physiological indicators of stress and sleep disruption. *Chronic problems with living* include interpersonal (e.g., family conflict) and work-related (e.g., financial difficulties or occupational disturbances). Changes in the physical environment, ecological stress, and persistent disruption during the rebuilding process were reported as major stressors as well. Norris et al. (2002) also found that disaster survivors are more likely to experience hassles or stressful life events in the months following a disaster than people who are not exposed to disaster.

In the Norris et al. review (2002), *psychosocial resource loss* is typically determined by examining global indices of resource loss and observed declines in specific resources (e.g., perceived social support, social embededness, self-efficacy, optimism, and perceived control). Reduced psychological resources include positive beliefs, optimistic biases, goal accomplishment, and perceived control over one's life (Janoff-Bulman, 1989; Norris, Friedman, Watson, et al., 2002; Solomon, Iancu, & Tyano, 1997). Social resource loss consists of the death of significant figures in one's life, temporary or permanent relocation in home or work environments, and decline in participation in social settings (Norris, Friedman, Watson, et al., 2002). In the Norris et al. review (2002), *problems specific to youth* in children reflect increased need for closeness, dependence, refusing to sleep by oneself, aggressive behavior, and other difficulties.

IV. Exposure

Until the 9/11 attacks, disaster research was primarily focused on the highly disaster-exposed individuals (North, 2004a). Given the unprecedented magnitude and severity of 9/11, research on this disaster broadened its scope to also examine unexposed populations (Fig. 1) (North, 2004a). In general, after a disaster, populations can be divided into subgroups of individuals directly exposed, indirectly or secondarily affected, and remotely affected (Fig. 1) (North,

2004a). Individuals directly exposed to the 9/11 attacks on the WTC include those who were in the Twin Towers or otherwise directly endangered by the 9/11 attacks as well as those who directly witnessed the event from a close distance (North, 2004a). These individuals meet the trauma exposure criterion for consideration of a diagnosis of PTSD (North, 2004a). Some will develop PTSD, but most will not. Among those who do not meet criteria for PTSD, many will experience substantial distress and challenges, such as difficulties functioning (North, Nixon, Shariat, Mallonee, McMillen, Spitznagel, et al., 1999).

Indirectly-affected individuals may have seen the Twin Towers burning from a safe distance, lost their jobs or income, been displaced from their homes, had property loss, or lost a friend or acquaintance who was not a "close associate" in the disaster (North, 2004a). Remotely-affected individuals may have seen the towers collapse on television or otherwise heard about the disaster through the media. Because indirectly-affected and remotely-affected individuals were not directly exposed to the disaster either personally or through the direct exposure of a close associate, neither meet the exposure criterion for the diagnosis of PTSD. Thus, neither indirectly-affected nor remotely-affected individuals could develop PTSD in relation to the 9/11 attacks. People in both groups will likely experience distress or other psychosocial stressors in relation to the disaster (North, 2004a). The level of distress experienced by remotely-affected individuals is generally expected to be of lower magnitude compared to those indirectly affected because

of their greater removal from the area hit by the disaster (North, 2004a). Figure 1 illustrates the experience of individuals in different exposure groups following a disaster.

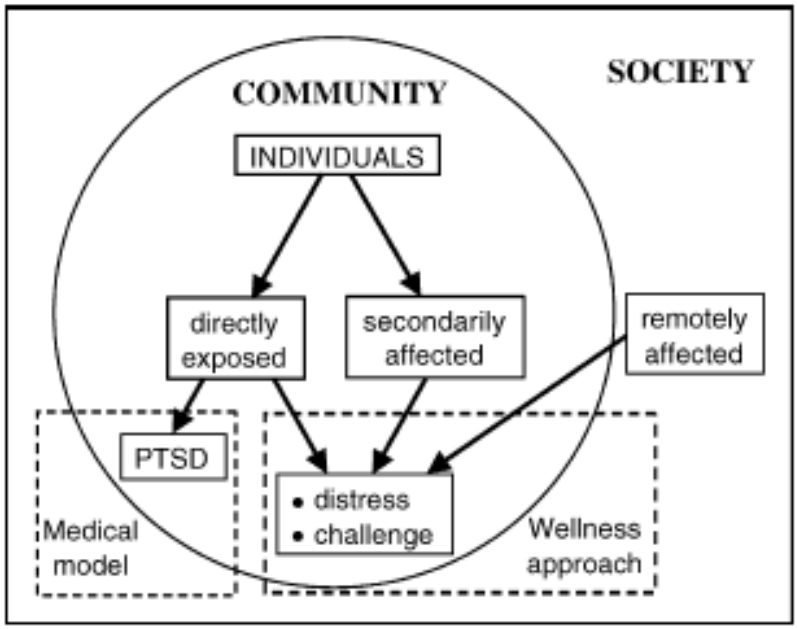

Figure 1. Model of Exposure. Adapted from "Approaching Disaster Mental Health Research after the 9/11 World Trade Center Terrorist Attacks," by Carol S. North, 2004, *Psychiatric Clinics of North America, 27*, p. 595. Copyright 2004 by Elsevier Saunders. Used with permission.

V. Culture

The ways in which individuals make sense of their experience can be greatly affected by their cultural perspective. Culture is characterized as value

commitments and moral orientations that are embodied in individuals in specific, local settings (Desjarlais, 1992; Kleninman & Kleinman, 1991). Culture is also referred to as the shared beliefs, values, and practices of a given group of individuals usually from similar racial, ethnic, national, or religious backgrounds (Lopez & Hernandez, 1987). The following two sections of the literature review focus specifically on Chinese and Hispanic culture of relevance to the present study, because they represented two distinct focus groups within the study.

Chinese Cultural Perspective

Historically, Chinese collectivistic cultures are known to place great importance on the connectedness among their community (Markus & Kitayama, 1991), as well as the value of emotional control and moderation (Klineberg, 1938; Potter, 1988; Wu & Tseng, 1985). The Chinese concept of self is closely related to the culturally-ascribed characteristics of the family (Lewis-Fernandez & Kleinman, 1994). The family is seen as an "immortal structure in which the individual constitutes only a temporary, subordinate part" (Lewis-Fernandez & Kleinman, 1994). One's position within the family is primarily determined by birth order and gender (Lewis-Fernandez & Kleinman, 1994). Outside of the family, social attributions of position, prestige, and power work to form one's personality characteristics (Lewis-Fernandez & Kleinman, 1994).

Chinese culture also emphasizes the importance of minimal expression of emotion or affect in relationships and interactions with others (Tu, 1992). This emphasis on "blandness" is thought to help more easily foster flexible negotiations across a variety of situations (Kleninman & Kleinman, 1991). Hwang (1987) described emotion within Chinese culture as a form of currency that can be exchanged, owed, or given within social connections to conserve reciprocal relationships. Strong emotions are thought to lead to illness (Lewis-Fernandez & Kleinman, 1994). Yu (1991) postulated that psychopathology both originates within and is expressed as resentment toward family, loss of face, and sense of powerlessness.

Following 9/11, many Asian-American communities in NYC, particularly Chinatown, were economically, socially, and emotionally affected (Constantine, Alleyne, Caldwell, McRae, & Suzuki, 2005). Chinatown is located approximately one mile from "Ground Zero" (the WTC disaster site). Chinatown is an active commercial center with 3,855 Chinese-owned and -operated businesses, an apparel manufacturing center, a major NYC tourist attraction, and a vibrant immigrant community (York, 2002). Following 9/11, many streets surrounding Chinatown were closed, subway lines were restricted, telephone services were disrupted, and nearly 1,000 parking spaces were no longer available because of street closures and increased police presence (York, 2002). Such factors contributed to a significant loss of revenue and livelihood among the

community (York, 2002). There was an 80% decrease in weekly wages in this community, further reflecting the impact of 9/11 in Chinatown (York, 2002).

Hispanic Cultural Perspective

Traditional Hispanic values typically center on the family (Sue & Sue, 2008). Such values include loyalty, respect, and cooperation within the family (Sue & Sue, 2008). Great importance is also placed on the nurturance of interpersonal relationships among family and friends (Dingfelder, 2005a, 2005b). Extended family and close others provide the most useful sources of emotional support and people generally turn to them for help with personal concerns, thereby leaving sources of support outside of the family underutilized (Capps, Fix, Ost, Reardon-Anderson, & Passel, 2005; Sue & Sue, 2008). Religion, specifically Catholicism, also represents a primary source of support in times of stress within Hispanic culture (Sue & Sue, 2008). Difficulties related to acculturation, family conflicts, discrimination, and loss of financial and social resources are characteristically described as significant stressors (Hovey, 2000). In traditional Hispanic culture, sex roles are very strict (Sue & Sue, 2008). *Machismo* describes the expectation of men to be strong, dominant, and the main provider for the family (Sue & Sue, 2008). In contrast, *marianismo* reflects the expectation that women should generally be nurturing, submissive, and self-sacrificing (Sue & Sue, 2008).

Galea et al. (2004) reported that after the 9/11 attacks, NYC area Hispanics, regardless of gender, were more likely to report posttraumatic stress symptoms than were other ethnic groups (Galea et al., 2002; Galea et al., 2003). Hispanics have similarly been found to be more likely to report posttraumatic stress symptoms compared to other minorities and Caucasians in various other disaster studies (Perilla, Norris, & Lavizzo, 2002; Pole, Best, Metzler, & Marmar, 2005; Pole et al., 2001). The National Vietnam Veterans' Readjustment Survey (NVVRS) reported a higher incidence of combat-related PTSD among Hispanics than among Caucasians or African Americans (Kulka et al., 1990). One of the earliest studies to examine ethnic differences in PTSD risk after a natural disaster postulated that among Hispanics, low levels of social support and acculturation were associated with greater risk for PTSD (Escobar et al., 1983). Another study (Perilla et al., 2002) demonstrated that Spanish-preferring Latinos showed higher levels of posttraumatic stress symptoms following Hurricane Andrew than did Caucasian or English-preferring participants.

Culture-specific Responses to Disaster

Several studies have demonstrated that ethnic minorities were negatively affected by the 9/11 terrorist attacks, and that their range of distress depended on level of social support, exposure to previous traumatic events, and proximity to the WTC (Galea et al., 2002; Murphy, Wismar, & Freeman, 2003; Pantin,

Schwartze, Prado, Feaster, & Szapocznik, 2003; Walker & Chestnut, 2003). Research by North et al. (2005) found considerable consistency between two cultures (American [Oklahoma City] and Kenyan [Nairobi]) in terms of prevalence and presentation of PTSD and other post-disaster psychopathology. However, differences in coping responses and treatment were identified between these two groups of directly-exposed disaster survivors (North, Pfefferbaum, et al., 2005). Greater awareness of culturally-specific responses to stress and trauma will likely improve planning and implementation of mental health services (Perilla et al., 2002).

VI. Focus Groups

Historical Perspective

Focus groups are a form of group interview, a research strategy that has been in use for more than a century and representing one of the most widely used research tools in the social sciences. Bogardus' (1926) description of group interviews is one of the earliest published works on this subject, which contains detailed discussion of market research techniques. Group interviews, formerly referred to as "focused interviews," were also a key part of applied social research programs during World War II (Merton & Kendall, 1946). Such groups were used to study the persuasiveness of propaganda efforts and the effectiveness of

training materials given to the troops (Merton & Kendall, 1946). Other studies using focus group methods during this time period focused on factors that affected productivity in the workplace (Thompson & Demerath, 1952) as well as on how marketing research can be furthered with the information provided by focus groups (Lazarsfeld, 1972).

Focus groups arose in the behavioral science research field as a distinct form of qualitative research alongside other methods including individual in-depth interviewing, ethnographic participant observation, and projective methods. The use of focus groups in qualitative marketing studies has grown steadily since the 1970s (Kitzinger, 1995). Today, focus groups account for approximately 80% of the $1.1 billion spent each year on qualitative research (Wellner, 2003). Focus group research projects vary in the numbers of groups studied, ranging from only two or three groups to more than 100 (Emerson, 2000). Some of the earliest clinical uses of focus groups date back to Moreno's seminal work with psychodrama and play therapy with children (Moreno, 1934). The clinical approach to focus groups, as opposed to the original social psychological traditions, tends to emphasize interactive group discussions and activities. Focus groups are also used to elicit discussion of individuals' thoughts and feelings, as well as extensive, broad, and spontaneous expressions related to a wide range of possible topics.

Utility of Focus Groups

Focus groups examine communication among research participants for the purpose of generating qualitative data. Focus groups allow researchers to gather preliminary information on topics that are poorly understood or previously unexplored (North, Pollio, et al., 2005). Rather than following the predetermined ideas of investigators, this research method facilitates the spontaneous emergence of novel concepts in participants' own words (North, Pollio, et al., 2005) and discussions of personal experiences in ways that are not typically feasible with other methods (Morgan & Krueger, 1993). Use of open-ended questions enables participants to explore the issues that are most important to them (e.g., experiences, reactions, attitudes, perceptions, feelings, and beliefs) (Kitzinger, 1995). Participants are encouraged to talk to each other, ask questions, share experiences, and comment on each other's points of view (Kitzinger, 1994). This method is based on the premise that groups stimulate research participants to explore and clarify their views in a manner that typically cannot be assessed through directed individual interviews or questionnaires (Kitzinger, 1995). Additionally, focus groups tend to encourage participation from people who might be reluctant to be interviewed on their own (Kitzinger, 1995).

VII: Qualitative Analysis

Distinction from Quantitative Analysis

Qualitative analysis generally relies on naturalistic observation (Padgett, 2008). This implies a degree of closeness to the subject matter and an absence of the controlled conditions characteristic of quantitative methods (Padgett, 2008). Qualitative research rests on an "open systems" assumption in which the observational context is part of the study itself (Manicas & Secord, 1982). This is in stark contrast to quantitative research, which favors a closed system approach in an attempt to neutralize the effects of the observer (Padgett, 2008). Qualitative studies aim to represent the complexity of respondents' experiences, perceptions, and concerns in a holistic manner (Padgett, 2008). Whereas the primary emphasis of a quantitative research report is the statistical findings, a qualitative research report presents the findings in a pieced-together, woven story in which the whole is greater than the sum of its parts (Padgett, 2008). Qualitative research requires the involvement of the researcher as the primary instrument of data collection (Padgett, 2008). Unlike the standardized questions typically used in quantitative research, the qualitative researcher's role requires flexibility and the ability to make quick decisions about which topics to encourage participants to discuss in greater detail, when to entirely redirect the conversation, and when to remain silent (Padgett, 2008).

Qualitative Approaches

Qualitative methods of data analysis provide various ways to examine, compare and contrast, and interpret meaningful patterns or themes (Stewart & Shamdasani, 2007). Of the many qualitative approaches available, three approaches in particular are the most relevant to the utilization of focus groups and content analysis. These approaches are grounded theory, narrative, and phenomenological. A brief overview of each approach is provided below.

Grounded theory involves inductive coding of data (Padgett, 2008). Data in grounded theory studies can take a variety of forms and are typically obtained through moderately sized (approximately 20-30) samples of individuals (Padgett, 2008). The goal is to refine a developing theory of a phenomenon so that the theory has the ability to account for the variance in the data (Padgett, 2008). A grounded theory approach requires repeated collection and analysis of data for the purpose of adequately developing and refining a theory. The present study includes data that were collected at one point in time that do not lend themselves to such an exhaustive, repetitive grounded theory approach, and the scope of this project does not permit further collection of data for the purpose of following a grounded theory approach. Future studies based on the findings of the current study may use the grounded theory approach to further advance the understanding of the basic preliminary conceptualization of survivors' experiences obtained from this and other similar studies (Padgett, 2008).

Narrative approaches emphasize the importance of the spoken word (Mishler, 1986; Polkinghorne, 1988) and assume that speaking and writing are forms of meaning-making. As such, there are two basic subtypes, narrative analysis and conversation and discourse analysis (Padgett, 2008). Narrative analysis uses in-depth interviewing to elicit storytelling and encourages participants to share openly (Padgett, 2008). Analyses involve listening to interview tapes and reading transcripts to identify "stories" (Padgett, 2008). Conversation analysis examines sequencing, turn taking, interruption, and other aspects of conversation to elucidate how social roles are manifested (Farnell & Graham, 2000). By analyzing audiotaped transcriptions of conversations, researchers can better understand how interpersonal communication reflects and affects social interaction (Padgett, 2008). Discourse analysis allows meaning to be determined from a variety of indices, such as word choice, speaking rhythm, intonation, gestures, and nonverbal utterances (Padgett, 2008). Although specific techniques within narrative approaches differ, all require the immersion of the researcher and significant time and effort (Padgett, 2008). The focus on process and lack of interaction among participants is not the best choice for the proposed study because the ability for participants to build upon one another's thoughts, feelings, and concerns is an important component of the present study that is based on group discussions of the 9/11 disaster experience.

Phenomenological analysis places significant value on understanding the experience of a group or population of individuals (Padgett, 2008). Participants in such studies typically share a particular life experience (e.g., being new parents, having cancer, surviving a natural disaster). Analyses of interview data are conducted to identify common themes in the material discussed (Padgett, 2008). Phenomenological interviews typically include 6-10 participants and begin with broad, yet open-ended questions (Padgett, 2008). Participants sometimes undergo multiple interviews, allowing researchers to attain a greater level of depth regarding the topic of investigation (Creswell, 2007). Phenomenological analysis aims to impart upon readers the feeling that they have "walked a mile in the shoes" of participants (Padgett, 2008). Because this project sought to gain a clear understanding of 9/11 survivors' thoughts, feelings, and concerns, the phenomenological approach was used (Padgett, 2008). This approach allows researchers to not only address PTSD, which has been a major focus in past research, but to also consider a wide array of other, unknown concerns.

CHAPTER THREE

Methodology

Methods

Focus groups were conducted by Dr. North and her colleagues approximately 1-2 years following the 9/11 terrorist attacks. Logistical issues pertaining to obtaining funding, getting IRB approval, recruiting agencies, and scheduling focus groups contributed to the lapse in time between the terrorist attacks and when the focus groups were conducted. Participants in these groups constituted a volunteer sample of individuals from two agencies formerly housed in the WTC towers, one agency across the street from the Ground Zero site, an agency approximately 1.5 blocks away and another approximately two miles away, and an airline that lost employee lives and property in the attacks.

In all, 21 focus groups were conducted with a total of 140 participants (male and female adults) who volunteered from the participating agencies to be in a focus group. Two agencies that were formerly housed in the WTC towers on 9/11 participated in this study. Most of the WTC agency focus group participants were in the towers at the time of the attacks. Three focus groups (n = 28) were conducted with participants from one WTC agency and four (n = 20) from the other WTC agency. Two focus groups (n = 12) were conducted with participants from a social service agency located across the street from the WTC. Two focus

groups (n = 18) were conducted with participants of another social service agency located approximately 1.5 blocks-away from Ground Zero. Five focus groups (n = 32) were conducted with participants from a social service agency approximately two miles from Ground Zero. Three of these five groups included mental health and social services workers (n = 16) and two included culturally specific groups (Spanish- and Mandarin-speaking) being served by the agencies (n = 16). Lastly, five focus groups (n = 30) were conducted with participants from a commercial airline, including flight attendants, aircraft mechanics, and mangers.

Agencies were approached through personal contacts of the investigative team, and researchers received formal permission from these agencies to conduct focus groups at the workplace. Employees and other affiliates of these agencies were informed of the opportunity to participate in the research study, and those who expressed interest were invited to meet with a researcher who explained the study in detail and enrolled willing participants. Individual participation was voluntary, and participants provided written informed consent prior to enrollment in the study. The Washington University School of Medicine Institutional Review Board (IRB), the IRB of the sponsoring institution of the Principal Investigator at the time of the study, approved this research in advance, and the UT Southwestern Medical Center IRB approved further analysis of data for the completion of this project.

The explanation provided by the facilitator of the focus groups' purpose was to inform the researchers about the participants' thoughts, perceptions, feelings, responses, and concerns related to their experience of the 9/11 terrorist attacks. All 21 focus groups were conducted by the same facilitator. The groups were asked to share their experiences and feelings about 9/11. There was no specific script of instructions to the groups read at the beginning of each focus group; however, the message conveyed to each group was the same. Additional input from the facilitator was avoided as much as possible during the group discussions unless direction was needed to bring the groups back onto topic as stated in the initial instructions to the group, which rarely occurred. The groups lasted approximately one hour. The focus group discussions were audiorecorded and transcribed. The resulting text of the group discussions was subjected to qualitative analysis using *NVivo* software for systematic organization and interpretation of its contents. *NVivo* is a qualitative data analysis software package produced by QSR International for qualitative analysis of non-numerical, unstructured data.

Transcripts of the focus groups were reviewed for recurring themes by a member of the research team. Five recurring broad content themes were identified: Disaster Experience, Emotional Sequelae, Workplace Issues, Coping, and Issues of Public Concern. Two independent raters not involved with the identification of recurring themes systematically and independently assigned

codes for the identified themes to all of the passages in the transcripts. No passage was double coded. Measures of inter-rater reliability on coding of passages were determined for the five themes. Inter-rater reliability was established, with kappa values of .83-88, all in the excellent range (calculated only on scored response pairs with at least one rater assignment to at least one theme). Inter-rater differences were subsequently discussed by the team and resolved by agreement for final assignment of themes. Definitions of the themes will be provided in the following chapter.

Minor changes to the data were made to allow for more refined analysis. As a first step, all tree nodes were transformed into free nodes within *NVivo*. The term node is used to represent a code, theme, or idea about the data. There are multiple types of nodes within *NVivo*. The two most commonly used, which were employed in this study, are free nodes and tree nodes. Free nodes are free-standing and are not associated with any sort of structured framework. Tree nodes have all the properties of free nodes, but are organized in a hierarchical structure. Free nodes can be changed to tree nodes, and vice versa. When the content was initially coded, it was inconsistently organized into free nodes and tree nodes. Thus, the decision to transform all tree nodes to free nodes in this study provided the uniform organization necessary to analyze the data.

Next, the coding strategies for the five themes initially established were standardized across focus groups. To improve consistency of coding between

focus groups, the categorization of the material from all the focus groups was re-examined. This ensured that all relevant material was coded and included in the analysis. Finally, coding of text was subjected to subdivision of pre-established themes. Within the emotional sequelae theme, posttraumatic stress symptoms and other emotional sequelae were differentiated into separate subclassifications. The occurrence of themes were then examined within and compared between focus groups through quantitative analysis. The number of passages coded in each theme was determined, providing relative frequencies of response types across all content themes. In this study, the relative frequencies of response types do not constitute a valid measurement of the actual amount of discussion. Rather, the frequencies represent a crude measure of how much attention was paid to the given theme. Thus, the results are expressed in terms of which themes were given the most attention, and the qualitative content of each theme was compared between focus groups. The following hypotheses were tested inductively.

Primary Aims and Hypotheses

Aim I: To better understand survivors' specific thoughts, feelings, perceptions, and concerns regarding the 9/11 terrorist attacks by identifying themes within each focus group.

Aim II: To determine whether posttraumatic stress symptoms following 9/11 represent the concern of greatest consequence to survivors.

Hypothesis 1: Qualitative analysis of focus group data will reflect far broader effects of 9/11 than effects confined to specific posttraumatic stress symptoms. This will be determined by identifying specific themes of text generated by all of the focus groups and comparing the focus and content of spontaneous discussion in these specific themes. Broad attention to factors beyond posttraumatic stress symptoms, and/or content that places the importance of other psychosocial concerns at the same or greater importance relative to posttraumatic stress symptoms will be viewed as evidence supporting the validity of this hypothesis.

Aim III: To determine additional thematic areas of concern among 9/11 survivors (e.g., financial difficulties, interpersonal relationships, employee/employer conflict, concern for national safety, etc.) by identifying additional topics of discussion and by comparing the specific themes of different exposure groups and culturally diverse groups.

Hypothesis 2: A) Qualitative analysis of focus group data will reveal the most spontaneously discussed themes by participants from directly-exposed (DE) agencies (i.e., from the two agencies formerly housed in the WTC, an agency across the street from the WTC, and an agency located approximately 1.5 blocks from the WTC) to be Disaster Experience and Emotional Sequelae, relative to participants from not directly-exposed (NDE) agencies. B) Qualitative analysis of focus group data will reveal the most

spontaneously discussed themes by participants from NDE agencies (the airline and another affected agency in lower Manhattan) to be Workplace Issues and Issues of Public Concern following a terrorist attack, relative to participants from DE agencies.

This will be determined by identifying specific themes of text generated by the focus groups and comparing the focus and content of spontaneous discussion in these specific themes. Attention given to Disaster Experience and Emotional Sequelae among participants from DE agencies and attention given to Workplace Issues and Issues of Public Concern will be viewed as evidence supporting the validity of Hypotheses 2A and B.

Hypothesis 3: Qualitative analysis of focus group data will reveal the most spontaneously discussed theme by Mandarin-speaking participants to be Issues of Public Concern, relative to Spanish-speaking participants, who will most spontaneously discuss Coping following a terrorist attack.

This will be determined by identifying specific themes of text generated by these focus groups and comparing the focus and content of spontaneous discussion in these specific themes. Attention given to Issues of Public Concern by participants from Mandarin-speaking participants and attention given to Coping by Spanish-speaking participants will be viewed as evidence supporting the validity of this hypothesis.

Data Analysis

Quantitative. Univariate analyses were used to describe sample characteristics which are presented in terms of raw numbers with proportions and means with standard deviations. The numbers of passages and frequencies by theme were tabulated across the two types of groups.

Qualitative. To address Hypothesis 1, the specific themes of text generated by all 21 focus groups (Disaster Experience, Emotional Sequelae, Workplace Issues, Coping, and Issues of Public Concern) were first determined. Posttraumatic stress symptoms were then separated from the other emotional sequelae within the Emotional Sequelae theme for each focus group. The frequency and content of spontaneous discussion of posttraumatic stress symptoms was then compared to that of the aggregate of disaster experience, other emotional sequelae, workplace issues, coping, and issues of public concern. To address Hypotheses 2A and 2B, the focus groups were first separated into two categories based on their associated agencies' exposures. The data for the two agencies formerly housed in the WTC towers, an agency across the street from the WTC, and an agency approximately 1.5 blocks away were combined to create the DE category. The data for the airline and three agencies not formerly housed in the WTC were also combined to create the NDE category. The frequencies of passages representing spontaneous discussion of the five themes (disaster experience, emotional sequelae, workplace issues, coping, and issues of public

concern) were then compared between the DE and NDE agency focus groups. To address Hypothesis 3, the spontaneous discussion of themes of the Spanish- and Mandarin-speaking NDE agency focus groups were compared with one another and with the English-speaking NDE agency focus groups.

CHAPTER FOUR

Results

Sample Description

A total of 140 individuals participated in this research study. Table 1 summarizes the demographic characteristics of the sample. The mean age was 45 (SD = 10) years. Two-thirds were female (67%). Caucasians comprised about half of the sample, African Americans and Hispanics together accounted for the next largest portion of the sample, and the remainder were Asians and Middle Easterners.

Eleven focus groups comprised of 28 members were conducted with participants from four DE agencies. Eight focus groups comprised of 46 members were conducted with participants from two NDE agencies. At one NDE agency, a Mandarin-speaking group (N = 5) comprised primarily of Chinatown residents was conducted in Mandarin and a Hispanic focus group (N = 11) was conducted in Spanish.

Themes Emerging from the Focus Groups and their Definitions

The material below reflects the rich content of survivors' concerns and experiences and organizes them into themes. The major themes identified within the focus group discussions are Disaster Experience, Emotional Sequelae,

Workplace Issues, Coping, and Issues of Public Concern. These themes reflect a wide array of psychosocial issues. Definitions of each theme are provided below along with specific inclusion and exclusion criteria for the material they contained.

Discussion in the theme of *Disaster Experience* is comprised of survivors' descriptions of learning about the terrorist attacks. Material coded in this category includes hearing about the attacks from others or the radio, watching the towers collapse on television or in person from a safe distance, and personally being in the WTC towers and directly witnessing or experiencing the attacks. Disaster Experience also includes survivors' emotional experience at the time of the attacks, but does not include emotions described in the days or extended time following the attacks, which were coded in the Emotional Sequelae category.

Discussion coded in the *Emotional Sequelae* theme includes posttraumatic stress symptoms as defined by the DSM-IV as well as other emotional sequelae. This theme reflects survivors' emotional responses in the days or extended time following the attacks, emotional responses of survivors' family and peers, and issues of bereavement and grief.

The *Workplace Issues* theme is comprised of discussion pertaining to changes in the work environment and subsequent need to adjust, recovery services provided in the office, needs and concerns from both employees' and managers' perspectives, and perceived impact of the 9/11 attacks on career and salary.

Discussion coded in the *Coping* theme includes content related to activities initiated by survivors to help process their feelings and experiences, such as seeking psychotherapy. It does not include measures initiated by survivors' employers to help their employees cope in the workplace. This theme also includes social support from family, friends, co-workers, and religion.

The theme of *Issues of Public Concern* reflects matters that occur on a national or larger societal level. These might include issues regarding politics, laws, conventions, cultural considerations, values, security, and media.

Thematic Content of Focus Group Discussions

There are two ways to approach examination of the content of the focus group discussions. The first is an overall summary of the numbers and proportions of passages in each theme to give an overall impression of the amount of material represented in each. The second, the major thrust of this study, is a qualitative examination of the content, which tells the story of what is in the data.

Presentation of the data will thus begin with a brief tabular presentation of the number of passages by theme across the two types of agencies (DE vs. NDE) represented. This will be followed by presentation of thematic content by agency type (DE vs. NDE). In the presentation of the thematic content, the order of presentation will begin with the Disaster Experience theme, a logical starting point in this disaster study. Discussion of the Emotional Sequelae theme will

follow, as it is closely related to disaster experience. Workplace Issues and Coping will be presented next, and the Issues of Public Concern theme will be discussed last. A summary discussion will follow to address similarities and differences of thematic content across the DE and NDE agencies.

Following presentation of the above material, thematic content of the Spanish- and Mandarin-speaking focus group discussions will be presented. A summary discussion of the similarities and differences in thematic content between Spanish- and Mandarin-speaking focus groups will then follow. At the conclusion of the chapter, the study hypotheses will be examined in light of the qualitative study data to determine whether the findings support or do not support the hypotheses.

Representation of Passages in Themes by DE and NDE Agencies

Table 2 provides the numbers and proportions of passages coded into the themes by DE and NDE agencies. Individuals from DE agencies discussed the Emotional Sequelae theme more than another other theme. Individuals from NDE agencies also discussed the Emotional Sequelae theme fairly extensively, but of even greater importance was Issues of Public Concern, which was the most prominently discussed theme for NDE agencies. Not only did focus group members from DE agencies NDE agencies emphasize different themes in terms of

amount of discussion of them, but the and specific content of the themes differed qualitatively in important ways between DE and NDE agencies.

Thematic Content of Directly-Exposed Agencies

The DE agency focus group discussions generated content across all five themes. The most richly developed theme for these groups was Emotional Sequelae. Given the intensity of direct exposures to the 9/11 terrorist attacks among participants from DE agencies, it might be expected that their description would entail vivid and harrowing descriptions of their 9/11 experience and intense emotions related to this experience. Because their workplace was destroyed on 9/11, they undoubtedly faced daunting challenges in their work environment that required extensive coping efforts. Discussion of their public concerns was focused specifically on their own 9/11 experience, with criticism of the existing state of disaster preparedness and the media's portrayal of the incident.

Disaster Experience

The stories emerging in these focus groups started with participants describing what it was like to be in the towers when the plane hit and the experience of their evacuation from the buildings.

> I was at my desk…in my office on the 100th floor…when the first plane hit.…it felt like an earthquake….The building jolted incredibly…the aftershocks made the building sway….There was clearly an

explosion….[Outside the window] all I saw were papers and smoke…and headed for the emergency stairwell.

We started smelling that jet fuel and that's when, you know, I thought it was gas. And he was like, "No, that's jet fuel, come on." We went back and it felt like we were in the army because we tried to get our stuff, and all the lights were out. The little smoke was creeping up in the hallways, and being the maintenance guy I knew which way to go. I said, "We go this way, we take this staircase."

When I saw the second plane hit, the explosion was so tremendous, I saw things flying past, through the air. I didn't know what they were; they could have been bodies, anything. That's when I said, "I have to get out of this area."

My windows faced the Trade Center.…[I saw] the hole that went through from the one side to the other…[and knew] they'd never get them out of there.…And we just stood and looked at this in shock, and you saw all the papers flying, and then the people started coming out. People jumping….it was just so unbelievable.

But you know what the hardest part was? When you saw the people from the 70th [floor] come down that was burnt. I'm a maintenance man and just like everybody came to me. I got nervous and I was like you know, "What should I do?" And I was like "just keep walking." Because remember that lady? She had barely had nothing on. She walked like a zombie toward me and I was like "whoa!" My body got numb and I didn't want to grab her hand. And she just looked at me and I said, "Can you walk?" And she just shook her head and I just said, "Keep going, sweetheart." And there was another gentleman; his whole forehead was just singed…

When the second plane hit, I was on about [floor] 50. The stairs beneath me seemed to [shift] like a Slinky. The whole building waved….threw me from one side of the stairwell to the other. [For] what felt like a minute afterwards, the building [felt like it] was slowly falling over…stairs underneath me going back and forth….Complete chaos: people were pushing…jumping down flights of stairs….

The elevator doors opened, and everybody started cramming in …they started to overload the elevator, and the doors wouldn't shut because there

> were too many people trying to get in the elevator, and the [doors are] very sensitive so they won't shut if there's even a hand or a finger [in the way]….So we pushed a lot of people back to get the doors shut.
>
> We felt like we were at war. On the way down, we were just helping whoever needed help. As the firemen were coming up we were pouring water on their heads you know, it was just, it was just amazing just to see these guys of age. You looked at them and you say, this guy probably has another year 'till he can retire, but he was going up like he was 19 years old, you know.
>
> Part of the plane landed on the roof of the building that we were in. And some of the ceiling came down and shit. I remember going around with [name] to make sure that whoever was there was out of their offices on their way down.

Survivors from DE agencies recounted their evolving feelings and perceptions as the attacks began. They initially described feelings of shock and disbelief, which then developed into a growing awareness and understanding of the events as they unfolded.

> When it hit, I still didn't believe it was terrorism. I just couldn't believe it. And then one of the supervisors, I remember [name] screaming, "We have to get the hell out of here!" And I say, "OK, OK." But by that time, I was in a daze. I didn't know what the hell was going on at that time.
>
> I couldn't believe it at that point. I was just in a fog. I did not believe this happened.
>
> It's like a movie to me. I can't believe that something like that actually happened to us here.
>
> Some people were hysterical. Some people were calm. Some people were just walking.
>
> My husband thought I was dead, because he couldn't get me.

> You felt like you was in the Twilight Zone because you couldn't run fast enough, because you're trying to dodge the bodies….the funny thing was when we got outside, everything was white….I couldn't run fast enough because I was so scared I might step on something.

They also discussed their experience of running away from the Twin Towers and the scenes of horror and chaos they encountered as they made their way toward safety.

> And then suddenly you heard, "Run, run! The building is collapsing." "Everybody run." Like Exodus, you know? People were just dragging their feet. No direction and all that.
>
> We started running down the street, and I ran into this young lady. She was petrified, absolutely petrified. So I took her under my wing. She held my shoulder all the way down for about a mile or more, and then we finally realized that she was sort of safe. She said, "Thank you very much."
>
> I started running, and the people who were stopped were, like older people, people who were burnt sitting down, and you'd try to get them back up and say, "Keep going."
>
> There were a few people I jumped over, and those faces you can always see…
>
> The first thing [name] said to me was like, "What are these mannequins doing out here?" I turned around and I was like, "These are bodies. Let's go." And there was this one man that very vividly I can remember, he had on glasses. He was burnt so bad that his glasses were pink. And I just stared at him. And a fireman says "Come on." He was like, "Don't look up."

The DE agencies were directly exposed to the danger as reflected in the vivid descriptions of these focus group members' experiences of observing the planes hit the towers, feeling the jolt of the planes striking the buildings, fleeing

from danger, and witnessing the horrors of massive death and destruction from close range. The sense of horror and utter disbelief they experienced as they experienced the attacks and attempted to flee from the Twin Towers was almost palpable in their words. These rich descriptions reflect survivors' cognitive and emotional processing of the events and their attempts to make sense of their surreal experiences.

Emotional Sequelae

Focus group members from the DE agencies experienced intense personal arousal after the attacks. They described being haunted by repeated horrific images of the scenes they witnessed during the 9/11 attacks.

> I didn't sleep that night. Up until this day, I'm kind of like terrified taking the trains to come to Manhattan.
>
> ...sleeping in 20 minute increments…wake up in that heightened panic, my heart racing.
>
> Nightmares...that I was in the building, burning...screaming at them trying to get them on the elevators to try and get them out...
>
> I keep re-seeing what I saw. It doesn't stop. It's like a videotape that you play over and over again....it just won't go away.
>
> Not a cloud in the sky and I look up: "Oh, my God, it's that kind of a day." Those bring it back....gorgeous days bother me.
>
> The next morning [after 9/11], I heard the military planes, and I literally went under the table.
>
> I tense when I hear a plane. Is it going to…crash into the building?

> Last week, during the Columbus Day parade, I heard a rumbling sound, and I saw a man…looking up….My heart started to pound, and I was starting to perspire. Like where do we go? What do I do? How do I find out what was that rumbling sound is? It probably was helicopters televising the darned parade.
>
> I have become very claustrophobic, so I don't ever do tunnels or subways, ever. I take the ferry.
>
> You know in your heart that something else will happen again; that it's inevitable….you're just waiting for it…

These descriptions portray responses suggesting posttraumatic stress symptoms. In particular, they described reactions consistent with group B (intrusion: intrusive images, distressing dreams, flashbacks, intense psychological distress at exposure to reminders of the attacks, and physiological reactivity on exposure to reminders of the attacks) and group D (hyperarousal: difficulty sleeping, hypervigilence, and exaggerated startle response) symptoms.

A wide array of other emotional responses was described. Several comments were made about continuing fears of danger and personal safety concerns.

> Just fear of getting on the train. Every day I felt that there was going to be a bomb on the train.
>
> Every day I felt that there was going to be a bomb on the train. I thought that they were going to bomb…me walking down the street.
>
> And for the next several months, getting on the subway and thinking, why am I getting on the subway? So if I was a terrorist, wouldn't I next want to blow up the subway? It seems like such an easy target. And I would sit there on the subway, thinking, well, I said good-bye to them in the

> morning, and if they never see me again, they never see me again. It felt…everything felt like just a chance.

Additional psychological effects experienced by survivors from DE agencies include the experience of loss, bereavement, and grief.

> I lost two people that I ate lunch with daily for almost the entire time I had been with the company. I have not replaced them today. I eat alone. I go out alone. It's tough. I felt a lot of guilt about not being there.

> That was one of the biggest challenges for me personally, mourning. How do you mourn so many people at the same time? I literally found a solution in those bracelets [we began wearing at work after 9/11]. I would put a bracelet on with somebody's name on it, so that I could focus on that person at one time.

> A hundred and seventy-five people [lost] is incomprehensible. People… still look at me and say, "How many did you lose?" and then just shake their head.

> And so it took me a little while to get past the fact that it was OK for me to mourn my stuff. And, like a lot of us, I brought a lot of stuff, 'cause I spent a lot of time in my office….And after a while, it was OK for me to mourn my stuff. It was OK for me to want my stuff back.

> Well, that's how multi-faceted the loss is, though, when you think about it. 'Cause we're sitting here, talking. People lost their lives. But you used a great expression: you mourn the loss of your stuff. You mourn the loss of the place. You mourn the loss of your colleagues. You mourn the loss of your innocence.

> I don't think that anything that I lost, other than a book I happened to be reading [could be replaced]. It was things my kids may have made when they were in preschool…

The loss of co-workers and friends was described as one of the most significant challenges faced by these focus group participants after 9/11. They described how challenging it was to return to the workplace without all of their

co-workers and they struggled to make sense of how to mourn so many losses at once.

Workplace Issues

There was considerable discussion of the challenges of adjusting to the new post-9/11 work environment. One manager described his attempts to reintroduce employees to the workplace in stages, trying to accommodate the varied emotional states of his employees and their capacity to function in such a disrupted work environment.

> We had to [re-acclimate people] in stages….[At first] we just wanted them to know where the building was…come in to work…not even expecting them to work, and then…try to be here on time….Then, to stay a whole day….Every week, it was another step….[We] let them know, "We're here for you; the company's here for you."

> I was directed toward the Greenwich office, and I saw maybe two or three other people from New York, who were temporarily directed to go to the Greenwich office. My staff, almost all, was sent to the temporary offices we had on 36th St. Makeshift loft, but it served its purpose. I communicated with them via phone almost daily, but it wasn't a great deal of business to be conducted. We had no systems. We got whatever mail we could get and worked on that, but without any systems, it was pretty difficult to get constructive work done.

> Space, I gotta tell you, I think they screwed up….They waited too damn long…to move people to permanent space. It almost resulted in our office in New York being disbanded, which would have been devastating to everybody.

> We felt like gypsies…eight months without a home. Doesn't matter if you're crowded….you need a space where people can put [your] kids' pictures….It was a very transient type of living for most of us, and the

> attitude became, "Don't expend any effort on the space, because we're not going to be here for that long."
>
> I think my whole group was all in one room. It was very, very important, and I really underestimated how important that was, the physical closeness. For a month, we tried to operate in, I don't know, about five or six different locations, and we did the best we could, but until we were together, the healing really didn't truly begin.

All agencies formerly housed in the WTC had to relocate, moving into temporary facilities. They complained that their temporary offices were small and disorganized. They lacked the resources they needed to do their work, such as files that were lost when the Twin Towers collapsed. Readiness to return to work varied among employees.

In addition to the physical changes in the workplace, relationship dynamics also changed when new employees were hired after 9/11.

> There's the pre-9/11 people and the post-9/11 people. Now, I started in May. I was only a couple months before and so I was relatively new to the company, but because I was there prior…they still saw me as an old-timer, because that was the defining moment.
>
> What we had, in our location, is the people that did come in to replace, we hired people from the outside, and the other employees were really not treating them nicely.

Concerns regarding productivity were discussed by both employees and managers.

> They really didn't perform well. It was a major issue last year. Actually, one of the managers just told me a couple of weeks ago that his assistant, she's improving now, her work performance – she's back the way she was before 9/11 – but they were very angry, a lot of the employees.

> There was definitely an impact on people's work performance…lapses of concentration…work was slow….People responded and bounced back at different times and intervals.
>
> And productivity, I mean I can give you my own very small department. I can tell you people that people are not nearly as productive as they used to be. They can't concentrate. I have to give them instructions way more often than I ever used to. I think that's a real issue. I don't know how you address it, though.
>
> [An over-crowded work environment] demoralizes the staff, in terms of their work product and their attention to details and feelings toward the company, which were at that time getting more negative.

Focus group members from the DE agencies were preoccupied with difficulties readjusting to the workplace environment caused by the destruction of their former offices. The difficulties they described reflected struggling to accommodate to the new environment, missing co-workers, interacting with new co-workers, and trying to be productive in spite of many disruptions, crowded temporary work spaces, and lack of resources.

A number of comments were made about the recovery services provided at work and survivors' impressions of them.

> We had support in the office. We had psychiatrists who volunteered. There was a big group that went to all our offices and made themselves available….We have people that even one-on-one will get on the phone with you and talk to you about it.
>
> The counselors that we had, they were very good….They did follow up, you know. "Why don't you come and see me at my office." Also [our union is] very supportive of our staff and also had a counselor.
>
> There was help available outside the office if they didn't want to participate in the group session.

> I think we had, if I'm not mistaken, 4 or 5 sessions of group therapy in the conference room. We also, on the anniversary, we also had social workers there on that day….So, I believe we had a lot of support.
>
> I don't think we had enough help from the managers, to be honest with you.
>
> I was personally very disappointed that I thought that all of the managers in the society should have set an example by presenting themselves at those sessions, and they didn't. And I had a few conversations with a few people on that issue. I really thought that would have been important.

Survivors from DE agencies described the workplace response and recovery services offered to employees as both helpful and problematic. They identified the coming together of co-workers and compassionate gestures of the workplace as playing a pivotal role in their recovery process. They also made several positive comments about the therapists and group sessions provided. Employees expressed frustration over the limited participation of management along with the rest of the employees in these groups. They interpreted this lack of involvement as indifference to emotional needs of the workers.

In contrast, some managers described feeling like they were put in an awkward position by being expected to participate in the same groups as their employees. Managers described the difficultly they experienced trying to help their employees with their emotional issues, while the managers were simultaneously trying to deal with their own emotions.

> There was also the sense of…I felt the sense of responsibility, the sense of leadership…there were times when it was difficult, because you couldn't

> let your guard down….You might be frightened to come to work…but you really couldn't show that, because how could you then expect your employees, if they wanted to break out of it.
>
> Can I grieve, too? It's not that I don't care about them, but it also hurts me….I'm a human being, too.
>
> You're dealing with your own grief and emotions and everything that's flowing through you, and then you have to deal with being the representative of the company. I was so numb….My team alone lost [a lot of] people….I had to be so stiff with everything that I completely froze up.

Coping

There are many ways in which people can cope, and survivors from DE agencies were selective in what they shared and with whom they shared.

> Yeah, I totally threw myself into work. Like getting the office back together, like having to help our clients, like getting all my…getting all the materials that we send out, and…you know thankfully, when I'd started my job, like three years earlier, I'd brought that stuff home to study it, and reading everything, and making a little office out of our conference room, and….I just worked.
>
> I used to joke, I had to start to leave at 3:00 because I had to go around and hug everybody. So that way, I could get out by 5:00.
>
> We tend to support each other. One day, someone would be down and you had someone to go to who understood what you've been through, to just listen…
>
> It just feels good to hear that [my co-workers] feel like I do. It validates [my] feelings.
>
> The effect of just being together, being with each other and seeing each other every day….I really underestimated how important that was, the physical closeness….Until we were together, the healing really didn't truly begin."

> In the long term, we really leaned on each other, because, frankly, our spouses got tired of hearing about it. When something like this happens, you need to talk about it a lot [and] when I get together with my colleagues, we still cry…and these are the only people I can do that with. I don't want to do that in front of my husband or my kids, because I don't want to upset them.

All of the comments about coping involved the work place and the reliance on co-workers for social support. Focus group members from DE agencies felt that their co-workers were the only people who could truly relate and understand them. Survivors emphasized how important togetherness was in the workplace to facilitate the sense of support they felt.

Issues of Public Concern

Many concerns were expressed regarding disaster preparedness and disruption of communication in the disaster.

> I just thought that the US was a little more prepared. I just didn't know that this country was so disorganized. I swear to you, I never imagined. I think they were very disorganized. I believe, yeah, they're very laid back, and I guess they just thought this would never happen here. That you should never take things for granted; think like that. When the first plane hit, it was about 20 minutes before the other one hit. And I don't understand; don't they track those things? Where are the air traffic controllers? Who's tracking these things?
>
> And at that point again, I realized, we were not prepared for it, because we weren't even prepared to deal with the blackout.
>
> Cell phones just completely died.
>
> Cell phones were useless. I couldn't get a hold of a pay phone and then when I jumped into a building….I was waiting there…I still couldn't dial

> out and we could not I could not get a phone line out. I finally got a line to midtown Manhattan to my corporate office and I was like, "I'll tell you whatever you need to know, but somebody needs to call my wife and tell her I'm alive."
>
> You heard the news, and you don't really know what's happening around you. And you cannot get a call. I cannot call anybody. Cell phone, public phone, nothing.

These comments reflect survivors from DE agencies' concerns of being endangered because of the emergency response teams' and the country's lack of preparedness and disorganization on the morning of 9/11. They questioned whether all of the appropriate measures had been taken in order to ensure their safety and described their frustrations with the difficulties they experienced trying to reach loved ones after the attacks. Not being able to communicate with their families contributed to the sense of panic and the perceptions of lack of safety in the moments following the attacks.

The media's response to the 9/11 attacks was also a focus of public concern discussed by survivors from DE agencies.

> I was furious at the media for months after that…because if I saw a plane [on a televised newscast] one more time, I was going to call someone. It was like those Coke ads they say they used to put in movie commercials like every two seconds, it was too much…
>
> I look at my granddaughter, and she's seven. She thought the Trade Center kept falling down, like there were many buildings, because they kept re-running it.
>
> I made the mistake of watching that show, the one that was kind of an analysis of what actually happened with the building. I thought it was pretty straightforward, but what it turned out to be was over and over.

> OK, the planes hit from this angle, and this is what would happen. The planes hit from this angle, and this is what would happen. And over and over.
>
> I thought we weren't getting a lot of information about the political side of that. I didn't feel we were getting enough about Al Qaeda until like months after that happened…
>
> The sensationalism, I could have really done without….The fact that the public had an appetite for that worries me, you know, that people were really into that.

Focus group members from DE agencies described substantial distress resulting from the media's portrayal of the 9/11 attacks and the recurrent airing of images of the disaster that they were in. They described the media's focus on horrific images as disproportionate to the amount of actual information that was provided.

Thematic Content of Not Directly-Exposed Agencies

Discussions of focus groups from NDE agencies had content in all five themes, and the most richly developed theme was Issues of Public Concern. Many of these individuals had learned of the attacks from others and some saw the planes hit the towers from a distance. They understandably felt distressed and they, too, reported some post-9/11 workplace difficulties. They too discussed how they coped with their 9/11 experienced, but they also focused much of their conversation on more global issues.

Disaster Experience

Individuals from the NDE agencies described their experiences of learning about the terrorist attacks on 9/11.

> And so the shock at that point in time for every single individual that was around there of seeing this huge building, of seeing people jumping off the buildings, is just not something that you see every day.

> I heard it on the radio. I ran out to Hudson St. and saw the second plane hit, and saw the towers come down.

> The second one happened, and even then I thought, "What's going on here?" It still didn't even occur to me that it would be some sort of terrorist attack. The news just kept on rolling….Then I'm thinking the world's coming to an end here.

> I was at work, thinking that the world was fine until the phone rang, and I answered the phone, and it was my husband. 'Cause he was at work [at the airport]. And he said, "I was just outside…and a plane hit one of the towers." And I said, "Oh, God." I couldn't believe it. But he didn't think it was a big plane; he thought it was maybe a prop jet, one of the smaller ones, just lost its way and hit. And I hung up the phone, and not even 5 minute later, he calls again. He says, "Oh my God, another one." I said, "That's not an accident." He said, "No, it's got to be terrorism, it's got to be…they meant to do it." Then my husband called me back and said, "The towers have gone; they've collapsed."

> That morning [of] 9/11, my daughter called….She said, "Open your window. Look! The World Trade Center started to burn." And I don't believe that's real then. The TV's right here, and my eyes [are] looking [the TV]. At that time, I still don't believe that's true. So, the second airplane [hit]. I just started to realize it's a really big issue, so that time I feel numb.

> [I was at] the new terminal that they built [at the airport]….I'm looking, and as I'm looking and taking a picture, I see the smoke there, and I'm saying, "Jesus. You know, that's a lot of smoke." We're about 12 miles away to observe that…

A flight attendant who was not at work on the morning of 9/11 described her experience of learning about the terrorist attacks.

> I was in the gym….one of these women, from where I live, came in and said to a friend of hers, "Did you hear about that airplane?"....And right away, my ears perked up. And she said, "Yeah…they think a small plane hit the World Trade Center."….My blood ran cold….I ran out to the car….They were screaming on the radio that, you know, it was a 767. And I'm thinking, "A 767; that can't be." And I'm thinking, "It's what?" And it was an American Airlines 767, and the first thought that came into my mind was, "Well, what flights are 767s on [from New York City] this time of day? Could it be the London flight, with all my friends on it?"

Focus group members from NDE agencies described seeing horrific images from a distance, such as people falling from the Twin Towers before they collapsed. Discussion about their experience of learning about the attacks included hearing about the attacks on the radio or television or receiving a phone call from family. They described having difficulty processing their experience and expressed a sense of horror and disbelief regarding the magnitude and cause of the attacks.

Emotional Sequelae

Like the individuals from DE agencies, those from NDE agencies also expressed fears about personal safety and emotional responses suggesting posttraumatic stress symptoms.

It's like you don't feel safe.

We are not safe.

> There's still a lot of fear.
>
> I think, whenever I get on a flight, "This could be it."
>
> When you're afraid to be happy. When you're scared that, OK, you're so happy today, something bad is going to happen.
>
> I remember being scared to death at the Boston airport. I took the train, because I couldn't deal with…the airport at all.
>
> I was just very jumpy for a really long time.
>
> A couple of nights ago…I'm working on an airplane…and a supervisor walks up behind me. When I turned around and realized he was behind me, I was definitely in a defensive posture. If I couldn't have recognized him, I'm sure I would have hurt him. Because that's how I feel when I'm outside, working on an airplane away from the hanger by myself. I'm going to defend myself. This job has put me on a higher level of alertness, or more cognitive of my life. It's not safe; you don't feel safe. And if you don't feel safe, yes, you're going to do what you can to survive.

In recounting their emotional reactions, these participants described feelings of fear, personal safety concerns, and responses consistent with group D symptoms (hyperarousal responses: hypervigilence and exaggerated startle response). These emotions were largely described in the context of concerns about future incidents rather than in their accounts of their own experience during the 9/11 attacks.

Similar to DE agencies, discussion in focus groups from NDE agencies also reflected a much wider array of psychological effects than posttraumatic stress symptoms alone. Concerns were expressed about the emotional well-being of family members.

It was really affecting my family when I transferred here. To be in the [middle] of everything is not really easy. You go three days, or four days, and go back home, and find, you know, a lot of stuff need to be accomplished, 'specially kids are 13 years old; 12, 13, 18, 19, and 22, and they still live with me all of 'em and it's really tough situation. To be focused on everything all the time.

You get in an argument 'cause you're working a second job to pay all the bills. My answer was always, "Let's go to Dallas," and that usually ended the argument, 'cause my wife wasn't moving anywhere."

My sister was very affected, 'cause she lives almost parallel to the Brooklyn Bridge and was really thrown by all the people running over the bridge and the thought of the bridge being the next target.

Kids had problems in school.

I know it bothered my kids for a while.

My 9-year-old, she was pretty upset at the time. She couldn't understand the magnitude of what happened.

My little one got home from school. I think she took it the worst of all…. She told me, "I don't want to talk about it." She remembers being in her classroom. They held everybody in their first period classes. They didn't let them out. And she remembers the principal and the nurse…going to certain classrooms and pulling kids out….Could you imagine? The kids were just crying in the hallway.

My son was 15 at the time. He was in school, and his friends were all saying that you're not safe anymore, and we're all going to die. He came home one night, and he was crying, and he goes, "Mom, are we going to die? Are we safe?" I said, "[name], I can't tell you that. All I can tell you is that I'm here for you." "Well, are they going to do this again?" I said, "[name], I can't tell you that. I can tell you I love you, and I'll be here for you. And I won't let anybody hurt you…" And he said, "Please tell me." He was hysterical, and I said, "I can't....I will be here for you. That's it." And he said, "OK," and he seemed OK with that.

Given the many emotions expressed, there was evidence that participants had engaged in cognitive processing that resulted in changed views about the world and the current situation.

> We're now a year or so past the event, but the world hadn't got back to normal. Never will.
>
> And when I got to my town, there was the Stop & Shop, there was the drugstore, there were people walking, there were other people driving, there were kids in the back of minivans, and I thought: "How can they do this? How can they just live like nothing happened?"….I don't understand how people can just be normal….Nothing is normal anymore. And how can you pretend that it is?

Workplace Issues

There was minimal NDE focus group discussion coded in the theme of Workplace Issues, with the exception of the airline focus groups. The airline focus groups had a great deal to say about post-9/11 workplace issues.

> For me, I'm permanently angry. Mainly at the company; the other terrorists, which are the corrupt, self-serving CEO's, that have taken the money and ran and had no ethics.
>
> [The airline] used 9/11 to do a lot of their promos.
>
> If you'd [talked to us sooner] after 9/11, you'd see more anger. Of course, now we're just numb, because, for me, there's no trust at all….Can't even trust the president of our own company….I don't know about him. Seems nice, but he'll turn around and back stab you.
>
> The downturn started before September 11th. And the fact that September 11th came along just gave them a great excuse to chop us to pieces. And that's what they've done. And our union did nothing to protect us.

The airline focus group members overwhelmingly expressed negative opinions toward their company. The focus of their distrust and anger was on their perceptions of how the company treated employees and took advantage of the situation. Employees were also frustrated by a decrease in their salaries and were concerned for the future of their careers.

> So, we're supposed to get a new raise, but for somehow, they want to stop it for a little while, and then they give us some kind of percentage afterward. But then after this thing, 20% cut in salary.
>
> I mean, how can you tell the landlord, "I can't afford to pay your rent this month"? Or how can you tell Con Edison or Brooklyn Union Gas, "I cannot pay you because my company cut my salary 50%"? They don't want to hear about it.
>
> One thing about the 11th, especially with us, it took our futures, and just made it totally uncertain, especially for us in our industry. All we need is another terrorist incident, and this business is finished. That's it. We're on a tightrope. This job's a tightrope walking.

Coping

Several comments were made in NDE focus groups in reference to coping after 9/11, particularly in regard to giving and receiving social support.

> Talk about it. Get a group together. Discuss it. Let them vent their feelings.
>
> It's like you get somebody you can trust, like family, you know? You sit down and you talk to the person.
>
> And I started going to counseling, which helped a lot.
>
> I'm taking myself to therapy for a while. I really…I think a lot of what has gotten through…really got to me, so I need to do work for myself,

> because I think it took a toll, and you don't even realize it until later on how you are affected.
>
> The children that I worked with had serious emotional disturbances, so they needed to talk about it. And one of the first things we did, we set up little work groups with our supervisors and had the kids talk and get out some of the emotions. And a lot of the kids didn't even realize why it happened, who did it, you know. They just repeated what other people said. We had to like educate them a little bit.
>
> And I found local places to do volunteer work: somewhere on the West Side Highway, packing up supplies to go down to Ground Zero, and [I] joined the Red Cross….That was my way of coping. I couldn't sit still and I couldn't stay home.

Discussion among focus group members from NDE agencies emphasized the importance of social support. Some of them relied on family members, and others chose to participate in therapy. Giving social support to others and volunteering in the community were described as behaviors that not only helped others, but participants reported these altruistic acts also helped them heal.

Issues of Public Concern

Participants of the NDE focus groups described their own and the country's financial difficulties.

> Everybody knew someone. Some people lost friends, lost relatives, and they started to call me, because we were also in a housing crisis. And they were saying, you know, "It's not enough this happened, and now they're going to take away our homes." So there was a whole lot of stress and continuing phone calls about both of these things happening in a short space of time.

> I've been working three jobs, so I'm kind of tired. So, until December, it's going to be tight.
>
> The economy [is] uncertain. For [my friend], she felt like she was in the '20's again. It brought back all of her difficulties of being a young woman… looking for work, not being sure of the world, being resentful, not being able to have some of the luxuries that she wanted because of the times in which she lived…

Others discussed their concerns related to perceptions that allocation of resources was inefficient and uneven.

> Working in the social work field, one: we don't get paid a lot of money, two: we're supposed to be helping people get back on their feet, so that they can live normal, productive lives in society. Yet, we live under a government that is, like, willing to spend so much money doing anything else except addressing what, in my opinion, needs to be addressed.
>
> We spend money going to war, looking for somebody we don't know if he's alive. I don't even think Saddam is the one who sent the people who….I'm just angry that all of this money that could be used for social service programs…
>
> [A Manhattan funding organization] gave funds if you have a child under 18 who lives in the home, if you were in a certain zone, or if you came back downtown to live. But they do not give funds to people who are undocumented. We look who lives in the area of 9/11, and the ones who are most affected…are the people who are doubled up, tripled up in the house, immigrants….They're working long hours for low minimum wage and…they're not eligible for any federal emergency funds.
>
> There wasn't support for the people who are living here, who endured all of this. That's what really should be supported, is the people who've had to live here. They drew their boundaries in all kind of funny ways. If you're on this side of the street, you can get some money, but if you're on this side of the street, you can't.

Focus group members from NDE agencies also commented on their perceptions of increased ethnic stereotyping following 9/11.

> People are having different kinds of racist dialogues that are accepted now.
>
> Whether by design or not, the media took all of our anger and focused it on a certain racial type….It was really bizarre the way they would say, "Be suspicious of everyone around you"….It was ridiculous that they could get a whole group of intelligent people…looking around to see who could be sitting next to them."
>
> People of Middle Eastern extraction…have had to deal with the bias since 9/11….A Pakistani woman who used to work with my wife was ostracized at work, and eventually she left her employment because she just couldn't take the leers, the comments, [being] uncomfortable working there.
>
> My landlord [who was originally from India]…They broke his car windows; they did a lot of stuff. I talked to the guys on the block. I said, "This guy is Indian. He has nothing to do with…terrorism. The man has three kids; what are you doing?"
>
> [In a] little deli [on the lower East Side] I saw a customer disput[ing with a Muslim store clerk] over change. It escalated to threats and racial slurs…. The demeanor was different [after 9/11]….They were facing this a lot.

Feelings of uncertainty regarding national safety after 9/11 and the threat of other possible future terrorist attacks were discussed in NDE focus groups.

> I think it'll happen again, because I don't think we really even though we've beefed up security but I still think if somebody really wants to terrorize, they probably will be able to do it again. So, it's been what, two years now? And I don't think we've really progressed enough, security-wise that is. It could easily happen again.
>
> I have three children, and I say to myself, "If this is happening now, what's going to happen in the future? What are their lives going to be like?" And, you see things happening like in Israel, with the bus bombings and stuff, and my fear is that that sooner or later, [they] will probably start happening here.

> They caught Saddam Hussein, they think now security [is OK]…. Supposedly the big guy is…Osama bin Laden. He's still not caught yet. It's still pretty dangerous out there.
>
> What will happen is that we will become complacent. It ain't like we forget. We'll just become complacent, and go like, "Well, you know, I'm so caught up in my life, and what I need to get accomplished, and what I want to get done." And then that's when they'll probably strike us again, because it's not on our minds. We're trying to build relationships and that sort of thing, and they catch us off guard.
>
> They may not do anything now [or] for the next six, seven years. And you know what this government is going to do? Sit back. The security TSA people at the terminal, [the president]'s going to cut them back. They're going to get you when you least expect it, and they have all the patience in the world. They'll wait 10 years. They tried to take the Twin Towers down in what, 1983 [sic: 1993], and they failed. Ten years later, if they were planning this attack, they succeeded. So this is something we've got to live with. You could sit back and two years go by….But this is something that we're going to live with for the rest of our lives.

NDE agency focus group members also reflected on the changes they observed in society following the 9/11 terrorist attacks.

> On 9/11, the people were so calm, so nice. Nobody was nasty….It was a whole different world up here after 9/11. It lasted maybe a couple of weeks….Then as the time went on, the flag ripped; nobody replaced it. Right after 9/11, do you remember how nice people were, though?
>
> Everybody drove 55; nobody cut you off. There was no traffic on the road.
>
> I had this friend who comes from the state of California, and he was shocked. He was like, "I can't get over how nice people are." But that didn't last.
>
> The Twin Towers, those two buildings destroyed this country….It was two buildings, but it destroyed this country.

> Our attitudes have changed. Now, we look at everybody in a different light. We're looking at people in a more suspicious nature. If there's something that might be out of the ordinary, we look at them.

Participants from NDE agencies expressed concern regarding the uncertainty of the economy and equitable distribution of resources. Many expressed sentiments that the country's recovery efforts and social programs were not being implemented to the extent that was needed. They also commented that financial resources were not allocated fairly and that those in most need of financial assistance remained underserved. Discussion regarding national safety and the threat of future terrorist attacks was also accompanied by comments about the increase in ethnic stereotyping and discrimination. Lastly, individuals from NDE agencies reflected on impressions that our society has changed since 9/11. Some described an immediate increase in kindness and patience in society. Others felt that this change was short-lived and noted a return to the pre-9/11 status quo.

Summary of Similarities and Differences among DE and NDE Agencies by Theme

The Disaster Experience theme was extensively discussed in the DE and NDE agency focus groups. Those in the DE agency focus groups described their personal experiences of being directly exposed to the danger on the morning of 9/11. In contrast, NDE agency focus group members described learning about the

attacks from others or seeing the planes hit the towers from a safe distance. Regardless of whether they were directly exposed, a commonality of horror was experienced by those from DE and NDE agencies alike. Horrific images were not confined to the experience of the DE agency participants: the NDE agency participants also reported seeing people falling from the burning towers. Focus group members from both DE and NDE agencies described struggling to make sense of their experience in the midst of feelings of disbelief and shock.

The Emotional Sequelae theme was also extensively discussed by focus group members from both DE and NDE agencies. Only a small component of this discussion reflected responses suggesting posttraumatic stress symptoms. There was some discussion of responses suggestive of intrusion and hyperarousal symptoms. All five intrusion symptoms and three hyperarousal symptoms, but no avoidance/numbing symptoms, were represented in these discussions.

The largest portion of the Emotional Sequelae theme reflected a much wider array of emotional responses than simply posttraumatic stress symptoms. Both DE and NDE agency focus groups expressed feeling fearful about the threat of danger and concern about safety. However, further examination of the content of discussion reveals that DE agency discussions tended to focus on personal safety as opposed to national safety, which was the main focus of fear in NDE agency discussions. Much of the discussion of Emotional Sequelae reflected personal experience of grief and bereavement in DE agency focus groups,

whereas discussion in NDE focus groups were more preoccupied with concern for their families' emotional well-being.

Focus group members from both DE and NDE agencies commented on workplace issues, but the emphasis of these discussions differed. Discussion in DE agency groups focused on difficulties returning to the workplace and the adjustment process following the destruction of their offices previously housed in the WTC. Recovery services provided in the workplace were also discussed. There was much less discussion about Workplace Issues in NDE agency focus groups. The majority of the Workplace Issues comments were made by focus group members from the airline. These concerns were overwhelmingly negative. Airline focus group members felt extremely angry and distrustful of their company.

One major commonality of the discussion between DE and NDE agency focus groups was the use of social support. Social support for both groups was central to most of the coping they described. An important difference, however, was from whom they received social support from. Members of focus groups from DE agencies reached out to their co-workers, rather than to their families. Those from NDE agencies looked for support from their family and community. A subtheme of altruism and providing social support to others was present only in focus groups from NDE agencies. These altruistic acts were described as being beneficial for both those giving and receiving the social support. Although focus

group members from both DE and NDE agencies reported participating in therapy following 9/11, those from DE agencies met with a therapist in the workplace and those from NDE agencies saw a therapist in the community.

The Issues of Public Concern theme was discussed extensively by individuals from both DE and NDE agencies; however, the content was qualitatively different. The Issues of Public Concern identified by those from DE agencies were specifically focused on their personal safety at the time of the attacks and feelings of endangerment perceived as arising from emergency service teams' and the country's lack of preparedness and disorganization. They were also upset by the manner in which the media portrayed survivors' personal experience of the terrorist attacks. In contrast, individuals from NDE agencies focused on concerns about the future and the need to help and interact with the greater society. They also expressed concerns regarding financial difficulties and the need to evenly distribute resources throughout the community.

Discussion of focus groups from DE and NDE agencies shared a common focus, on person and on time, across all five themes. In general, individuals from DE agencies tended to be more focused on their personal, immediate at the time of 9/11. In contrast, those from NDE agencies were more focused on what was happening to their family and society and were more future-oriented. The following discussion provides further support for this consistency in person and

time across themes by comparing and contrasting the focus of both those from DE and NDE agencies.

Individuals from DE agencies focused on their personal disaster experience at the time of the terrorist attacks. They also focused on their personal feelings and fear for their personal safety at the time the terrorist attacks. Workplace issues were related to the survivors' experience of adjusting to their new work environment immediately after 9/11. Efforts to cope focused on the reliance on co-workers for social support, rather than their families. Issues of Public Concern were related to survivors' distress regarding how the country and emergency response teams' lack of preparedness personally affected them at the time of the terrorist attacks.

In contrast, those from NDE agencies focused on what was happening to others from a distance and their experience of learning about the attacks from others through the radio, television, and telephone communications. The Emotional Sequelae theme in NDE groups was primarily focused on fear for future danger on a society level and concerns about their families' emotional well-being. Workplace issues largely consisted of feelings of uncertainty about what will happen to their company in the future and anger regarding how the company managed employees' concerns and took advantage of 9/11 to further their own ends. Discussion on the topic of Issues of Public Concern among individuals from NDE agencies reflected concerns about financial difficulties on a society

level, others' need for resources, and increases in racist conversations and actions after 9/11. Additionally, NDE agency focus group discussions described witnessing a change in society and reported feeling uncertain about the future.

Representation of Passages in Themes by Spanish- and Mandarin-speaking Focus Groups

The following two sections address the relative preponderance of themes within both Spanish- and Mandarin-speaking focus groups. For both the Spanish- and Mandarin-speaking groups, like the previously discussed English-speaking NDE agencies, Issues of Public Concern was the theme with the highest number of passages. Table 2 provides the numbers and proportions of passages coded into the themes by Spanish- and Mandarin-speaking focus groups.

Thematic Content of the Spanish-speaking Focus Group

This group of 11 participants generated 99 coded passages. Many of the Spanish-speaking survivors heard about the terrorist attacks from others, the radio, or televisions, or witnessed the events from a safe distance, which reflects their identification as a NDE group.

Disaster Experience

Spanish-speaking survivors described hearing about the attacks from other people, from the media, and some with their own eyes, and trying to make sense of what was happening.

> Many people screamed out, "They're falling! They're falling!" And I couldn't believe it, because I never thought they would fall.
>
> And I was listening to the radio, and I thought they were joking. So I started laughing, until my supervisor arrived at 10:00 and he told me what was going on. But in any case, I still couldn't believe it.
>
> We continued working, but when the buildings fell, we all embraced each other in the street.
>
> That was a pretty day, also. Sunny, nice morning. We were facing Eldredge, and then someone said, "Oh, all the people are looking out…." I looked, and I couldn't see anything. Then I called him, and I said, "What's going on, that everyone is looking?"….We could see the towers from where we were working, and he said, "Oh, look. Smoke is coming out over there." And then a woman in the building said, "A plane crashed." There was smoke coming out, and I said, "Oh, my son had an interview down there."
>
> [After seeing the first plane hit], I thought of the people that were there. How would they get out? A few minutes later, another explosion. Then we all exclaimed, "My God! What is this?" Then at that point I ran, because I couldn't take it anymore. I had something like a panic attack. And I ran to my office.

Emotional Sequelae

Multiple comments described the emotional responses following the attacks, some of which included discussion of posttraumatic stress symptoms.

> I feel very phobic in the trains, especially when they stop them, because a friend of mine was in the train that day, but he wasn't told what was happening.

> I can also see the Empire State Building from where I live, and I'm always looking at it, because it seems to me that I might see an airplane about to crash.
>
> I couldn't [sleep]. I kept thinking that it would continue to happen.
>
> There are those of us who value life more. And I would say family.

Workplace Issues

There was minimal discussion of concerns related to the workplace. However, at least one person commented on his office. "My office was closed for about two months while they cleaned it."

Coping

Like the other groups, the Spanish-speaking group also had some discussion of coping methods.

> Yes, I go to therapy.
>
> I speak with my husband.
>
> We'd speak at work.
>
> I'm Catholic, and I've always been Catholic. And every day after September 11th, something was born in me, that whenever I leave home, I thank God that I'm alive, that I have a job.
>
> I took refuge in the Bible….I visited the homes of many people in Queens, and many people were affected by that. Sharing Biblical texts was a great help to these people and myself.
>
> Reading the Bible, going out to preach to people, and speaking with them... And that didn't just help other people, but it helped us [too].

The coping methods described in this group were much the same as those mentioned in groups from other NDE agencies. Christian religious practices seemed to be particularly important in this group.

Issues of Public Concern

Most of the comments in this group were of similar content of those in the other NDE groups described above. There were, however, some unique comments and these concerned prejudice, discrimination, and repression.

> What happened as a result? The repressive laws that came about. And people started celebrating Giuliani, who is a racist, who instituted laws against colored and poor people, and this creates a strong perception in people that is very hard to eradicate.
>
> The repressive way [the police] were afterwards….It was racist; there were certain people that they stopped. My husband is not Arab; he's Latino, but a lot of people think he's Arab….They would stop him in his van every day, and they'd want to see what deliveries he was making. And he asked, "Why is my van being stopped? I see a lot of vans going by, and they're not being stopped."
>
> I'm married to an Arab. So that day, when I first saw it, I did not wish to think that it was terrorism….I said, "Oh, my God! Don't let it be Arabs!" After [9/11], my husband was not able to work for three or four months, because he drives taxis….His customers…even ask him for his green card, and [say] they'd send him back to his country.

The discussion in this group clearly reflected negative attitudes toward the acts of prejudice they reported.

Thematic Content of the Mandarin-speaking Focus Group

This group of 5 participants generated 76 coded passages. They generally lived and worked in Chinatown, which is approximately one mile from Ground Zero.

Disaster Experience

The Mandarin-speaking group was recruited from a NDE agency, but its members were close enough to Ground Zero that some of its members witnessed the attacks from a distance. Even from a distance, the scenes they described were horrific and frightening.

> I was in Chinatown, and somebody told me that they saw an airplane at the World Trade, and at that moment, I thought it was a joke. But when I saw the fire, I said, "Oh, my God! They went into the World Trade." When I saw the fire, I hadn't seen the attack, so I thought they were still joking. But when I saw the scenes from the roof of my house, I was scared.

> That day I was parking my car, and I heard the sounds of the attacks, but I didn't pay attention….I worried about the people who were in those buildings. How will they get out? Somebody should go and help them….I picked up my daughters, went back home, and watched TV. When I saw the first tower collapse, I couldn't control myself and I began to cry. Later the second collapsed too. I began to think about the people there, how sad their families would be.

> When I got off the train, I saw that a lot of firemen had gone inside. At first I didn't realize that this was a disaster situation, because there was just fire. But one lady told me, "Oh, no, no, no. There was an airplane that hit the tower." I still didn't pay that much attention to it. But when I looked back, and saw the angle of the two buildings, I became scared and ran….I began to realize that something very serious had happened. It was so scary, and a lot of people were panicked and talking about it. I ran up to the roof and saw one of the towers.

The scene was really scary with so much smoke.

I saw someone jumping from the top of the building. It was so scary.

Members of this group were not in imminent fear of their own lives, but their concerns were directed toward the people in the towers and the immediately surrounding areas.

Emotional Sequelae

Members of this group described disturbing thoughts and images of 9/11 and lasting emotional effects.

> I was living very close to the twin tower before 9/11. After 9/11, I decided not to live there anymore….Thinking about the collapsed building and the dead people, I don't think I can live in that apartment anymore.
>
> I interpret other things as bad signs, and consider what if something happened to my kids.
>
> Two weeks later, another plane dropped from the sky, and I was so scared that I don't want to take planes again.
>
> For more than two weeks, I couldn't sleep.
>
> Although it has been two years since 9/11 occurred, the memory of the event will be kept in my mind forever. I seldom had nightmares before 9/11, but I have had nightmares fairly often since.
>
> I think 9/11 affected a lot people….Even now, I see that a lot of people are still sad, and people are afraid to travel. Now everybody is afraid when they hear the sound of police cars and ambulances.
>
> Others shared concerns about their children.

> There is a kid about 16 to 17 years old, whose father died as a result of the event. Until now the kid and the kid's family still don't believe that the father is dead. They wait for him to return from work every day.
>
> My daughter was a very quiet person before 9/11, but now she seems totally changed. She doesn't listen to her parents. Sometimes she just says, "Why do I have to listen to you? You don't know what will happen tomorrow. Maybe tomorrow I will be dead." It is very frustrating.
>
> [My son] said it is like giving money to the bank. You never know when you will die and what happens in the future, or even tomorrow. So he begins to spend more money and not to save money.

Workplace Issues

There was minimal discussion of concerns related to the workplace in this group. The 76 passages in this group contained only one comment about the workplace, and this one comment ~~it~~ was general rather than personal: "When you look at the newspaper, you see that people lose jobs everywhere."

Coping

Of the 76 passages in this group, nine described efforts to cope. Methods of coping discussed were simple and concrete, and they all involved social support from family and friends.

> I talk with my son.
>
> I talk with my family.
>
> Husband, friends.
>
> Parents.

Issues of Public Concern

In the Mandarin-speaking focus group, discussion of concerns related to possible future terrorist attacks spurred further conversation about broader societal issues.

> I am afraid that 9/11 will happen again, and I believe that government should find an effective way to cope with terrorism. Probably registration of residents is a good idea, to control the flow of people. By doing that, government has better control of immigrants and is more effective in terms of terrorism. This is a concept of people-defense in China.
>
> My question is, why do other countries control situations like this right away, when in America, it takes so long to address?
>
> I think we should be smart in dealing with terrorism, because terrorists are becoming more and more clever. We should focus on education for young people. People are somewhat selfish here.
>
> Young people should be patriotic. Look at the SARS in China; so many medical personnel were dedicated to serve their patients, although they know that SARS was highly infectious. But look at education here; teachers guide you in academic subjects, like math and literature, but they don't tell how to care about others.
>
> I am still concerned about the young people and education about morality.

Comments were made and suspicions were expressed by Mandarin-speaking participants about other minority groups.

> I have heard discussion among teenagers. They ask, "Why did 9/11 happen?" Because the FBI didn't get any information about it. Actually the Jews already got inside information with regard to the terrorist activities, so they didn't go to work that day. So no Jews were dead as a result of this event. Many kids died that day - blacks, whites, Chinese, Americans - but no Jews.

Summary of Spanish- and Mandarin-speaking Focus Group Content by Theme

The content of both the Spanish- and Mandarin-speaking focus group discussions reflected the effect of culture on participants' experience, concerns, and feelings about the 9/11 attacks. Much of the content of focus group discussions by those in Spanish- and Mandarin-speaking focus groups was very similar to that mentioned by focus group members from the English-speaking groups of NDE agencies. Both Spanish- and Mandarin-speaking focus groups recounted horrific disaster experiences similar to those from the English-speaking groups of NDE agencies. Comments in the Mandarin-speaking focus group suggested that many of them may have been in closer proximity to the attacks than most of the participants from the Spanish-speaking focus group and the English-speaking groups of NDE agencies. Chinatown is a large residential and commercial community that is located approximately one mile away from Ground Zero. Given the location of Chinatown in relation to the disaster site, it is plausible that the Mandarin-speaking focus group members could have been close enough to witness individuals falling from the Twin Towers and other shocking images.

Discussion of the Emotional Sequelae theme was also very similar in the Spanish- and Mandarin-speaking focus groups compared to discussions of English-speaking groups of NDE agencies. Like the English-speaking groups of

NDE agencies, Spanish- and Mandarin-speaking focus groups discussed responses that might constitute posttraumatic symptoms, but these represented only a small part of the discussion which largely focused on a much broader set of emotional responses to the 9/11 attacks.

Very little attention was given to workplace issues by either group. Both Spanish- and Mandarin-speaking focus groups relied on traditional sources of support; however, the Spanish-speaking focus group also commented on the importance of religion in their coping process.

The theme most discussed among both Spanish- and Mandarin-speaking focus groups was Issues of Public Concern. The Mandarin-speaking focus group members initially discussed their feelings of distress about terrorism and then began comparing the political and cultural aspects of Chinese and American cultures. Ethnic stereotyping was discussed in both the Spanish- and Mandarin-speaking groups. Suspicions toward ~~about~~ other minority groups were expressed in the Mandarin-speaking focus group. In contrast, the discussion in the Spanish-speaking focus group reflected clearly negative views of stereotyping and discrimination.

Hypothesis Testing

The three hypotheses will be addressed below to determine whether or not the results of this study either provide support for the stated hypotheses.

Hypothesis 1 stated that the data would reveal far broader psychological effects than just posttraumatic stress symptoms. Of the posttraumatic stress symptoms mentioned, intrusion and hyperarousal symptoms were the main ones described. The posttraumatic stress symptoms represented only a minor part of all psychological effects and emotional concerns that were discussed. The content of the themes as presented in detail in the above sections of this document demonstrated the richness of all the other psychological and emotional effects that eclipsed the content of the posttraumatic stress symptom references. This was true across all focus groups regardless of exposure or culture.

Hypothesis 2 stated that focus groups from DE agencies would emphasize the disaster experience and related emotions, and those from NDE agencies would stress workplace issues and issues of public concern. The content of these themes as is presented in detail in the above sections of this document reveals that the bulk of the discussion in focus groups of DE agencies involved themes of Emotional Sequelae, Issues of Public Concern, and Disaster Experience. The discussion in focus groups of NDE agencies largely involved the themes of Issues of Public Concern and Emotional Sequelae. Hypothesis 2 is partially supported by the finding that Emotional Sequelae was extensively discussed in focus groups of DE agencies and that Issues of Public Concern was extensively discussed in focus groups of NDE agencies. However, the study results do not provide support for the part of the hypothesis stating that Workplace Issues would be a large focus

of concern among those from NDE agencies. Instead, the Workplace Issues theme appeared to be of greater importance to individuals from DE agencies.

Hypothesis 3 stated that the Mandarin-speaking participants would focus on the theme of Issues of Public Concern and Spanish-speaking participants would emphasize the theme of Coping. In partial support of Hypothesis 3, the Issues of Public Concern theme appeared to be of greater importance to Mandarin-speaking participants. However, the study results did not support the part of the hypothesis regarding the theme of Coping among Spanish-speaking participants, because Coping received little discussion in this group; instead, the theme most emphasized by the Mandarin-speaking focus group was Issues of Public Concern.

CHAPTER FIVE

Discussion

This qualitative study includes findings from 21 focus groups with 140 participants from DE agencies and others from NDE agencies. Overall, five themes emerged in these discussions: Disaster Experience, Emotional Sequelae, Workplace Issues, Coping, and Issues of Public Concern. In order to further interpret and address the results of this study, the first portion of this chapter will be organized based on the study's aims and hypotheses as they are presented in the methods section. The second portion of this chapter will include study strengths, limitations, other methodological issues of relevance to interpretation of the data, clinical impressions and future research, and conclusions.

Overall Interpretation of Findings

Aim I sought to better understand survivors' specific thoughts, feelings, perceptions, and concerns regarding the 9/11 terrorist attacks by identifying themes within the focus group discussions. Five themes emerged from the focus groups' discussion: Disaster Experience, Emotional Sequelae, Workplace Issues, Coping, and Issues of Public Concern. These themes are representative of the broad issues experienced by survivors and reflect the complex psychosocial issues faced by disaster survivors.

Aim II and its associated hypothesis (Hypothesis 1) sought to determine the relative representation of posttraumatic symptoms in individuals' concerns and whether posttraumatic stress symptoms represent the concern of greatest consequence to survivors following the 9/11 terrorist attacks. The findings of this study demonstrated that participants did indeed report symptoms that could represent symptoms of posttraumatic stress disorder. However, discussion of these symptoms represented only a small portion of the material in the Emotional Sequelae theme. Furthermore, the Emotional Sequelae theme was only a small portion of survivors' overall concerns in the collection of material within all of the five themes emerging from these discussions. Thus, the descriptions of posttraumatic stress symptoms represented only a very small portion of survivors' overall experience following the 9/11 attacks. This finding was consistent across all focus groups regardless of exposure or culture.

In the collection of these focus groups, the emotional responses suggesting posttraumatic stress symptoms were consistent with symptoms of PTSD criterion groups B and D, but not group C. Focus group members from DE agencies described both group B and D symptoms, but those from NDE agencies described only group D symptoms. Focus group members from DE agencies were directly endangered and witnessed horrific scenes up close. These experiences likely represent the substance from which they developed the intrusive recollections they described. Focus group members from NDE agencies were not directly

endangered and they viewed the incident from a distance; thus, they did not have sufficient intensity of experience of the disaster scene for the development of intrusive recollections of it.

Prior research has demonstrated that most intrusion and hyperarousal symptoms (i.e., those experienced in the absence of prominent avoidance and numbing symptoms) reflect normative responses to a disaster (McMillen et al., 2000; North, Nixon, Shariat, Mallonee, McMillen, Spitznagel, et al., 1999; North, Suris, et al., 2009). Because the posttraumatic stress symptoms mentioned by focus group members represented intrusion and hyperarousal symptoms without avoidance and numbing symptoms, they likely reflect normative responses to trauma rather than actual psychopathology. Therefore, the representation of PTSD was a diminutive part of the Emotional Sequelae theme.

Aim III and its associated hypotheses (Hypotheses 2 and 3) sought to determine additional thematic areas of concern among 9/11 survivors by analyzing topics of discussion and by comparing the specific themes of different exposure groups (DE vs. NDE agencies) and cultural groups (Spanish-speaking vs. Mandarin-speaking, and both vs. other NDE focus groups). Interpretation of the themes by exposure group will be discussed first, followed by interpretation of the themes by cultural groups.

Exposure Group (Hypotheses 2A and B). The Disaster Experience theme reflected the unique experiences of survivors on 9/11. Because the experiences of

individuals from DE and NDE agencies differed so much in the disaster, not unexpectedly, the content of the disaster experience theme that emerged was inherently different between the focus groups from the DE and NDE focus agencies. The obvious main difference in the content is that the focus group members from DE agencies, by definition, were directly exposed to the terrorist attacks and the focus group members from NDE agencies were not. Thus, the experiences they described were very different. Discussion in focus groups from DE agencies focused on the personal experiences at the time of the attacks; in contrast, discussion in focus groups from NDE agencies focused on what was happening to others from a distance.

Content classified as Emotional Sequelae was discussed extensively in focus groups of both DE and NDE agencies. Focus group members from DE agencies understandably discussed feelings of fearfulness about their personal safety and extensively described their personal emotional experience at the time of the terrorist attacks. Focus group members of DE agencies were clearly still ruminating on their personal 9/11 experience in the second year after the disaster when the focus groups were conducted, a likely reflection of the severity of the horror and terror they experienced during the attacks. In contrast, individuals from NDE agencies discussed concerns about the emotional well-being of their loved ones and others in their community rather than of themselves. The NDE agency focus group participants were also more focused on potential for future

terrorist attacks on a broad society level than on their past experience of the 9/11 attacks. Because the NDE agency focus group participants were not personally endangered in the attacks, they were more able to reflect more broadly—outside of themselves to consider the welfare of others, and to contemplate the future rather than being preoccupied with their past experience on 9/11.

Focus group members from DE agencies extensively discussed content in the theme of Workplace Issues. This is understandable given that their offices were completely destroyed when the Twin Towers collapsed. They were forced to relocate, often did not have the necessary resources to carry out their work, and faced many other challenges related to adjustment to the post-9/11 workplace. Contrary to what was hypothesized, individuals from NDE agencies expressed few concerns in the theme of Workplace Issues. This is understandable, given that their offices were not as drastically affected by the terrorist attacks. The focus group participants of one NDE sample, the airline, expressed extensive anger and distrust towards their company. Witnessing their company's poor response to needs of employees and the company's attempts to take advantage of 9/11, these employees became increasingly angry. They also described feeling uncertain about the future of their company and salary reductions.

Content of the focus group discussions in the Coping theme varied greatly between DE and NDE agencies. Discussion from DE agencies focused on receiving social support from co-workers, rather than family, because they felt

like their co-workers who went through the 9/11 attacks with them were the only people who could truly understand their experience. Survivors from DE agencies described witnessing horrific scenes and were concerned about burdening their family if they were to disclose such distressing experiences. Therefore, they did not open up and share as much. Because they did not share very much, their families truly could not completely understand what these survivors went through. Thus, it would be not unexpected that survivors from DE agencies might lean on their co-workers who shared their experience on the morning of 9/11. Almost exclusively sharing with co-workers and validating one another's feelings may have enabled and contributed to survivors' tendency to ruminate on their disaster experiences.

In contrast, those from NDE agencies mentioned both receiving and providing social support to others. Because focus group members from DE agencies were so absorbed in their own emotional experience, they did not discuss any attempts to provide social support to others. Given that focus group members from NDE agencies were so concerned about the emotional well-being of others (e.g., family and society), it is understandable that they would have been more readily able to provide emotional support to others through volunteering or other social programs.

Focus group participants from both DE and NDE agencies described attempts to cope through undergoing psychotherapy. The choice of DE agency

focus group members to see a therapist in the work environment reflects not only the posttraumatic symptoms they described but also their perceptions that they did not feel understood by individuals outside of the workplace. Even though their therapists had not directly experienced the 9/11 attacks, it is probable that survivors from DE agencies associated the therapist in the workplace with a similar understanding and level of comfort they had with their co-workers. In contrast, individuals from NDE agencies expressed fewer concerns that the others might not understand their specific experience on 9/11 and therefore seemed less particular about with whom they shared.

The theme of Issues of Public Concern further reflects the emerging pattern of differences between DE and NDE groups in focus on person and on time. Individuals from DE agencies expressed concerns for personal safety and being endangered by the limited disaster preparedness on the morning of 9/11. These concerns are understandable given their location in the Twin Towers at the time of the attacks with endangerment of their lives. Individuals from DE agencies were also very upset about the media's portrayal of 9/11, particularly given that the repeatedly aired images of the attacks were so closely related to the participants' personal experience in the disaster. Frustrations with the media were for providing only minimal relevant information about the attacks was possibly driven by thoughts that the country's lack of preparedness and limited information failed to protect people from the terrorist attacks.

In contrast, individuals from NDE agencies were more concerned about what might happen in the future and discussed issues on a greater societal level. Because they were not directly exposed to the attacks and had fewer adjustment-related issues than individuals from DE agencies, they had more freedom to take a step back and reflect on what was happening to others and what might happen in the future. Their need to cognitively and emotionally process the attacks likely occurred sooner than among those from DE agencies, because individuals from NDE agencies generally did not have to deal with their offices being destroyed.

In conclusion, interpretation of the themes by exposure group provides support for Hypothesis 2A in that the content of the discussion of DE agencies was greatly focused within the themes of Emotional Sequelae and Disaster Experience. In addition to these two themes, individuals from DE agencies also emphasized content of the Workplace Issues theme. The findings of this study also provide support for Hypothesis 2B in that the Issues of Public Concern theme was emphasized more by those from NDE agencies than by those from DE agencies. The finding that discussion in the theme of Workplace Issues was not a major area of focus for individuals from NDE agencies does not provide support for Hypothesis 2B. The content of the discussion about Workplace Issues elucidates the finding that this theme was of greater concern to individuals from DE agencies, given that their offices were destroyed and they were forced to relocate. The self vs. other-oriented focus and time of the 9/11 attacks vs. future

focus also serve as a means for conceptualizing the differences between the findings for DE and NDE agencies. The themes related to self vs. other and time of the attacks vs. future were of greater importance in the narratives of those from DE agencies. For those from NDE agencies, they too experienced emotional distress but were more quickly able to move forward to the overall picture, focus on others, and look toward the future.

Cultural Groups (Hypothesis 3). The Disaster Experience and Emotional Sequelae themes were very similar to the experience of those from the NDE agencies (English-speaking) mentioned above. Discussion of the Coping theme within the Mandarin-speaking focus group was also very similar to discussion of the Coping theme by the English-speaking NDE agencies. In contrast, Spanish-speaking focus group members discussed the importance of religion as a part of their approach to coping. This reflects Hispanic culture's emphasis on religion as described in published literature (Sue & Sue, 2008). As in the discussion from the other NDE agencies that did not lose property or lives in the attacks, there was very little discussion in the theme of Workplace Issues within either Spanish- or Mandarin-speaking focus groups.

With regard to Issues of Public Concern, the theme most emphasized in focus groups of participants from NDE agencies, variation in content between the two cultural groups reflects their differing levels of acculturation. Spanish-speaking focus group members expressed negative views towards stereotyping,

discrimination, and repression. In contrast, Mandarin-speaking focus group members discussed suspicions about other minority groups and made several comparisons between American and Chinese Culture. It is possible that Mandarin-speaking participants were less acculturated than Spanish-speaking participants. Mandarin-speaking participants had a highly developed and protected community in Chinatown, where they could live, work, and retain many traditional aspects of their culture. In contrast, there was no such organized community for Spanish-speaking individuals. Therefore, the Spanish-speaking participants had more frequent interaction with other cultures and were more likely to suffer from and hence condemn stereotyping and discrimination.

In conclusion, interpretation of the themes by cultural group provides support for Hypothesis 3 in that Mandarin-speaking participants were most focused on discussion in the theme of Issues of Public Concern. The findings of this study do not, however, provide support for Hypothesis 3 in that Spanish-speaking participants did not primarily focus on discussion in the theme of Coping. Rather, the discussion of Spanish-speaking participants was most focused on content of the theme of Issues of Public Concern, similar to Mandarin-speaking participants.

Strengths of this Study

The core strength of this study is the choice to use focus groups as the method of data collection. By using open-ended questions, rather than following the predetermined ideas of researchers, participants were given the opportunity to spontaneously explore the issues that were of greatest importance to them. For example, existing 9/11 mental health literature has predominately focused on PTSD and posttraumatic stress symptoms. Because of this overwhelming focus on PTSD, other possibly more important concerns may not have received the amount of attention warranted. Instead of asking participants in this study specific, directive questions (i.e., regarding PTSD), this study's investigators provided only minimal direction for the content of the discussion of the focus groups. Additionally, an advantage of the focus group format, in contrast to individual interviews, was that it allowed people to share their experiences and stimulate further discussion among one another.

The coding of the material in the transcripts into the themes for this study achieved high inter-rater reliability. Application of the definitions yielded consistent results, which speaks to the rigor of the coding method. The five themes (i.e., Disaster Experience, Emotional Sequelae, Workplace Issues, Coping, and Issues of Public Concern) that emerged from the coding procedure have manifest validity, demonstrated by the rich content in descriptions and in the themes' ability to tell a compelling story of the data.

Limitations of this Study

There are some limitations that deserve consideration as part of the interpretation of the findings. Qualitative studies of an exploratory nature such as this one do not necessarily strive to achieve a representative sample, in this case, for example, of all employees or affiliates of the participating agencies, of all affected agencies, or of all affected people. Therefore, focus groups of other people in the participating agencies or focus groups from other agencies or other sources might yield discussion reflecting different topics or concerns. The focus group discussions were oriented to experiences related to the 9/11 attacks, and the content of these discussions might be different from that of focus groups pertaining to other disasters.

The content of the discussion of the airline focus groups was noteworthy for the prominent anger and distrust expressed toward their company. Airline employees who were angry may have chosen to attend the focus groups because it gave them an opportunity to voice their frustrations. It is unknown whether other employees of the airline or whether employees of other airlines would have similar sentiments.

Finally, it is possible that some participants were concerned about discussing their personal matters in front of their co-workers and consequently may have been less open and candid. For example, in this environment, some

participants may have felt too apprehensive or embarrassed to comment on psychiatric symptoms or difficulties coping.

Other Methodological Issues of Relevance to Interpretation of the Findings

Some methodological aspects of this study represent both strengths and limitations. For example, there was a lapse of 1-2 years between the time of the 9/11 attacks and the time the focus groups were conducted. Because of the time elapsed, it is possible that the participants' perceptions had changed, their stories had shifted, and they may have forgotten aspects of their experiences. Transient concerns may not be reflected in these focus group discussions, representing a lost opportunity to record this information when it was more available in earlier post-9/11 time frames. The vividness of the descriptions, the richness of detail, the multiple concerns expressed, and the raw intensity of the emotions expressed, however, suggest that participants still had a great deal to share up to two years after the attacks. It also demonstrates that many 9/11-related concerns captured in this data set had persisted.

When the group facilitator provided the initial instructions to the groups, the instructions were not given verbatim from a script because the instructions were straightforward and relatively nondirective. The wording of questions to focus groups by the facilitator may have thus varied slightly from group to group, but the basic content of the focus group instructions conveyed by the facilitator

was the same and all groups were conducted by the same facilitator. Therefore, any potential effect of slightly different wording on the resulting discussion was likely minimal, and, if anything, might have even served to further broaden the discussion.

Clinical Implications and Future Research

Prior research has focused almost exclusively on PTSD in relation to trauma. While focus group participants in this study did endorse various posttraumatic stress symptoms, this was only a small component of their overall discussion. The material they brought up was rich and reached far beyond posttraumatic stress symptoms alone (e.g., other Emotional Sequelae, Disaster Experience, Workplace Issues, Coping, and Issues of Public Concern). This study suggests that the psychosocial effects following 9/11 are much more diverse than is depicted in the extant literature.

When beginning to explore a new phenomenon such as 9/11, it would be unfortunate to limit the investigation to only PTSD or the issues predetermined by the investigator. By remaining curious and allowing the sample to discuss what they feel is most important, a much broader, more sophisticated understanding can be achieved. If certain concerns are not discussed that the investigator presumed would be mentioned, then those issues can be followed up for further clarification. This study set out to obtain a broad conceptualization of the issues

of concern among survivors following 9/11. The results of this study clearly reflect the variation in material that can arise when participants are given the option to discuss whatever comes to mind.

In this study, focus group members from both DE and NDE agencies described responses consistent with posttraumatic stress symptoms. It is important to recall that individual posttraumatic stress symptoms are not necessarily indicative of psychopathology. Other research has demonstrated that posttraumatic stress symptoms are nearly ubiquitous and universal in both exposed and unexposed groups (McMillen et al., 2000). Because unexposed groups cannot develop PTSD by definition, it cannot be assumed that all of the posttraumatic stress responses they reported are part of PTSD or necessarily even pathological. Focus group members from DE and NDE agencies in this study had very different descriptions of their experiences than was predicated based on whether they were exposed or not, and yet they still reported similar responses consistent with posttraumatic stress symptoms. Therefore, it is necessary to interpret these symptoms based on the exposure criterion first: in unexposed individuals they represent distress, and in directly exposed survivors they could represent posttraumatic symptoms. This emphasizes the importance of precise assessment of exposure to the specific trauma in both clinical and research contexts.

The findings of this study among DE agencies lay the groundwork for a more thorough understanding of survivors' experience in the workplace following a disaster. Participants in these focus groups identified many aspects of the workplace that were positive and many that were problematic. Some of the helpful aspects included the coming together of co-workers and compassionate gestures. Problematic issues included office disruptions, adjustment, decreased productivity, salary reductions, negative opinions towards management and the company. Special issues in terms of manages were also identified in this study. Managers described trying to deal with their own issues and felt understandably awkward opening up in groups consisting of their employees. Given managers' expressed concerns about being vulnerable in front of their employees, they would likely benefit from the opportunity to participate in separate groups as part of the recovery process.

These results provide a starting point for the creation and implementation of office protocols for employees and management in other disaster situations. It will be important that all individuals are provided with an empathic environment in which they can share their feelings and without being stifled or punished. This also provides support for the need for additional accommodations in the workplace.

This study has informed future research about many largely underexplored issues following a disaster outside of posttraumatic stress symptoms that warrant

further attention. Knowledge gained from these focus group discussions can help guide the direction of quantitative research to further explore five primary areas that emerged: disaster exposure, emotional reactions, cultural issues, public concerns, and workplace issues.

The first of these topics, disaster exposure, is fundamental to individuals' post-disaster experience and focus. The findings of this study provide further evidence that exposure makes a significant difference in individuals' adjustment and experience after a disaster (North, 2004a; North, Pfefferbaum, et al., 2010). For example, exposure groups were quite different in their focus on self vs. focus on others and focus on the disaster experience vs. potential future concerns. This essential characteristic of exposure groups also carried forward through all of the other themes, for example with different emotional responses reported by different exposure groups and different post-disaster workplace experience reported in different exposure groups. Future research should be mindful of the need to anchor the content of the data collected by exposure group.

Future research involving the emotional reactions of individuals after disaster needs to exercise care not only to consider differences by exposure groups, but also to conceptualize and operationalize differences between true psychopathology vs. normative, expected emotional reactions. Because trauma exposure is required for the development of PTSD, examination of posttraumatic stress symptoms should first begin with determining whether the individual

experiencing the symptoms was exposed or not exposed to the traumatic incident of discussion.

The findings of this study also highlight the importance of future research surrounding the effect of culture on individuals' experience following a disaster. Although there were many commonalities of content throughout much of the discussion of these two groups, their cultural differences were prominent in their expression and experience of issues of public concern, such as viewpoints on stereotyping and discrimination and how communities should respond to incidents such as disasters.

This study also suggested some very specific areas within the major themes and topics identified, that could be further investigated in future research. For example, potential areas of exploration within public concerns following a disaster include: amount of trust in government, concerns for safety, government's role in disaster preparedness, government's role in protecting citizens, fear of future terrorism, fear of Muslims and minority groups in general, emergence of new patriotism after a terrorist attack on the country, disaster-induced changes in society, economic impact of disaster, disaster-related social service needs and programs to provide these services, and effective distribution of disaster recovery resources.

Examples of specific potential areas of exploration within the post-disaster workplace environment theme are how to most effectively help employees adjust

to the post-disaster workplace environment and how to help employees manage and be productive in the crowded and resource-scarce early post-disaster workplace. Details to consider within these areas might include, for example, how soon to encourage employees to return and how much pressure to put on them to return, finding ways to achieve a balance between tolerance and productivity pressure, effective implementation of recovery services, and the value of memorials and other remembrances and compassionate gestures from management.

Future quantitative studies will need to operationalize how researchers can further investigate the material that emerged from this study, such as in development into quantitative measures including questionnaires, surveys, and interviews. For example, in operationalizing survey questions about implementation of post-disaster workplace recovery services, researchers could begin by assessing services provided, the positives and negatives about these services provided, and what services were not provided that employees would have appreciated. In doing this, participants could first be asked to provide open-ended text responses that could be gathered into a list for development of a categorization scheme based on these responses. This list could be given to another sample to rank order the items by importance. This list could also be given to another sample to select items relevant to them to determine proportions

endorsing each item as well as the relative amount of agreement with or importance of the item.

Level of productivity within the post-disaster workplace environment could also be operationalized for further study. Participants could be asked to rate their average level of productivity (e.g., on a scale from 1 to 10) during the month prior to the disaster and during specific periods of interest following the disaster, providing not only information on current productivity but also a comparison with pre-disaster productivity. Management could similarly rate their employees' average level of productivity pre and post disaster. Specific task-related productivity could be similarly quantified, such as average number of reports written in pre and post disaster time frames.

Conclusion

The findings of this study demonstrate that people in the NYC area had a wide array of psychosocial concerns following 9/11 reaching far beyond the confines of psychiatric issues. Regardless of whether affected individuals were directly exposed or not, the 9/11 terrorist attacks left a lasting impact on everyone involved. This study clearly met its established goals of exploring other issues of concern beyond just posttraumatic stress symptoms among survivors of various cultural backgrounds and exposures. Given the disproportionately large focus on PTSD and posttraumatic stress symptoms in previous 9/11 literature (Galea et al.,

2002; North, Pollio, et al., 2011; Rosen & Lilienfeld, 2007; Schlenger et al., 2002), it is important to emphasize this study's finding that posttraumatic stress symptoms were only a small portion of survivors' many and varied thoughts, feelings, perceptions, and concerns regarding the 9/11 terrorist attacks. There are times when researchers and clinicians alike need to be directive, such as in the assessment of PTSD and posttraumatic stress symptoms. Conversely, there are also circumstances when it is beneficial to be nondirective to allow the material to be spontaneously shared to see what arises in the concerns of those who are sharing.

TABLES

Table 1. Selected participant characteristics

		N	%	Mean	SD	Median	Range
Total		140					
Age				45	10	46	18-73
Gender	Female	94	67				
	Male	46	33				
Ethnicity	Caucasian	71	51				
	African American	29	21				
	Hispanic	28	20				
	Asian	10	7				
	Middle Eastern	2	1				

Table 2. Numbers and proportions of passages represented in themes among DE agencies, NDE agencies (English-speaking), Spanish-speaking focus group, and Mandarin-speaking focus group

	Directly-Exposed		**Not Directly-Exposed**					
			English-Speaking		**Spanish-Speaking**		**Mandarin-Speaking**	
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**
Emotional Sequelae	425	35	252	34	24	24	28	37
(Posttraumatic Stress Symptoms)	(178)	(15)	(61)	(8)	(11)	(11)	(9)	(12)
(Other Emotional Sequelae)	(247)	(21)	(191)	(25)	(13)	(13)	(19)	(25)
Issues of Public Concern	280	23	274	36	34	34	30	39
Disaster Experience	210	18	84	11	11	11	8	11
Workplace Issues	139	12	57	8	2	2	1	1
Coping	144	12	85	11	28	28	9	12
TOTALS	1198		752		99		76	

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