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**The Terrorist Attacks on the World Trade Center on 9/11: The Dimensions of Indirect
Exposure Levels in Relation to the Development of Post Traumatic Stress Symptoms
The Ripple Effect**

by

Mary L. Pulido

**A dissertation submitted to the Graduate Faculty in Social Welfare in partial
fulfillment of the requirements for the degree of Doctor of Philosophy
The City University of New York**

2005

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This manuscript has been read and accepted for the Graduate Faculty in Social Welfare in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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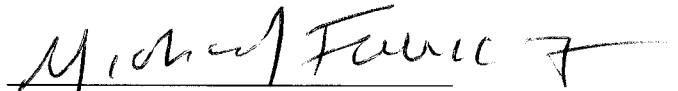
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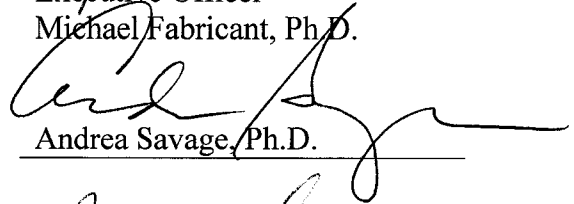
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Abstract

The Terrorist Attacks on the World Trade Center on 9/11: The Dimensions of Indirect Exposure Levels in Relation to the Development of Post Traumatic Stress Symptoms The Ripple Effect

by

Mary L. Pulido

Advisor: Professor Andrea Savage

The terrorist attacks of September 11, 2001 traumatized the nation and produced serious mental health issues for many residents in New York City. Unprecedented in nature and scope, this disaster produced trauma Post Traumatic Stress Symptoms both in individuals “directly” exposed, and in those “indirectly” exposed, whose needs often go unrealized.

The main goal of this study is to broaden the concept of “exposure” used in the disaster trauma field. A mixed methodological approach, using qualitative techniques as the primary information gathering method, was utilized. Interviews were conducted with 26 mental health professionals who were “indirectly” exposed. Their physical, psychological and relational exposure to the attacks, prior trauma history, secondary traumatic stress (STS) issues and coping strategies were explored. The Impact of Events Scale-Revised (IES-R) was also utilized to capture current PTS symptoms, in addition to the respondents’ self-report.

This study offers support for the Etiological Hypothesis Model proposed by Foy et al (1992). Its findings indicate that indirect exposure to a terrorist disaster is particularly relevant and related to PTS symptoms in this sample. Respondents' exposure to the disaster through vision, both in person and through media, olfactory sensation and through hearing the sounds associated with 9/11, produced tremendous upset and PTS symptoms. Striking was that almost half of the respondents still scored "moderate" to "extreme" on the IES-R, 30 months after the attacks. Levels of STS were also high among those clinicians who worked with clients with 9/11 related issues. Personal coping strategies such as the support of friends, family, and colleagues, spirituality and immersion in clinical work, were reported as reducing stress levels.

Results call for a new conceptualization of exposure level to terrorist trauma, to ensure that those at high risk for PTS symptoms are identified and receive trauma recovery support. A model with questions for an initial assessment to determine exposure risk following a disaster was suggested. Implications of the findings are included for social work clinical practice, disaster mental health administration, funding sources and policy. Recommendations for future research were identified. They are needed, as the trauma of 9/11 has not subsided in many.

Dedication

This dissertation is dedicated to my daughter, Sara (1991-1993). Her beauty, courage and love for all continue to serve as my inspiration.

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Writing acknowledgements is indeed a fulfilling part of a dissertation. I am grateful to the Doctor of Social Welfare Program at CUNY for its supportive environment and superb instruction. It was an intense and enriching experience to be a student in the doctoral program.

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Finally, I want to acknowledge the social workers and other clinicians that participated in this study. I hope that I have given adequate voice to their experiences. Their amazing strength, courage, and ability to provide care to those impacted by the disaster of 9/11 were inspirational.

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Chapter I

Framing the Purpose

The worst terrorist attack in United States history occurred on September 11, 2001. Two jet airliners, hijacked by terrorists, crashed into the World Trade Center, killing thousands, including all on the planes. Concurrently, another hijacked airliner crashed into the Pentagon, killing several hundred more people; a fourth hijacked plane crashed in a field in Pennsylvania, as those on board fought with the terrorists to stop yet another suicide bombing mission. The death toll and devastation was the largest and most severe disaster ever to be experienced by the United States. As of February 25, 2005, 2,749 people were confirmed dead; this total includes the individuals who died on the planes that were used as human bombs. The Chief Medical Examiner's office is still trying to identify the remains of 1,161 of these victims (Chen, 2005). Further, over 6,300 people were treated for physical injuries from the attacks (Lipton, 2002).

The unprecedented scope and magnitude of the September 11 terrorist attacks can be expected to generate unprecedented mental health consequences, distributed far more widely than after any disaster in American history. When disasters occur, subsequent psychiatric disorders tend to cluster most densely at the disaster epicenter and diminish as one moves outward, generating ever-smaller waves as ripple effects reach the periphery (North, 2001). Those injured and those who fled for their lives from the burning WTC and the Pentagon suffered physical and emotional distress. Ripple effects will extend to people who evacuated from nearby buildings, who witnessed the disaster unfold from a distance and who lost loved ones or colleagues. Potentially overlooked populations at risk may include those living in the community. As spreading consequences of the

attacks become apparent in economic decline and rising unemployment, increasing rates of psychiatric disorders can be expected to follow (North, 2001; DeWolfe, 2001). This “ripple effect” is the focus of this study.

Practice Issues and Concerns for the Field of Social Work

Social workers, psychologists and others in the helping professions have long recognized that disasters and other psychologically traumatic events are significant sources of stress. Survivors’ mental health is affected for the short-term and, in many cases; the impact can last for years after the actual event. Whether natural or human-made, the result of catastrophic events is nearly always human chaos. Understanding and structuring the resultant chaos is the way to an individual’s, a family’s, a community’s or a nation’s recovery (Ursano et al, 1994.)

For large scale terrorism in the United States there are three data points: the 1993 bombing of the World Trade Center, the 1995 bombing of the federal court house in Oklahoma City and the September 11th terrorist attacks. Many consider the Oklahoma attack to be of a different nature because it was carried out by an angry disturbed American, not an international terrorist group, the big worry now (Treaster, 2002).

The impact of any catastrophe cannot be measured simply in lives lost. Survivors, rescuers, and entire communities often experience severe disruptions of day-to-day activities, as well as loss of belongings, jobs and basic services. Regardless of whether these changes are short or long-term, the impact on individuals’ and groups’ psychological well-being is substantial (Shaw, 1997).

In a survey of 560 adults in the United States conducted six weeks after September 11th, 44 percent of the adults reported one or more substantial symptoms of

stress, including sleeplessness, depression, anger, irritability and emotional numbing (Ursano, 2002). During this terrorist attack, thousands were directly exposed and hundreds of thousands more were indirectly exposed, warranting a level of mental health intervention never undertaken in the United States to date.

Also of interest is that in the review of 160 distinct samples cited by Norris (2002), of 60,000 individuals who experienced 102 different disaster events, the impact of those disasters on those “indirectly” exposed was not discussed. Only research studies regarding directly exposed individuals were included. However, this meta-analysis study did state that if the disaster caused extreme and widespread damage to property, engendered serious and ongoing financial problems for the community and was caused by human intent and the impact was associated with a high prevalence of trauma in the form of injuries, threat to life and loss of life, it appears that the need for professional level mental health services will be widespread in the entire community.

Many persons with a prior history of trauma may have a reoccurrence of PTSD symptoms triggered by news of catastrophic events and their distressing effects (North, 2002; Van der Kolk, 2002). This would include the majority of the populations that social workers in New York City provide service to on a daily basis, such as the homeless; victims of child abuse, rape, incest or domestic violence; the mentally ill; disabled; those who have endured prior losses of a loved one or family member; those with a serious or life threatening illness; and those who have survived prior accidents or disasters, including natural disasters, man-made disasters, or war.

In the aftermath of the WTC collapse, tens of thousands of Manhattan residents suffered emotional difficulties severe enough to warrant psychiatric treatment (Galea et

al, 2002). The overall rates of post-traumatic stress disorder and depression found in this study were two to three times as high as those normally found in any given year. It is estimated that well over 100,000 people directly witnessed the events and that hundreds of thousands around the world were also exposed to these horrifying scenes through the media (Schuster et al, 2001).

Studies commissioned by the New York Academy of Medicine (Galea et al, 2002) and the American Red Cross (Harris, 2002) indicated that New Yorkers had reported PTSD symptoms at double the rates of the general population. The majority of those polled had not directly witnessed the attacks on the WTC; that is, they were not in physical proximity. Due to the speed of today's media, and the ability to provide instant access to disaster sites, they were able to directly observe the attacks on the WTC, but physically were indirectly or remotely exposed. These studies also found that females had higher prevalence rates of PTSD symptoms than males and that those with a prior trauma history reported more distress. A report issued by the NYC Board of Education (Kleinfeld, 2002) estimated that about 200,000 children and young adults across NYC were still experiencing significant mental health problems as a result of the trauma six months after the attacks. As many as 70,000 were still living with PTSD. The majority of the respondents in this study had not witnessed the attacks.

The ripple effect of anxiety and stress from Ground Zero manifested itself in PTS type symptoms and fears among many New Yorkers distant from the attack site. The stress level has not abated. In February 2003, NYC was under a state of "high" security alert. The federal government was recommending that New Yorkers buy enough food and water to hold them over for three days if they were unable to leave their homes in

case of a possible bioterrorist attack (Kleinfeld, 2003). Other alerts were issued as the war in Iraq progressed; most recently over the 2004 New Year's holiday and July 4, 2004.

Following each of the on-going alerts by the government, the trauma recovery program overseen by this researcher, receives an inordinate number of requests for coping skills seminars and stress reduction techniques from individuals who presented as panicked, anxious and stressed. These individuals are at locations throughout NYC, not just near the WTC site. This serves as another indication that research is warranted to expand our knowledge of the impact of indirect exposure and the development of PTS symptoms.

Direct Practice Experience in Providing Trauma Recovery Services following 9/11

This investigator currently serves as the Executive Director of The New York Society for the Prevention of Cruelty to Children (NYSPCC), the oldest child protective agency in the United States. The agency's main office is located three blocks from the WTC attack site. Many of the staff members developed Post Traumatic Stress (PTS) symptoms, due to their terrified flight from the office following the terrorist attacks on 9/11. Working in the "war zone" during the following year, as the remnants of the Twin Towers and the remains of the victims were slowly removed, had a profound impact on the agency, staff and clients. This served as a stimulus for this study.

Following the events of September 11, the NYSPCC conducted a needs assessment of the clients, staff and local social service agencies and developed a trauma recovery program, which was partially funded under Project Liberty of Federal Emergency Management Agency (FEMA). (Project Liberty was a government-funded program that offered free, confidential, short-term counseling to all NYC residents and employees following the 9/11 attacks.) The trauma recovery program worked primarily

with parents, teachers, social workers, social service agency staff, foster care families and children. These constituencies expressed a desire for help with trauma recovery therapy, information on stress management, recognition of PTSD and aid in strengthening coping skills. The geographical reach of the program included the borough of Manhattan, the part of Brooklyn closest to the WTC site, and the South Bronx.

The NYSPCC gathered clinical information on the PTS symptoms of adults in New York City following the terrorist attacks of 9/11. A survey instrument, developed by The NYSPCC Trauma Recovery Program, elicited information from the respondents, (clinicians, teachers, caseworkers and foster parents) that corresponds with the Post Traumatic Stress Disorder Symptom clusters A, B, C, and D of the DSM-IV TR Diagnosis. (Please refer to Appendix A for a copy of the survey form).

Approximately 67% of the group of 672 individuals who have utilized the program from January 2002 through December 31, 2003, were not “directly exposed”. However, these indirectly exposed individuals reported high levels of distress that impacted their ability to function at their prior level of productivity. Nightmares, depression, startle reactions, avoidant behaviors, flashbacks, fears of subways, air travel, death and feelings, helplessness and hopelessness and shortened life expectation were common complaints. A brief summary of the data follows.

Exposure Levels

Sixty-seven percent (428) were not directly exposed to the terrorist attacks. Thirty-three percent (214) were directly exposed to the attacks, of those, 25% (57) reported being physically injured. Ninety-one percent were not injured. Forty-four percent (280) reported that a family member, spouse or partner was directly exposed to

the attacks. Fourteen percent of the respondents (84) reported that a spouse, partner or family member had been injured.

Depression, PTS Symptoms and Fears

The majority of the respondents reported an increase in depression (60%), tiredness (57%), sense of a foreshortened future (56%), fear of flying (60%), fear of bioterrorism (63%), fear of riding mass transit (64%), fears about air quality/safety (68%), recurring flashbacks (51%).

Other PTS symptoms were reported in a substantial number of respondents as follows: feelings of detachment (40%), Inability to recall certain aspects of the attacks (25%), difficulty concentrating at home (47%), difficulty concentrating at work (44%) increased irritability (49%), panic attacks (33%), headaches (31%), nausea (21%), muscle tension (42%), nightmares (32%), exaggerated startle response (35%), difficulty falling or staying asleep (43%) avoiding places, people or activities that remind you of 9/11 (40%), sense of hopelessness (35%), sense of helplessness (39%), loss of appetite (21%), overeating (24%).

Correlation between exposure levels and symptoms

Correlations (one-tailed) were conducted utilizing many of the variables in the database. Of particular interest to this study were the findings regarding “direct” and “indirect” exposure levels and the presence of PTS symptoms.

The results indicated that the PTS symptoms do not appear to have a strong/high correlation with exposure level. (Correlation coefficients range between -1.0 (perfect negative) at one extreme to $+1.0$ (perfect positive) at the other extreme, with 0.0 (no linear correlations) at the mid-point (Weinbach et al, 2001)). The correlation results

were as follows: depression (.11), feelings of detachment (.10), inability to recall certain aspects of the attacks (.04), tiredness (.15), sense of foreshortened future (.05), difficulty concentrating at home (.08) difficulty concentrating at work (.12), increased irritability (.15), panic attacks (.06), headaches, (.03), nausea (.03), muscle tension (.07), nightmares (.09), fear of flying (.03), fears about bioterrorism (-.02), fears about riding the subways (.06), fears about air quality, (.11), recurring flashbacks (.11), exaggerated startle response (.09), difficulty falling or staying asleep (.15), avoidant behaviors (.06), sense of hopelessness (.06), sense of helplessness (.11), loss of appetite (.03) and overeating (.06).

These findings indicated a need for further exploration of the impact of indirect exposure. Please see Appendix B for a summary report of the preliminary data analysis of the NYSPCC Trauma Recovery Program. The NYSPCC Trauma Recovery Program continues to respond to requests from these constituencies. Private funding was raised by this researcher, to continue the program after Project Liberty funding ended.

It is essential that the mental health struggles experienced by New Yorkers be documented so that others in the future may benefit from the understanding of knowledge gained by providing disaster therapy to the victims of 9/11. This will enable groundwork to be laid for both adequate service provision and perhaps more effective preventive strategies regarding the impact of media exposure. The State Director of the Project Liberty FEMA Office has called for more exploration in these areas. Several meetings between the NYSPCC and Project Liberty, and conversations with Drs. North, Pfefferbaum, Norris and Galea, who have conducted many of recent studies the disasters

in Oklahoma City and on 9/11, reinforced the need to increase the knowledge base in this area as quickly as possible.

Research Questions/Goals of this Study

This study illuminates nature and impact of indirect exposure to the terrorist attacks of 9/11 on the mental health of those individuals who were not directly exposed to the disaster. It explores their experiences and consequently suggests the need to broaden the conceptualization of exposure currently utilized in the field. There is one primary goal and four secondary goals of this study. They are:

1. To explore retrospectively, the complexity and perceived impacts of indirect exposure to terrorist trauma including its physical, relational and psychological dimensions as they are perceived over time.
2. To investigate the association between indirect exposure to terrorist trauma and the development of Post Traumatic Stress Symptoms.
3. To study the perceived effects of a history of prior trauma paired with indirect exposure.
4. To reconstruct the experiences of “indirectly exposed” mental health caregivers who provided clinical services to those directly affected by 9/11, in comparison to caregivers who did not serve clients with 9/11 related issues.
5. To identify the strategies of coping utilized by the respondents to handle 9/11-related stress.

The primary focus of this study is to broaden the understanding of the dimensions of “exposure” to terrorist disaster. Currently, exposure is defined solely by the A1 criterion for PTSD (DMS-IV-TR) diagnosis regarding physical or

relational proximity to a disastrous event. One is either directly or not directly exposed. There is not a “gradation” of exposure levels that would encompass the experience of those individuals who were considered “indirectly” exposed to the disaster, yet who experienced symptoms. Broadening the definition of “exposure” to terrorist attacks will be this work’s contribution to the disaster literature.

In order to understand the power and impact of “indirect” exposure, this study explores the association of indirect exposure and the presence of PTS symptoms. As presented earlier, the preliminary data from clients (clinicians, teachers, support staff, CPS workers and foster parents) who participated in a NYSPCC 9/11 Trauma Recovery Program from January 2002 through December 2003 was analyzed by this investigator. The results indicated that many individuals considered “indirectly” exposed, did experience PTS symptoms.

The 9/11 Trauma Recovery clinical team has reported that clients indirectly exposed to the terrorist attacks have debilitating symptoms manifested in different ways. Clients were afraid to carry out normal activities of daily living, such as: subway travel, attending events with crowds, going into lower Manhattan, or travel by plane. They also reported symptoms such as: nightmares, trouble sleeping, trouble concentrating at work, exaggerated startle reactions and hyper-vigilance. Many in this group felt “surreal” life changes, just hoping that this new state of “living in fear, anxiety and unbelievable stress would just go away” (Pulido field notes, 5/02). Understanding how those “indirectly exposed” experienced the attacks will provide insight into why they exhibited PTS symptoms.

Another facet of this study is to explore the perceived mediating or intensifying effects of a history of prior trauma among those indirectly exposed. Research has indicated that prior trauma may play a role as either a risk factor or a resilience factor in whether or not an individual develops PTS symptoms following a disaster (Dyregrov, 1996; Briere et al, 2000; Bosuglu et al, 2002; North et al, 1999; Galea et al, 2003). There are two major perspectives on the effects of prior stressful life experiences on a person's ability to cope with a traumatic experience. The first is that stressful events may "inoculate" people so that they are more resistant to subsequent stressful events. Some authors have proposed that intermittent, moderate stressors can produce a "toughening" effect so that the individual is not as sensitive to later stressors (Dienstbier, 1989; Bandura, 1989). Some evidence has supported this formulation, including the Norris et al (1988) finding that flood victims with prior flood experience were less symptomatic than those with no flood experience.

Conversely, having experienced stressful events prior to a traumatic event may reduce a person's psychological resources and impede that individual's ability to cope with trauma. More research is needed to clarify further the relationship between prior stressful events and trauma response. Prior events that make a trauma seem more controllable and less negative would have a moderating effect, while prior events that make a trauma seem less controllable and more negative would have a sensitizing effect (Carlson, 1997).

The target population of this study includes social workers and clinicians, some of whom were required to work clinically with clients who had 9/11 related issues. Another goal of this study is to gain an understanding of secondary traumatic stress issues

experienced by these “indirectly exposed” mental health workers who worked with 9/11-clients. The emotional and psychological effects of stress on clinicians working with traumatized clients have been reported (Cerney, 1995; Dutton et al, 1995). This phenomena has been coined “compassion fatigue” or secondary traumatic stress in recent trauma literature (Figley, 1995).

The devastation and horrors of the terrorist attack presented extraordinary challenges to social service workers trying to help those exposed and results in high risk for STS. Group therapy sessions conducted by social work clinicians from the NYSPCC, attempted to provide counseling for those directly exposed, who described how they felt “holding a leg in my hands” or “there was just the front of a face, no head”. (Pulido, field notes 3/02, 4/02, 5/02). This is not standard or typical practice and may have a profound impact on the social workers involved.

Even indirectly exposed individuals presented difficult challenges and highly charged material to the clinicians. Clinicians helped caretakers understand how to manage a child who will not ride on a subway or an airplane, or travel over a bridge due to fears of terrorism; has recurrent nightmares of death by terrorists; or thinks that “we are under attack again” every time an image of the plane crashing into the WTC is shown on television. This counseling dynamic was further complicated in that many of the adults reported experiencing panic attacks, increased irritability, flashbacks, depression, anxiety and trouble sleeping themselves due to the attacks and do not feel capable of providing the needed reassurance to their children in a convincing manner. (Pulido field notes 8/02,9/02).

Working with clients at this level of intensity can be very draining on the therapist. It takes a great deal of energy to stay connected with the client and witness their pain and suffering. Therapists could be at risk for secondary traumatic stress (STS) due to the nature of their work. They may experience visual images of their clients' traumatic stories intruding into their thoughts outside of the session. They may have nightmares about their clients' horrifying stories of fear and helplessness. They may feel estranged from their families and avoid situations that remind them of their clients' traumatic experiences. Their symptoms can closely parallel those of the victim with PTSD (Figley, 1995a; Price, 1998). A better understanding of the experience of the mental health caregivers and how this type of indirect exposure impacted their personal stress levels is needed.

Insight gained as to the types of coping strategies that the clinicians to offset the stresses of PTS/STS encountered both with living through 9/11 and working with 9/11 clients was also of interest. It can inform the field about supports and strategies that they found helpful, as well as shortfalls in systems support that should be addressed. Over the years there has been a heightened awareness of the important potential role coping can play in determining how stress affects an individual and how it can shape adaptational outcomes (Ziedner, 1996). It is now widely recognized that coping processes may moderate the effects of stress on both psychological and physical well-being. Specific coping strategies can either facilitate or hinder adaptation to physical or psychological stress. It is commonly recognized that it is not stress, per se, that determines adaptive outcome, but how an individual copes with stressors and challenges that is critical in affecting psychological and physical health (Parker, 1996). Following 9/11, the ability of

clinicians to cope with their own stresses, while continuing to provide services to others, was critical to the recovery effort. A better understanding of coping strategies that they deemed helpful to deal with their PTS symptoms and/or STS symptoms will inform the field.

Theoretical Framework for this Study

There are, however, extant theoretical frameworks that are useful for this work. Early research on PTSD revealed a strong relationship between the severity of exposure and severity of resulting PTSD symptoms (Foy et al, 1987). This relationship led to the dose-response conceptual model. The duration, repetitiveness and severity of the trauma influence the PTSD outcome. The dose-response effect is observed following torture, but this also applies to rape, combat, and proximity to disastrous events (Centers for Disease Control, 1988). Moreover, March (1990) also reports that many other studies have offered support for the dose-response model. These findings suggest the importance of determining the particular nature and severity of exposure to trauma in order to identify and treat resulting PTSD symptoms.

However, other etiologic factors have been proposed in the occurrence of PTSD; as some individuals develop the disorder and others do not, even when they are exposed to the same traumatic event. Therefore, alternative conceptual models have been developed that incorporate other etiologic agents.

North (2002) has proposed a Comprehensive Trauma Model of Catastrophic Events regarding PTSD development. Although this model is in early stages of

development, it is worth mention as it holds promise to explain the differences in disaster outcomes among individuals who experienced different levels of exposure.

Basically in this model, there are several domains containing multiple variables that contribute to post disaster outcomes. This model takes into account different aspects of the disaster, such as how unexpected it was, the amount of associated terror and horror, the duration of the event, individual characteristics, gender, the community disaster setting, subsequent traumatic life events and media exposure. This model also shows promise of enhancing the understanding of the complexities of exposure levels and PTSD development.

Foy, Osato, Houscamp, and Neuman (1992) proposed a PTSD Etiological Hypothesis model. This model is interactional, including both environmental and individual factors that might be important in discovering causal chain mechanisms for the development and maintenance of PTSD symptoms (Foy et al, 1996). The model proposes three routes by which the conditioning of posttrauma anxiety occur: through direct personal experience; by observation; or by vicarious experience. The Foy model also proposes that other factors may mediate between trauma exposure and the conditioning of acute or chronic PTSD symptoms. These psychological, social and biological factors are referred to as risk factors when their presence increases the probability of PTSD developing. Alternatively, these factors are termed resilience factors when their presence decreases the probability of PTSD emerging (Foy et al, 1992). This is the theoretical model of reference for this study. (Please refer to Appendix C for the Etiological Hypothesis Model of PTSD).

Foy's model (1992) may aid in our understanding of reasons why those individuals indirectly exposed to the terrorist attacks developed PTSD symptoms. A comprehensive review of theoretical models of PTSD etiology will be provided in Chapter Three.

Chapter II

The Chronological History of Trauma and Mental Health

Information regarding the effects of traumatic experiences has been documented for centuries. The concept of stress was first introduced in Hook's Law, circa 1676, and was described as a situation in which a load or hysterical force was capable of causing strain on a material. Borrowing from this phenomenon of physical science, social scientists now use the term stress to describe a nonspecific response of the body to any demand placed on it. While the precise nature of stress is debated among disciplines, there is general agreement that stress can be both a positive and a negative force (Mitchell et al, 1996).

Mental health clinicians, physicians, health educators and others in the helping professions have long recognized that disasters and other psychologically traumatic events are significant sources of stress. Survivors' mental health is affected for the short-term and, in many cases, the impact can last for years after the actual event (Ursano, 1994). Stressful events can produce enduring, negative psychological states, causing trauma to an individual (Briere, 1997).

The conflict over whether trauma has organic or psychological origins, along with the dispute as to whether it represents malingering or genuine breakdown, was at the center of the earliest scientific discussions about its effects, which focused on whiplash injuries.

Ascribing an organic origin to traumatic neuroses was particularly important in combat soldiers. Such an attribution offered an honorable solution for all parties who might be compromised by people breaking down under stress. The soldier preserved his

self-respect, the doctor did not have to diagnose personal failure or desertion, and the military did not have to explain psychological breakdowns in previously brave soldiers (Van Der Kolk et al, 1996).

During World War I, Frederick Mott and Ernest Southard extensively documented the neurological and psychological effects of war-related traumas. Similarly, in 1919, Southard provided a detailed description of the war-induced startle response of a French Corporal whose trench collapsed during a shelling incident. Somewhat later, in 1940, Myers' *Shell Shock in France, 1914 – 1919* made the important distinction between “shell concussion” and “shell shock”. Shell concussion was regarded as a neurological condition that was induced by a physical trauma, whereas shell shock was regarded as a psychic condition that was brought about by exposure to extreme stress (Saigh, 1992). In 1945, Moran described how, despite the acceptance of the diagnosis of shell shock, doctors found it extremely difficult to distinguish it from cowardice. More than 200 British soldiers were executed for cowardice during World War II.

During this time period, Abram Kardiner began to work for the Veterans' Bureau and began a systematic exploration of war neurosis that yielded vital information regarding the brain's processing of traumatic material. In 1941 Kardiner's clinical and theoretical study, The Traumatic Neuroses of War, detailed the outlines of the traumatic syndrome as it is understood today. He and his colleagues concluded from their investigations that combat leaves a lasting impression on men's minds, changing them radically (Herman, 1992).

Psychological explanations for traumatic neuroses were easier to pursue in civilian settings. In 1881, the American neurologist, James J. Putnam, developed a

theory in which psychic traumatization was considered a functional regression toward earlier simple reflexive automated modes of functioning (MacLeod, 1993). During the same period in France, Jean-Martin Charcot investigated the social conditions of the lives of the inmates in the Salpetriere asylum – the poor, the insane and the prostitutes who exhibited hysterical symptoms. He concluded that rather than being deranged or delusional, the Salpetriere women had suffered from a life of unremitting violence, exploitation and rape. He termed hysteria the “Great Neurosis” and began to teach his theories at his famous Tuesday lectures, attended by prominent physicians of the time such as Freud and Janet. Both men would come to believe that the underlying causation of hysterical neurosis was sexual assault, which then became dissociated in the psyche and later emerged as symptoms of the disorder. They also posited that talking with these women about their lives reduced their symptoms and brought relief to their condition (Herman, 1992).

Janet proposed that when people experience “vehement emotions” their minds might become incapable of matching their frightening experiences with existing cognitive schemes. As a result, the memories of the experience cannot be integrated into personal awareness; instead, they are split off (dissociated) from consciousness and from voluntary control. Thus, the first comprehensive formulation of the effects of trauma on the mind was based on the notion that extreme emotional arousal results in failure to integrate traumatic memories. Janet observed that his traumatized patients seemed to react to reminders of the trauma with responses that had been relevant to the original threat but that they currently had no adaptive value. He proposed that when patients fail to integrate the traumatic experience into the totality of their personal awareness, they

become “attached” to the trauma. The effort required to keep the traumatic memories out of their consciousness eroded their energy and resulted in personal and occupational decline (van der Kolk, 1989).

Sigmund Freud adopted many of the ideas of the Salpetriere. He eventually developed two separate models of trauma. One was the “unbearable situation” model; the other was the “unacceptable impulse” model, in which symptoms may be produced through the mobilization of defense mechanisms. Freud proposed that the compulsion to repeat is a function of repression itself. Because the memory is repressed, the patient repeats the repressed material as a contemporary experience instead of remembering it as something belonging to the past. It is as if the patient has not finished with the traumatic situation (Kristal, 1978). Freud’s contribution regarding the development of psychoanalytic theory aided the field in acknowledging trauma. However, the acceptance of this theory also resulted in an absence of research of the effects of trauma on children’s lives, in particular of those children who had been sexually abused. Freud acknowledged sexual abuse as devastating and harmful to children. However, the subject appeared to be too horrible to discuss in academic meetings or in the public domain. Until the mid-twentieth century, the study of children who were victims of interpersonal violence was not pursued by the psychoanalytic community. The primary focus of psychoanalysis and trauma remained on symptomatic adults.

Trauma research began to focus on other situations. In 1935, Prasad provided a general description of the emotional distress in India following a devastating earthquake. In 1943, Adler went on to describe the post-traumatic “mental complications” of the survivors of Boston’s Coconut Grove Fire. This work is particularly relevant, as he made

clear reference to the victim's trauma-related ideation, nightmares, insomnia and avoidance behaviors (Saigh, 1992).

In World War II, mental health practitioners evaluated and treated thousands of war-related psychiatric casualties. Symptoms included aggressiveness, depression, memory impairment, concentration impairment, alcoholism, nightmares, phobia and suspicion. As a result of their war experiences, psychiatrists such as Walter Menninger in the United States, and Bion and his British colleagues at the Tavistock Clinic, discovered the use of group psychotherapy and the therapeutic community (Main, 1989). At this time, the group had become a focus for psychiatric interest. War made the mental health profession aware that under extreme conditions the group, rather than the individual, is the basic unit of study and treatment.

After World War II, mental health professionals began to study the long-term effects of trauma experienced by survivors of the Holocaust and other war-related traumas. The term "concentration camp syndrome" included not only the symptoms currently listed under PTSD, but also enduring personality changes. Perhaps the most consistent finding from these studies was the devastating effect of extreme and long lasting stress on subsequent health. The studies of people who had undergone concentration camp experiences showed that extreme trauma had severe biological, psychological, social and existential consequences, including a diminished capacity to cope with both psychological and biological stressors later in life (Van der Kolk et al, 1996; Herman, 1992; Suedfeld et al, 1998; Eitenger, 1980).

Prompted by the prevalence of war-related psychiatric morbidity after WWII, the American Psychiatric Association's (APA) Committee on Nomenclature and Statistics

included gross stress reaction as a psychiatric category in its DSM-I of 1952. According to the 1952 nosology, the diagnosis was justified in situations involving exposure to “severe physical demands or extreme stress such as in combat or civilian catastrophe”. It did not provide operational criteria for the category.

The 1950’s and 1960’s were also associated with pioneering research involving civilians’ reactions to natural and industrial disasters. Reasoning that information derived from civilian disasters may be used to gauge the effects of war-related disasters, the National Academy of Sciences funded a number of investigations that sought to assess the adjustment of individuals who survived major fires, gas explosions and earthquakes. One study, conducted by Bloch, Silber and Perry in 1956, involved the interviewing of children who had survived a tornado that devastated much of Vicksburg, Mississippi. The Bloch report is particularly relevant as it clearly indicated that traumatized children, much like traumatized adults, experience nightmares, avoidance behaviors, startle reactions, irritability and an increased sensitivity to traumatic stimuli. Subsequent studies involving the 1962 Alaska earthquake, the sinking of the Andrea Doria and the Bristol floods served to highlight the unique distress of traumatized survivors (Quarantelli, 1985).

In 1968, the DSM –II was issued. In this edition, the “gross stress reaction” category was omitted. The APA introduced the category of transient situational disturbance. The 1968 appellation was reserved for “transient disorders of any severity that occur in individuals without any underlying mental disorders and that represent an acute reaction to overwhelming environmental stress”. The DSM-II also listed a series of

age-related sub-classifications. Again, it did not provide operational diagnostic criteria for the classification (Briere, 1997).

In recent decades, much of the impetus for the development of an integrated understanding of the effects of trauma on social, psychological and biological functions has continued to come from the participation of individuals who themselves were exposed to trauma, such as Vietnam veterans, and from people working with populations that were entirely neglected, women and children. It is quite amazing that between 1895 and 1974, the majority of work on trauma centered almost exclusively on white males.

Trauma endured by individuals in interpersonal situations was also an important focus in the social work field. In 1974, Ann Burgess and Linda Holstrom at Boston City Hospital first described the “rape trauma syndrome” and noted that flashbacks and nightmares seen in these women resembled the traumatic neuroses of combat. Strauss and Gelles (1990) also began to document the traumatic effects of domestic violence. Schechter (1982) reported that in the early 1970’s, there was a surge in the reporting of wife battering by crisis centers and anti-rape workers and feminist attorneys. The women’s movement had helped to create an environment whereby women could understand and begin to speak out against battering. The Anti-Rape movement, and “Take Back the Night” marches, also strengthened this momentum. Women began to organize politically and press for needed changes. Those who entered the movement often came with a social work or legal background. In the early 1970’s, women organized to create a grassroots informal network of services, safe homes and local domestic violence hotlines, to provide support to the growing number of battered women who were calling rape crisis hotlines seeking help and safety. As the magnitude of the

problem became clear, a range of services, including a network of shelters, was developed to begin to address the safety needs of victims (Dobash et al, 1992).

In the 1970's the anti-war protest group, Vietnam Veterans Against the War, helped focus public attention on the psychological condition exhibited by many Vietnam War veterans. This syndrome included nightmares, flashbacks, depression, addiction, disrupted relationships, isolation, withdrawal, raging outbursts and other debilitating symptoms. Veterans demanded, and received, attention from the Veterans' Administration (VA) culminating in a five-volume study delineating the syndrome of Post-traumatic Stress Disorder and its unquestionable relationship to war (Berg, 2001). The VA concluded that normal, healthy men could succumb to some form of psychiatric disorder after exposure to war. This study also included minority veterans (van der Kolk et al, 1996). After overcoming years of disagreement with authorities that wished to frame the disorder as a form of malingering, veterans began to receive recognition of the validity of their complaints. This enabled veterans to receive psychological treatment and, in some cases, qualify for disability payments.

Childhood Trauma

Trauma inflicted during infancy and childhood is another area that regularly requires social work intervention. Building on the work of John Caffey, a radiologist who encountered traumatic and unexplained injuries in infants and young children, in 1962, C. Henry Kempe and his colleagues surveyed 88 hospitals in which they identified 302 children who had been "battered". Kempe sharpened the focus on what was clearly emerging as "child abuse" by defining the "battered child syndrome" as an infant or child less than three years old who presented the physician with unusual injuries, broken bones,

or cranial injuries that were inadequately or inconsistently explained. When published, this survey, which graphically catalogued brutality to young children, many of whom suffered multiple injuries, ignited a broad-based national effort to find ways to protect children (Lindsey, 1994). Kempe (1987) also documented the long-term developmental effects that trauma due to physical child abuse may have on children, which included: limited ability of the victim to relate to others; social isolation with superficial, yet dependent and unstable relationships; poor self-esteem; fear of failure; depression; developmental delays; and limited ability to cope with ordinary problem solving needed for daily living.

Finkelhor (1994; 1995) Briere et al, (1992) and Faller (1993) have called attention to and extensively documented the detrimental psychological effects of child sexual abuse. Finkelhor (1986), whose conceptualization of traumatogenic effects of sexual abuse is the most widely employed, divides sequelae into four general categories, each having varied psychological and behavioral effects. They include: traumatic sexualization, stigmatization, betrayal and powerlessness. The vulnerability effect of powerlessness may be avoidant responses, such as dissociation and running away, behavioral manifestations of PTSD and anxiety, including phobias, flashbacks, hypervigilance, increased startle response, sleep disturbance, elimination problems, eating problems and revictimization.

Mental health services for children who witness domestic violence are a relatively new focus, but several preventive intervention and treatment programs have emerged as a secondary prevention strategy (Osofsy, 1997). One such program is Boston City Hospital's Child Witness to Violence Project (Zuckerman et al, 1995). Some children

who witness violence in their home or their community not only are more disturbed in their interpersonal relationships than other children, but also are at significant risk of repeating dysfunctional relationship patterns, which can contribute to a cyclic pattern of family violence (Bell et al, 1991; Zuckerman et al, 1995). Some of these children show psychological or behavioral reactions similar to those of children who have been abused. Symptoms of PTSD are commonly observed (Osofsky, 1995). Treating the psychological and developmental problems related to witnessing violence and educating and supporting parents in eliminating marital conflicts are goals of the CWVP.

Community Violence

The issue of community violence is now recognized as a major public health issue and is considered a relatively new area of trauma study (Rosenthal, 2000). The community violence concept applies not only to direct personal exposure (happened to you); it also includes exposure through witnessing (saw it happen to someone else) and vicarious (know someone it happened to) routes (Foy et al, 1998). A review of 55 studies on youth PTSD found eight studies that examined etiologic factors in community violence-related PTSD (McLain et al, 1998). Prior trauma exposure was significantly related to community violence-related PTSD severity in all three of the studies in which it was assessed. The possible mediating role of social support was examined in another recent study of children's psychological adjustment following community violence exposure. Results showed that community violence exposure was most highly related (inverse correlation) to well-being in those children with low social support or high levels of social strain (Kliewer et al, 1998). More research and appropriate clinical services and interventions are needed. (Osofsky, 1997; Foy, 1998).

To conclude, the trauma field continues to respond to new aspects of the impact of trauma on individual, family and community. More research in the mental health field to understand, evaluate and respond to trauma is needed. It is important to note that the DSM –IV diagnosis of PTSD encompasses trauma that occurred to an individual in isolation as well as trauma that occurred in a community context. If possible, that difference in the type of stressor should be unpacked. This study will also explore whether or not the type of prior trauma that an individual experienced made a difference in their level of PTSD symptoms following the 9/11 attacks. For instance, if someone had survived the impact of a natural disaster (i.e. a flood, earthquake or hurricane) was his or her experience of 9/11 different than someone who had a history of child abuse? The nature of the prior trauma will be explored through the qualitative component of this study.

The impact of the terrorist attacks of 9/11 has engendered new awareness in the mental health field of the varying aspects of trauma and its impact on the individual, family and society. The cumulative nature of ongoing stress, anxiety and trauma due to the continued “states of alert” since 9/11 should also be examined.

Post-Traumatic Stress Disorder: Diagnostic Criteria and Prevalence

The history of the development of the PTSD concept is described by Trimble (1985). In 1980, the American Psychiatric Association added PTSD to the third edition of its Diagnostic and Statistical Manual of Mental Disorders (DSM-III) nosologic classification scheme. Although a controversial diagnosis when first introduced, PTSD has filled an important gap in psychiatric theory and practice. From an historical perspective, the significant change ushered in by the PTSD concept was the stipulation

that the etiological agent was outside the individual, him or herself (i.e., the traumatic event) rather than an inherent individual weakness (i.e., a traumatic neurosis). The key to understanding the scientific basis and clinical expression of PTSD is the concept of "trauma."

In 1980, the DSM-III was published with the diagnosis of Posttraumatic Stress Disorder. According to the 1980 taxonomy, PTSD involved the "development of characteristic symptoms following a psychologically traumatic event that is generally outside the realm of human experience". The framers of the original PTSD diagnosis had in mind events such as war, torture, rape, physical and sexual abuse, the Nazi Holocaust, the atomic bombings of Hiroshima and Nagasaki, natural disasters (such as earthquakes, hurricanes, and volcano eruptions) and human-made disasters (such as factory explosions, airplane crashes, and automobile accidents). It was also indicated that the stressor producing this syndrome would evoke significant symptoms of distress in most people and is generally outside the range of such common experiences as bereavement, chronic illness, business losses or marital conflict. It also provided specific diagnostic criteria for identifying the disorder (Saigh, 1992).

The editors of the DSM-III considered traumatic events as clearly different from the very painful stressors that constitute the normal vicissitudes of life such as divorce, failure, rejection, serious illness, financial reverses and the like. (By this logic adverse psychological responses to such "ordinary stressors" would, in DSM-III terms, be characterized as Adjustment Disorders rather than PTSD.) This dichotomization between traumatic and other stressors was based on the assumption that although most individuals

have the ability to cope with ordinary stress, their adaptive capacities are likely to be overwhelmed when confronted by a traumatic stressor (Friedman, 2002).

PTSD is unique among other psychiatric diagnoses because of the great importance placed upon the etiological agent, the traumatic stressor. In fact, one cannot make a PTSD diagnosis unless the patient has actually met the "stressor criterion" which means that he or she has been exposed to an historical event that is considered traumatic (Wilson, 1994).

Clinical experience with the PTSD diagnosis has shown, however, that there are individual differences regarding the capacity to cope with catastrophic stress, so that while some people exposed to traumatic events do not develop PTSD, others go on to develop the full-blown syndrome (Wilson, 1989; Foy et al, 1992). Such observations have prompted recognition that trauma, like pain, is not an external phenomenon that can be completely objectified. Like pain, the traumatic experience is filtered through cognitive and emotional processes before it can be appraised as an extreme threat. Because of individual differences in this appraisal process, different people appear to have different trauma thresholds, some more protected and some more vulnerable to developing clinical symptoms after exposure to extremely stressful situations. Although there is a renewed interest in subjective aspects of traumatic exposure, it must be emphasized that exposure to events such as rape, torture, sexual and physical abuse, genocide, and severe war zone stress, are experienced as traumatic events by nearly everyone (Davidson et al, 1993; Wilson et al, 1993).

Following its publication in 1980, the DSM-III gained considerable recognition among mental health practitioners in the United States. PTSD also became regularly utilized as a diagnosis.

The DSM-III diagnostic criteria for PTSD were revised in DSM-III-R (1987), DSM-IV (1994), and DSM-IV-TR (2000). The current DSM-IV TR (2000) Criteria for PTSD diagnosis include six different categories. The individual must meet all six criteria in the categories of A, B, C, D, E and F as described in the following section.

The essential feature of PTSD is the development of characteristic symptoms following exposure to an extreme stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm or threat of death or injury experienced by a family member or another close associate (Criterion A). The person's response to the event must involve intense fear, helplessness, or horror (Criterion A2).

The characteristic symptoms resulting from the exposure to the extreme trauma include persistent reexperiencing of the traumatic event (Criterion B.) The individual must experience one or more of the following related to the event: intrusive memories of the event, dreams/nightmares of the event, flashbacks to the event, upset by reminders of event, physiologic reactivity to reminders of the event (racing heart, tremors, sweating).

The individual must experience persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (Criterion C). Three or more of the following *new* symptoms post event must occur: avoidance of thoughts/feelings, avoids reminders, event amnesia, loss of interest in activities of daily living, detachment/estrangement, restricted range of affect, sense of foreshortened future.

The individual must exhibit persistent symptoms of increased arousal (Criterion D). Two or more of the following *new* symptoms must be present post-event: insomnia, irritability/anger, poor concentration, hyper vigilance, and exaggerated startle. Note: B, C, and D symptoms must be new after the event to qualify; existing symptoms such as sleep problems in the population are not counted and will yield inflated estimates of PTSD rates.

The full symptom picture must be present for more than one month (Criterion E), and the disturbance must cause clinically significant distress or impairment in social occupational, or other important areas of functioning (Criterion F.)

The following specifiers maybe used to specify onset and duration of the symptoms of PTSD disorder. "Acute" PTSD should be used when the duration of symptoms is less than three months. "Chronic" PTSD should be used when the symptoms last three months or longer. "With Delayed Onset" should be used when at least six months have passed between the traumatic event and the onset of the symptoms.

Complicated PTSD/Traumatic Grief

More recently, a panel of experts in the areas of bereavement, trauma and psychiatric nosology convened in January 1999, to discuss the need for diagnostic criteria for complicated grief, or traumatic grief (Prigerson et al, 1999). Rando (1993) described the three conditions that add the situation of trauma to grief. They are: when an individual has an encounter with death where there is a threat to their own survival; when an individual is suddenly faced with a massive or shocking and sudden death and mutilation of other people; and when an individual is faced with the traumatic and/or mutilation death of a loved one. Many of the common post-traumatic responses are manifested in some way in both acute uncomplicated grief and complicated grief. Horowitz, et al (1997) have also published criteria for Complicated Grief Disorder. They recommend diagnostic criteria for a new DSM Axis I Disorder named Traumatic Grief.

Complex PTSD

Briere (1997) provides an overview of this syndrome, which is thought to arise from severe, prolonged and repeated trauma, almost always of an interpersonal nature. Examples of such stressors are torture, captivity as a prisoner of war or concentration camp internee, extended child abuse and chronic spouse abuse. Such traumatic processes (as opposed to a single catastrophic event) have been associated with a wide variety of subsequent symptoms, including intrusion, avoidance and hyperarousal, but also dissociation, somatization, affective changes, identity and boundary disturbance, affect regulation, chronic involvement in dysfunctional relationships and self-injurious or self-defeating behaviors.

Because complex PTSD includes so many divergent symptoms, the diagnostic criteria for such a disorder would be equally complex. It is not clear that all those symptoms found to relate to victimization experiences necessarily represent a unitary set of posttraumatic outcomes as opposed to antecedent or co morbid clinical phenomena or preexisting risk factors for posttraumatic stress (Briere, 1992; Yehuda et al, 1995). Prolonged trauma appears to lead to a variety of symptoms in a number of different areas. Clinicians must be cognizant of the complexity of posttraumatic response, in order to avoid evaluating formal Acute Stress Disorder or PTSD symptoms alone in the traumatized individual.

Secondary Traumatic Stress

It has recently been recognized that persons may manifest symptoms of PTSD through secondhand exposure to the trauma histories of others (Terr, 1991; Figley, 1995a). Such cases include Holocaust survivors and their children (Danieli, 1985; Krystal, 1988); intimates of rape victims (Kelly, 1988) and mental health professionals who work with trauma survivors (Lindy et al, 1994; Figley, 1995a; Stamm, 2002). Hodgkinson et al, (1994) report that disaster workers not only experience high levels of stress at the time of the traumatic event, but that these elevated levels are still present at 12 month follow-up.

An independent body of literature generated from within the field of traumatology has also emphasized the potential for harm to therapists who specialize in trauma therapy (Figley, 1995a, 1995 b; Pearlman et al, 1995; Wilson et al, 1994). Therapists are exposed to the stressors and psychic pain experienced by their clients. Therapists also carry the professional burden of being expected to remain open and available to their clients on an

emotional level. It is this empathic involvement that sets the stage for the potentially deleterious effects of therapy to impact the professional (Pickett, 1998). Detection of secondary stress traumatization may require taking a history of exposure to trauma through one's employment (Steinberg, 1997).

Figley (1996) defines STS as the natural consequent behaviors and emotions resulting from knowledge about a traumatizing event experienced by a significant other or from helping or wanting to help a traumatized person. In addition to this working theoretical definition, STS has three operational components: 1. having witnessed or been confronted by actual or threatened death or injury, or by a threat to the physical integrity of oneself or others; 2. provocation by the stressor of responses of fear, horror, and helplessness; and 3. direct or indirect exposure to an exceptional mental or physical stressor, either brief or prolonged. There is a growing body of evidence that supports these operational definitions of STS (Beaton et al, 1995).

In the process of learning about the traumatic material of the client and trying to understand and identify with the experience, the therapist may actually experience emotions and other symptoms that are very similar to that of the victim. Dutton et al (1995) categorize STS reactions/symptoms in three areas: indicators of psychological distress or dysfunction, changes in cognitive schema, and relational disturbances.

Indications of psychological distress or dysfunction may include distressing emotions such as: sadness, grief, depression, anxiety, dread and horror, fear, rage and shame (Dutton et al, 1995; McCann et al, 1990; Figley, 1995). Other indications of distress may include intrusive imagery, such as nightmares, flooding and flashbacks of images generated during and following the client's recounting of traumatic events

(Courtois, 1999, Herman, 1992; McCann et al, 1990). Numbing or avoidance of efforts to work with traumatic material of the client may also occur (Dutton et al, 1995; McCann et al 1990).

Others have discussed the cognitive shifts that sometimes result from STS. These include shifts in the clinicians' beliefs, expectations and assumptions. McCann et al (1990) note that therapists may find their cognitive schemas altered or disrupted by long-term exposure to the traumatic experiences of their clients. Changes in the way a therapist experiences self, others and the world may result.

Relational disturbances, both personal and professional, are the final category of STS effects or symptoms. Figley (1995) notes that therapists' personal relationships may suffer due to increased stress, difficulty with trust and intimacy, or increased sensitivity to relationship dynamics that are similar to those being discussed by a trauma survivor (I.E. exploitation, abuse, violence). The clinician's response to the survivor client may be either over-identification, detachment, or vacillation between the two (Miller, 2000; Dutton et al, 1995).

Individual, organizational, social, community and traumatic event factors potentially may either increase or decrease one's vulnerability to STS. These include, but are not limited to: a history of psychiatric symptoms, demographic characteristics such as age and ethnicity; level of identification with the victim; organizational influences on the recognition of, and recovery from, on-the-job-trauma, the social support network of the therapist/crisis worker, the level of community response/support for the disaster recovery and the characteristics of the traumatic event (Beaton et al, 1995; Figley, 1995).

Strategies for responding to STS may be grouped into three areas: work-related strategies, informal strategies and personal strategies (Dutton et al, 1995; Savicki et al, 1987). Work related strategies may include: adjusting one's caseload to include a diversity of clients, reducing the amount of time spent in direct contact with trauma victims, increased supervision and peer support groups. Informal strategies may include: general self-care activities, developing diverse interests and seeking positive experiences outside of the workplace. Personal strategies may involve the clinician's own personal use of psychotherapy.

Stress Coping Strategies following a Disaster

No matter how well a person copes with the everyday events in life, he or she may eventually be confronted with a traumatic stressor, such as the attacks of 9/11. The psychological reactions to disaster trauma and the types of coping mechanisms and supports that people employ make a difference in their recovery. Coping responses are reported to be meaningful predictors of post-disaster distress (Ziedner et al, 1996).

There are many theoretical models for coping with stress (Lazarus & Folkman, 1984; Moos and Billings, 1982; Lazarus and Launier, 1978; Holahan and Moos, 1990). Lazarus et al (1978) defined coping as efforts both action-oriented (problem-focused) and intra-psychic (emotion-focused) to manage (that is, to master, tolerate or reduce) environmental demands and conflicts that tax a person's resources. In 1984, Lazarus and Folkman, refined this definition and added that problem-solving behaviors were aimed at altering the stressful event, while emotion regulated actions were responses to those incidents.

The problem-focused coping dimension involves strategies that attempt to solve, reconceptualize, or minimize the effects of a stressful situation. The emotion-focused coping dimension includes strategies that involve self-preoccupation, relaxation techniques or other conscious activities related to affect regulation (Parker, 1996). Avoidance coping, another basic dimension identified by the first generation of coping researchers, has continued to generate considerable attention. Depending on the theorist, the avoidance coping dimension has been conceptualized as involving person-oriented and/or task oriented responses. An individual can react to a stressful situation by seeking out other people (social diversion) or can engage in a substitute task (distraction)(Parker et al, 1992).

Coping processes are central to stress resistance. Resilience in the face of adversity involves a dynamic interplay between personal and social resources and coping efforts. Personal resources include relatively stable personality and cognitive characteristics that shape the appraisal and coping process. Social resources can strengthen coping efforts by providing emotional support that bolsters feelings of self-esteem and self-confidence, as well as by providing informational guidance that aids in assessing threat and in planning coping strategies. (Holahan et al, 1996). The coping process entails several critical steps. The first step involves the determination of a stressful event. Secondly, the individual would select a coping strategy. Third, is the implementation of a specific response. Finally, the individual would evaluate their coping efforts to reduce the stress. This is an interactive process that transpires between the individual and the event that is perceived as stressful (Lazarus et al, 1978).

Of prime importance are the consequences of coping and their effectiveness in moderating the stress-strain relationship. If the coping response is effective, then the deleterious impacts of stress are reduced and well-being is improved. A distinction is usually drawn between maladaptive and adaptive coping strategies. Positive coping strategies are viewed as stabilizing factors that assist individuals in maintaining equilibrium during stressful times and do not have negative implications in the long term. Maladaptive strategies can be defined as actions taken by the individual to temporarily alleviate stress that are usually perceived to be effective in the short term, but are likely to have a negative impact in the long term, for example, smoking, drinking, and the use of recreational drugs (Cartwright, 1996).

The effects of post disaster stress can be moderated by coping processes. Of particular relevance to this study, is that some research suggests that emotion-focused coping may be an effective strategy in moderating emotional arousal and in enhancing adaptation in situations where people have no objective control such as during combat, or disaster situations. (Baum et al., 1983). By contrast, post-disaster situations require mobilization of adaptive resources (I.E. problem-focused responses); also there is more control over events and problems. (Ziedner, 1996) A good fit between the realities of the situation and coping methods is important. Problem-focused is more adaptive in situations viewed as changeable whereas emotion-focused is best used in unalterable situations (Lazarus et al 1984).

Research findings on coping effectiveness must be considered tentative at present. The same coping techniques may contribute to different outcomes and not all coping strategies are equally effective in managing stress. Perlin (1991) emphasized that coping

strategies work with modest effects, sometimes, with some people, and that it should be kept in mind that coping responses are not uniformly adaptive. Coping patterns should fit the context and the individual. Adaptive coping usually involves a flexible repertoire and combined use of coping strategies.

Ethno-cultural and Cross-National Issues in PTSD

Presently, disaster research does not focus on ethno-cultural and cross-national issues. Only a few studies exist that have attempted to compare directly responses of one culture or nation to another to determine a potentially different extent or type of reaction to such events (Green, 1996). One study (Palinkas et al, 1993) compared Native Alaskans to non-Natives. Sattler et al (2002) conducted a cross-national study examining preparation for and psychological functioning following Hurricane Georges in the U. S. Virgin Islands, Puerto Rico, Dominican Republic and the United States. The lack of cross-national disaster studies is due, in part, to a number of substantial hurdles in conducting this type of research. These challenges include: comparing disasters that are similar in type, size and strength; interviewing survivors at the same time following the event; gaining access to the disaster area; matching participants on demographic characteristics and exposure to the disaster and using the same standardized measures (Sattler et al, 2002).

These methodological problems are even more difficult in the context of working with different ethno cultural groups, which may be differentially vulnerable to trauma, have different personal and social resources for coping and different exposure to other traumas. For example, social support may predict outcome in one culture but not in another if, social conditions were quite different in the two settings or if ranges of support

varied greatly from one group to the next (Green et al, 1996; Norris et al, 2002).

Garrison et al, (1993); Green et al, (1990); Jones et al (2001) and La Greca et al (1998) found that ethnic groups who are of minority status most often fared more poorly than persons who are of majority group status. Perrilla et al (2002) tested whether differential exposure or differential vulnerability best explained their results that Latinos and non-Hispanic blacks were more adversely affected by Hurricane Andrew than non-Hispanic whites. Non-Hispanic whites were less often personally traumatized and far less exposed to neighborhood trauma than Latinos and non-Hispanic blacks. The study also indicated that differential vulnerability also would have to be considered and that in fact some of the minorities' disproportionate distress was explained by their higher levels of fatalism (external control) and acculturative stress (discomfort in dealing with members of other ethnic groups).

The equivalence of symptoms and their meanings across cultures must also be considered. Certain symptoms may have an entirely different meaning in one culture than in another (Green et al, 1996). For example, Kortmann (1987) was conducting a study on problems found in trans-cultural psychiatry, he found that the question "Is your appetite poor?" did not make sense to a group of Ethiopians who struggled daily to get enough food to stay alive. Thus, merely translating an instrument does not ensure measurement of equivalent symptoms.

The characteristics of the stressors (i.e. disasters) may differ from one location to the next. That is, disasters actually may be more devastating or deadly in some locations than in others. Thus, the event experience may be qualitatively different, making cross-cultural research even more difficult. Finally, the characteristics of the populations

affected and the quality of the response to a local disaster (i.e. relief efforts) may vary from one setting to the next, further reducing the ability of investigators to make meaningful comparisons. Researchers should take these factors into consideration when attempting cross-cultural research (Marsella et al, 1996).

Prevalence of PTSD in the Population

Psychological stress accounts for approximately 80% of visits to health care professionals in the United States each year. The American Medical Association estimates that 44% of Americans suffer from stress-induced physical illnesses, many of which are preventable (McGinnis et al, 1993).

The DSM – IV TR (2000) reports that community-based studies reveal a lifetime prevalence for PTSD of approximately eight percent of the population in the United States. Information is not currently available with regard to the general population prevalence in other countries. Studies of at-risk individuals (i.e., groups exposed to specific traumatic incidents) yield variable findings, with the highest rates (ranging from one-third to more than half of those exposed) found among survivors of rape, military combat and captivity, and ethnically or politically motivated internment and genocide.

In general, epidemiological investigations have produced inconsistent population prevalence estimates for lifetime posttraumatic stress from all causes in adults. Helzer et al (1987) reported the lifetime prevalence of posttraumatic stress among adults at one percent in the United States. Resnick et al (1993), using DSM-III-R (1987) criteria, found an average 12.3% prevalence rate among women. Higher prevalence rates (9.2%) have been documented among young adults living in urban areas of the United States.

(Breslau & Davis, 1992). The differences in estimates may reflect variations in criteria used.

Many recent studies have indicated that PTSD is relatively common. Recent data from the national co-morbidity survey indicate PTSD prevalence rates are 5% and 10% respectively among American men and women (Kessler et al, 1995). Van der Kolk et al (1996) reports that PTSD is a very common disorder: "Exposure to extreme stress is widespread, and a substantial proportion of exposed individuals become symptomatic." A random survey of 1,245 American adolescents showed that 23 percent had been the victims of physical or sexual assaults as well as witnesses of violence against others. One out of five of the exposed adolescents developed PTSD. This suggests that approximately 1.07 million U.S. teenagers currently suffer from PTSD (Kilpatrick et al, 1995). Nine percent of an urban population in a large North American city suffered from PTSD (Kulka et al, 1990). The majority of psychiatric inpatients have been found to have histories of severe (usually intrafamilial) trauma, at least 15 percent meet diagnostic criteria for PTSD (Saxe et al, 1993). Rates of PTSD are much higher in war-torn, post-conflict settings such as Algeria (37%), Cambodia (28%), Ethiopia (16%), and Gaza (18%) (de Jong et al., 2001).

Following the terrorist attacks of 9/11, Schlenger, et al (2002) found that the prevalence rate of PTSD was significantly higher in the New York City metropolitan area (11.2%) than in Washington, DC (2.7%), other major metropolitan areas (3.6%) and the rest of the country (4.0%). Schuster et al (2001) found that 44 percent of a nationally representative sample of adults reported that they had at least one of five substantial stress symptoms since the attacks of 9/11, and 90 percent reported at least low levels of

stress symptoms. Children also experienced stress: 35 percent had at least one of five stress symptoms after the attacks. The authors recommended that clinicians who practice in regions that are far from the recent attacks should be prepared to assist people with trauma-related symptoms of stress. Galea et al (2002) found that among 1008 adults interviewed in Manhattan eight weeks following the terrorist attacks, 7.5% reported symptoms consistent with a diagnosis of current PTSD related to the attacks, and 9.7% reported symptoms consistent with current depression. Among respondents who lived south of Canal Street (i.e., near the World Trade Center) the prevalence of PTSD was 20%. Each study emphasizes the need for additional research on the trauma due to the 9/11 attacks.

Characteristics of the Trauma Stressor

Severity of the stressor has been found to be related to later symptoms in a variety of traumatized populations (Shalev, 1996). For example, studies have found relationships between severity of traumatic experiences and later posttraumatic symptoms in samples of combat veterans, (Fontana et al, 1998), refugees (Peterson, 2002), natural disasters (Briere, 2000) and sexually abused children, (Finkelhor et al, 1995). In these studies, severity of traumatic stressors was defined in various ways. Several characteristics of an event can contribute to the severity of trauma including the intensity, nature and duration of the traumatic experience.

The intensity, nature and duration of the trauma would all affect an individual's perceptions of the controllability and negative valence of the event. Traumas that are more intense are thought to be more likely to provoke overwhelming fear and helplessness because of their more negative valence. For example, since more intense

forced sexual experiences (such as rape) will have a more negative valence than less intense experiences (such as fondling), they will tend to result in more severe symptoms. (Finklehor et al, 1986; Carlson, 1997).

In the area of trauma due to disasters, the type of disaster can affect the outcome on the individual's mental health. Generally, traumatic events caused by human malevolence are perceived as more stressful than those caused by human error or accident, and these are in turn generally seen as more stressful than natural disasters (Callahan, 1998). Some traumatic events appear to be particularly difficult to cope with because of their apparent meaninglessness. Family survivors of people who die in transportation disasters (large plane or boat accidents) or terrorist attacks, possibly because of the rarity of such accidents, report a meaninglessness about their family member's death that seems to add to their crisis state (Brooks et al, 1992; Dagliesh et al, 1996; North et al, 1999). Several studies have compared the results across samples experiencing natural disasters, technological disasters, and war/mass violence (Norris et al, 2000; Norris et al, 2002). The findings regarding the consequences of experiencing disasters caused by malicious human intent were unequivocal. Samples who experienced mass violence, such as terrorist attacks, were far more likely than other samples to be severely or very severely impaired. From either an information processing or resource loss perspective, disasters of mass violence may be especially difficult for victims to comprehend or assimilate, making intrusion and avoidance symptoms more likely. Because shooting sprees and terrorist attacks tend to be indiscriminate and random (Stern, 1999), they create acute helplessness and anxiety and may be more likely than

other disasters to shatter beliefs of the self as invulnerable and of the world as a meaningful and just place.

Disasters that engender severe, lasting, and pervasive psychological effects are rare, but they do happen. On occasion, even natural disasters may be of sufficient magnitude to produce severe and chronic impairment in a substantial portion of the population (Briere, 2000; Norris, 2001). The literature has indicated that effects were greatest when at least two of the following event-level factors were present: 1. the disaster caused extreme and widespread damage to property, 2. the disaster engendered serious and ongoing financial problems for the community, 3. the disaster was caused by human intent, and 4. the impact was associated with a high prevalence of trauma in the form of injuries, threat to life, and loss of life. When such disasters occur, it appears that the need for professional mental health services will be widespread (Norris, 2002; North, 2002; Pfefferbaum, 1999a).

A variety of factors have been found to influence the likelihood that an individual within a community will develop serious or lasting psychosocial problems in the wake of disasters. Gender, age, prior experience, ethnicity, culture, socioeconomic status, family structure, problems of children, parents or spouses, severity of exposure, secondary stressors, predisaster psychiatric history and personality and a variety of psychosocial resources all appear to play a role. Undoubtedly these factors work together in complex ways, and in fact may be interactive to either mediate or exacerbate the effects of the disaster (Norris et al, 2002). More research is needed to understand the interplay between these factors. The United States and, closer to home, New York City, has entered a new era of living under the daily threats of terrorist attacks. New daily uncertainties about the

outcome of the war, economic decline, and on-going threats of bioterrorism necessitate more investigation into the effects of 9/11 on individuals' mental health to recommend future strategies for intervention.

Current State of Terrorist Disaster Research on 9/11

Since there has never been a terrorist attack disaster of this proportion in the United States, there is little research available that addresses an event of this magnitude. Several recent studies have been completed post 9/11 and will be referenced in the literature review. However the research on the field of trauma due to disasters is vast and can lend relevance to this study.

Trauma due to disasters has a vast body of literature that the field of social work may draw upon for guidance. There have been transportation disasters, such as airplane crashes, train crashes, school bus crashes and sinking ships. There have been industrial, chemical and nuclear plant accidents, such as the Union Carbide chemical spill; the Exxon Valdez Oil Spill; the Chernobyl Nuclear Plant accident and the Three Mile Island Nuclear Plant accident. There have been terrorist acts such as the Sarin Gas attack in Japan; the bombing of Pan Am 103; the Oklahoma City bombings and the 1993 bombing of the World Trade Center. There have been natural weather-related disasters such as Hurricane Andrew; Hurricane Hugo; the earthquake in Armenia and the Oakland/Berkeley, California Firestorm.

The studies that were conducted with the victims who endured and survived the disasters involving natural disasters, transportation or industrial disasters, war, and terrorist attacks will be helpful references for comparison to the 9/11 attacks on the

World Trade Center. The following literature review will describe the outcomes of 50 relevant studies.

Post Traumatic Stress Symptoms due to Disasters

The trauma literature is broad and varied. This review focuses on literature relevant to this the terrorist attacks of 9/11. It provides a discussion of research findings on adolescents and adults exposed to different types of disaster trauma. This literature review will focus on disaster trauma related to: (a) natural disasters, (b) transportation/industrial disasters, (c) war, and (d) terrorist attacks. The articles are presented in this order to make it easier to digest.

The balance of this chapter is not intended to be an exhaustive search of the research literature on posttraumatic stress. Much of the current knowledge about human reaction to psychic trauma due to disasters has come from research following wars, industrial disasters or natural disasters. Although the focus of this dissertation is trauma due to terrorism, findings from these studies are referenced due to their relevancy. Table 1 (Please refer to Appendix C) presents descriptions of these studies and their results. These articles were selected as they held relevance to the assumptions put forth in this dissertation regarding the development of PTS symptoms among individuals directly and indirectly exposed to the 9/11 terrorist attacks. All of these disaster studies were completed within the past 15 years, following the formal inclusion of PTSD in the DSM-III.

Fifty empirical research articles and several other sources from chapters in books and published reports have been reviewed. Most of the studies utilized quantitative techniques; several utilized qualitative methods. Black (1993) provided a comprehensive

template for evaluating social science research, which was utilized in the review of these studies.

A thorough search of the literature produced many empirical studies regarding disaster trauma relevant to direct exposure. There were not many empirical studies relevant to the questions that are the focus of this report – indirect exposure to trauma and the development of PTSD symptoms in the areas of natural disasters, industrial or transportation disasters and war. That is, at present, there is not a substantial body of empirical literature that deals directly with the association between the antecedent variables, media exposure, prior trauma, and the development of PTSD symptoms among those indirectly exposed to the disasters. The search of the literature located ten studies that are included that explore the relationship between indirect exposure to a traumatic event and the development of PTS symptoms. Most of these studies dealt with the terrorist bombing in Oklahoma City and the 2001 attacks on the WTC and Pentagon. There is, however, a large body of knowledge that relates to these hypotheses concerning direct exposure.

The literature review is comprised of two sections. The first section of this chapter will review the findings of the Norris (2002) research report, “60,000 Disaster Victims Speak: Part I and Part II. A Review of the Empirical Literature, 1981 – 2001 and the Summary and Implications of the Disaster Mental Health Research”. This is included because it presents evidence relevant to several of the hypotheses, and is the most comprehensive meta-analysis review of disaster literature as framed by mental health questions and research to date. Critically, it did not include more recent articles on the 2001 World Trade Center attacks, the subject of this report. The second section of this

chapter will provide an overview of the findings of trauma and its relationship to natural disasters, transportation and industrial disasters, war, and terrorist attacks. In each of these disaster categories, research directly related to the questions of this study will be reviewed. The studies listed in Table #1 on natural disasters, transportation and industrial disasters, war, and terrorist attacks and additional readings will be utilized in these section. (Please see Appendix D.)

On average, a disaster occurs somewhere in the world each day. It may be a random shooting spree, a flood, a train derailment or a peacetime terrorist attack. What these various events share is their potential to affect many persons simultaneously and to engender an array of stressors ranging from threats to one's own life to extensive social and community loss and hardships. Their impact on mental health has been of interest for decades and substantial literature has been developed to study these issues (Norris, 2002).

Embedded in disaster research are unique obstacles when attempting to generalize or compare findings from one disaster to another. The majority of the disaster literature that was reviewed for this study consisted of separate and distinct events, which occurred at a specific time, to a specific population in a specific place. Consequently, the empirical literature might best be described as a series of specific case studies. Further complicating the synthesis of information is that the disasters themselves are quite unique, natural vs. man-made, air transportation accidents vs. terrorist hijack bombings, thus making the findings difficult to compare. Additionally, the disasters were of different magnitudes, occurring in different countries, with particular cultures with distinctive types of mental health evaluation and support systems. The studies also frequently use different assessment tools, samples of convenience, and focus on varied

indicators of mental health outcome further complicating synthesis. None-the-less, there is a rich base of research knowledge to draw upon to test the earlier stated hypothesis regarding the attacks on the World Trade Center in 2001.

60,000 Disaster Victims Speak: Part I and II.

Norris et al (2002) conducted a review of the empirical research that has been published over the past two decades. The research was funded by an interagency collaborative agreement between the Center for Mental Health Services and the Department of Veterans Affairs National Center for Posttraumatic Stress Disorder. The research had two purposes. The first was to determine what is known about the potential range, magnitude and duration of a disaster's effects on the mental health of the impacted community and secondly, the experiential, demographic and psychosocial factors that influence who within that community is most likely to be affected. The review consisted of approximately 250 articles, chapters and books that addressed these topics. It did not include qualitative research. All of the articles focused on disasters; which were acute collectively experienced events with sudden onset.

Results for 160 samples of 60,000 disaster victims who experienced 102 different events were coded as to sample type, disaster type, disaster location, outcomes and risk factors observed and overall level of impairment. Of the 160 samples, 88 (55%) experienced natural disasters; 54 (34%) experienced technological disasters (ground transportation crashes, airplane crashes, boat wrecks, nuclear or industrial accidents); and 18 (11%) experienced mass violence (bombings, shooting spree and other terrorist attacks). There were samples from research conducted in 29 different countries. Youth

and adults were studied separately. Twenty-four adult samples were composed of trauma recovery or rescue workers.

The methodologies used by the researchers varied greatly. The majority (68%) utilized a single post-disaster assessment. Only seven had true pre measures of mental health status. The remaining samples used two or more post disaster assessments. However, they all varied in the timing of the follow up assessment, post disaster, from immediately following the event to 17 years. Most of the samples were of convenience. However some utilized probability sampling (i.e. telephone surveys, in-home surveys and mail surveys); and in some disasters, the affected population was small enough so that all individuals were included in the study.

This study classified each sample's results on a four-point scale. Minimal effects received a "1", moderate impairment, a "2", samples that yielded rates of psychopathology between 25% and 50% received a "3" and those with greater rates of psychopathology than 50% received a "4". The ability of sample-level variables to predict the overall severity of impairment was tested in a regression analysis. In order of frequency, outcomes included specific psychological problems, nonspecific distress, health problems, chronic problems in living, resource loss and problems specific to youth. Regression analysis showed that samples were more likely to be impaired if they were composed of youth rather than adults, were from developing countries rather than developed countries or experienced mass violence, such as terrorist attacks, bombings, random shooting spree, instead of natural or technological disasters. Most of the studies of rescue and recovery workers documented their remarkable resilience. Within adult samples, more severe exposure, female gender, middle age, ethnic minority status,

secondary stressors, prior psychiatric problems and weak or deteriorating psychosocial resources most consistently increased the likelihood of adverse outcomes (as cited in Norris, 2002).

The analysis indicated that relatively few samples (11%) incurred minimal impairment; while approximately half (51%) experienced moderate impairment, indicative of prolonged stress. The remainder incurred severe (21%) or very severe (18%) distress. The review also indicated that the effects of disasters might be quite enduring. Duration cannot be totally divorced from magnitude, as stronger effects are also more likely to persist. In general the studies revealed that the first year was time of peak symptoms, but that people did improve over time. Yet, in many studies symptoms lingered for months, even years, for a significant minority of participants.

Of particular relevance to this dissertation was the finding regarding the comparison of mental health distress across samples experiencing natural disasters, technological disasters or mass violence. The findings regarding the negative mental health consequences of disasters caused by human intent were unequivocal. Samples experiencing mass violence from bombings, terrorist activities or random shooting sprees were far more likely than others to be severely or very severely impaired.

Finally, the study (Norris, 2002) emphasized that even though individuals can experience the same disaster, there are many individual risk factors that must be taken into consideration when exploring the mental health outcomes. Gender, age, prior trauma, ethnicity, culture, socio-economic status, family characteristics, prior psychiatric history, the presence of children in the home, spouses, the levels of exposure, lack of coping resources or social resources all appear to play a role. These factors appear to be

dynamically interactive and part of a complex experience. They may also confound or mediate other variables that would affect the mental health outcome. The researchers called for additional research, in particular theory driven, longitudinal studies to address the needs of diverse populations.

Review of the Literature on Disaster Trauma

The following section will provide an overview of natural disasters and trauma, transportation and industrial disasters and trauma, war and trauma and terrorist attacks and trauma. Because the literature is so vast, it is structured by categories that have a particular relevance to this study. Thirty of the fifty articles reviewed in this section were included in the Norris (2002) study. Twenty additional articles, which describe outcomes from random shooting sprees, war, and the terrorist attacks of September 11th, were not included in the Norris (2002) review or were published following the study.

Natural Disasters and Trauma

Exposure to and resulting distress from natural disasters has been anchored to events such as hurricanes; (Norris et al, 2001; Norris et al, 2001), fires and floods (Benight et al, 2002), earthquakes (Najarian et al, 2001; Basoglu et al, 2002) and avalanches (Johnsen et al, 1997). Briere et al (2002) conducted research into the effects of multiple types of natural disasters, such as tornados, hurricanes, fires, floods and earthquakes.

The sample sizes for these studies ranged from 24 to 1, 000. All samples were comprised of adults. Only one study (Briere et al, 2002) had a randomized sample; the other samples were purposive or samples of convenience. All of the studies in this section utilized different types of instruments. They included: project produced

questionnaires, SASRQ, NDCSE, BSI, IES, TES, TSI, CMS, SCL – 90, Hamilton Depression Scale, PTSD scale SITSES and PSS – 10. (Please refer to Appendix E for list of assessment tools).

Exposure Levels and PTSD

A strong dose-response relationship to PTSD symptoms has been indicated across these studies. Seven of these studies reviewed explored the relationship between direct exposure and PTSD symptoms. It should be noted that the variable of “direct exposure” was defined differently for each study. Examples include: individuals living in survivor camps following an earthquake (Basoglu et al, 2002); all members of an army troop exposed to an avalanche (Johnsen, 1997); women who needed to relocate following an earthquake (Norris, 2001); individuals who lived in the vicinity of forest fires and floods (Beneight, 2002) and residents of a city following a natural gas explosion (Norris, 2001)). All seven of the studies found positive correlations between direct exposure and PTSD symptoms. Only one of the studies (Johnsen et al, 1997) examined the effect of indirect exposure on the development of PTSD symptoms. This study focused on a company from the Norwegian Army that was hit by an avalanche. The results showed that exposed subjects (victims and rescuers) reported higher levels of symptoms compared to non-exposed subjects.

Media Exposure and PTS Symptoms

Regarding the impact of media exposure and the development of PTSD symptoms, only one study (Najarian et al, 2001) examined this variable. It compared three groups of women who had survived an earthquake. The study reported on small samples, 25 women in each group. The first two groups had direct exposure to the

earthquake, the third group, a comparison group, lived in an adjoining city. A surprising finding was that 85% of the participants in the comparison group reported reexperiencing symptoms. The authors stated that this may be explained by the fact that television coverage of the earthquake continued on a daily basis in the entire country for several months and there is only one television station in Armenia. The entire population was reexperiencing the event through this daily visual stimulation of the devastation.

However, the authors also note that many of the women in the comparison group, had relatives living in the earthquake city directly impacted by the disaster. The other six studies did not discuss the role of media exposure contributing to PTSD symptoms.

Prior Trauma History and PTSD

Regarding the impact of prior trauma and the development of PTSD symptoms, only two studies on natural disasters included in this review (Briere et al, 2000; Basoglu et al, 2002) examined this variable. Basoglu et al (2002) reported that past psychiatric illness, family history of psychiatric illness and history of previous trauma were positively correlated with the development of PTSD symptoms following the earthquake. Briere et al (2000) reported that while disaster exposure accounted for significant symptom variance, far more variance was accounted for by prior exposure to interpersonal violence.

Transportation, Industrial Disasters and Trauma

Literature investigating exposure to and resulting mental health distress from transportation and industrial disasters has looked at events such as airplane crashes like the Pan Am Flight 103 flight that crashed in Lockerbie, Scotland (Brooks et al, 1992); a plane crash in a residential community in Coventry, England (Chung et al, 2000), the

technological accident at the nuclear power plant in Chernobyl (Cwikel et al, 2000); bus crashes (Dyregrov et al, 1996); the Exxon Valdez Oil Spill (Arata et al, 2000; Palinkas et al, 1993) and ship sinkings such as the Herald of Free Enterprise, (Dalglish et al, 1996).

The sample sizes in these studies ranged from 37 to 702. Five of the studies utilized purposive sampling. One study on Chernobyl (Cwikel et al, 2000) utilized a comparison group methodology of non-exposed respondents with a sample of exposed and less exposed participants. Palinkas et al (1993) utilized a randomized sample of households, one in an exposed community, and a comparison group in an unexposed community in Alaska. Many different assessment tools were utilized in these studies. They included: the GHQ, IES, Leeds Scales of Anxiety and Depression, Beck Depression Inventory, CR-PTSD scale, STAI, Event specific survey, DAS, SCL – 90 and various demographic questionnaires. (Please refer to Appendix E for list of assessment tools.)

Exposure Levels and PTSD

All of the studies found a strong relationship between direct exposure levels and the development of PTSD symptoms. Direct exposure was defined in a variety of ways. They included: residents who lived in the town of Lockerbie, Scotland and lived in the flight pathway of Pan Am Flight 103, which exploded (Brooks, 1992); households who lived between 100 and 300 meters from the crash site of Lockerbie (Chung et al, 2000); survivors of a ship sinking (Dalglish et al, 1996); on-scene responders to a bus crash (Dyregrov et al, 1996). In the Chernobyl study (Cwikel et al, 2000), exposure status was based on the International Atomic Energy Commission maps of the level of ground cesium. “More exposed” communities had ground contamination levels higher than 1 Ci

km and “less exposed” towns had less than 1 Ci km. Comparison towns were presumed to be uncontaminated.

The majority of the studies did not examine the effects of the disaster on indirectly exposed individuals. Brooks (1992) examined respondents 10 to 14 months following the Lockerbie disaster and found that the majority of those exposed were diagnosed with PTSD. Chung et al, (2000) conducted an assessment of the residents in Coventry, England, who survived after a plane crashed into their community, and found that 57 percent of the sample experienced intrusive thoughts and displayed avoidance behavior; their scores indicated that they were considered to be “psychiatric cases”. A study by Dalgleish (1996) presented data collected between three and six years subsequent to the sinking of the Herald of Free Enterprise of directly exposed individuals. PTSD severity declined over time, if there was an increase in social support. Despite a reduction in self-reported symptoms at six years post disaster, there was still evidence of considerable levels of emotional disturbance in the areas of avoidance and intrusion among those exposed. Dyregrov (1996) compared the responses of rescuers of a fatal bus crash that killed 12 children and four adults, and injured scores of others. All of the rescuers experienced PTSD symptoms. However, voluntary helpers evidenced a significantly higher score at 13 months than the professional helpers. Sound coping skills and debriefing techniques may have aided in the recovery of the professional helpers. Arata et al (2002) surveyed 125 commercial fishermen in Cordova, Alaska six years after the Exxon Valdez Oil Spill; all were directly exposed to the disaster. Clinically significant levels of PTSD symptoms were reported. Greater PTSD symptoms were associated with changes in relationships and a perceived negative impact of the spill on

work and health. Only two studies, the Chernobyl study (Cwikel, 2000) and the Exxon Valdez Oil Spill (Palinkas et al, 1993) examined the relationship between presumed levels of exposure and symptoms of PTSD. In the Chernobyl study (Cwikel, 2000), the high exposure group had the most distress on the IES total scale and on the individual intrusion and avoidance subscales. The exposed and less exposed groups had higher mean scores on all psychological outcome measures than the comparison group on symptoms of PTSD. Palinkas et al (1993) found that when compared to the unexposed group, members of the high-exposure group were 2.9 times as likely to have PTSD.

Media Exposure and PTS Symptoms

The impact of media exposure and development of PTSD symptoms among those directly or indirectly exposed was not covered in any of the aforementioned studies in this area except a brief reference in the Chernobyl study. Cwikel (2000) indicated that the psychological stress may have been heightened by the lack of media coverage and public information after the disaster. The Soviet authorities offered little information about the sources, extent of exposure, its effects and what could be done about it, hence complicating reactions to the accident.

Hayes (1991) reported on the ethical dilemmas inherent in news reporting on the disaster of Pan Am 103. The author interviewed 12 reporters who were out in the Syracuse community the evening of the crash (Syracuse University students were on board the aircraft). The study found that 11 of 12 journalists said that none of their places of employment had a plan for covering disasters; all 12 stated that they had never attended a formal training session on disaster reporting or on ethical considerations when covering a tragedy. The extent of television disaster footage, how reporters notified

relatives of their relatives' death, and misrepresenting their identity to get additional information from the airlines, were some of the topics explored. The reporters stated that they drew primarily on their personal morality and previous work experiences as they made critical ethical decisions on tragedy reporting.

Prior Trauma History and PTSD

Several studies reported on the impact of prior trauma and the development of PTSD symptoms. Dyregrov (1996) found that although both voluntary and professional rescuers experienced PTSD symptoms, prior exposure to trauma and previous experience from large-scale disasters and accidents was identified as salient to the lesser symptoms among the professional rescuers. The professional helpers seem to benefit from the day-to-day experience with a multitude of crisis situations as well as their more rigorous training. The Herald of Free Enterprise study (Dalglish, 1996) and the Coventry plane crash (Chung et al, 2000) did not examine prior trauma. The Lockerbie study (Brooks et al, 1992) collected predisaster medical and psychological history but reported that the records were not scrutinized, so it is very likely that the incidence of predisaster psychological morbidity is underestimated. For the purposes of analysis, those with no history were compared with the 10 individuals with more significant history. No significant relationship was found, however missing data resulted in only five cases in the "history" group, so the results must be treated with caution. The Chernobyl study (Cwikel, 2000) examined major stressful life events following the disaster, but not prior trauma.

War and Trauma

Adults and children in countries around the world experience political violence and war as a fact of daily life, as victims, participants and/or observers. Such experiences subject them to many negative consequences (Garbarino et al, 1996). Recent literature has suggested that adults and children are greatly affected by war in many ways. Given the difficulties of working in war zones, the methodology across studies varies considerably. Some studies are limited by small sample sizes, or assessment of only clinic-based cases, making generalizing difficult. Some studies used non-standardized questionnaires or semi-structured interviews, some used standardized questionnaires, but each study utilized different questionnaires, making comparisons difficult. The studies reviewed here focused on stressors during war that are generally multiple, diverse, chronic and repeated.

Those investigating exposure to and resulting distress from war have looked at events such as the Vietnam War (Fontana et al, 1998; McFall et al, 1999 and Kimerling et al, 2000); the impact of the SCUD missile attacks among Gulf War veterans and Israeli civilians (Orcutt et al, 2002; Shalev et al, 1997); PTSD symptom development in international relief personnel in Bosnia, Kosova and Cambodia (Eriksson et al, 2001); and the war in Bosnia – Herzegovina (Smith et al, 2002). Ai et al, (2002) studied PTSD development among adult Kosovar refugees.

The sample sizes in these studies ranged from 51 to 2,976. Six of the studies used purposive sampling techniques. One study (McFall et al, 1999) compared a sample of male Vietnam veterans seeking inpatient treatment for PTSD with a mixed diagnostic group of male psychiatric inpatients without PTSD and a community sample of Vietnam

veterans with PTSD not in treatment. Fontana et al (1998) recruited participants who had been included in the National Vietnam Veterans Readjustment Study (NVRS), a nationally representative sample of 1,198 male Vietnam veterans who were selected from military personnel records. African Americans and Hispanic veterans were over-sampled deliberately in the NVRS to ensure stable values for prevalence estimation in these two subgroups.

Many different assessment tools were utilized in these studies. They included: the War Trauma Questionnaire, the Birleson Depression Self-Rating Scale, Revised Children's Manifest Anxiety Scale, Brief Grief Scale, Laufer Combat Scale, Mississippi Scale for Combat-Related PTSD, Traumatic Stress Schedule, Communal Traumatic Events Inventory, PTSD Symptom Scale, Los Angeles Symptom Checklist, Support Rating Scale, NVVRS scale, Combat Exposure Scale, Marlowe-Crowne Social Desirability Scale, DSM-IV GAF Scale, DSM III-R Structured Clinical interview, Speilberger State Trait Anxiety Interview, Impact of Events Scale, Mississippi Scale for Combat Related PTSD, Women's Wartime Stressor Scale, Life Stressor Checklist. The Shalev et al (1997) study also used mental imagery techniques to simulate Gulf War attacks. (Please refer to Appendix E for a list of assessment tools.)

Exposure Levels and PTSD

Seven of these studies investigated the relationship between direct exposure levels and the development of PTSD. The variable of "direct exposure " was defined as: whether or not an individual endured any of 36 possible traumatic war-related events. (Eriksson et al, 2001); any refugee fleeing from Kosovar who settled in the United States (Ai et al, 2002); veterans who were deployed to the Gulf region during the war (Orcutt et

al, 2002); individuals who lived in Jerusalem throughout the Gulf War (Shalev et al, 1997); veterans who served in Vietnam (McFall et al, 1999; Fontana et al, 1998); and children who lived in the Bosnian government-held municipality areas in and around Mostar (Smith et al, 2002). In these studies physical proximity to the event was a key factor for determining “direct exposure”, as opposed to knowing someone killed or hurt in the war.

Smith et al (2002) found high distress levels in participants considered directly exposed to the war in Bosnia-Herzegovina. Fifty-two percent of the 2, 976 participants would be likely PTSD cases. However, the authors noted that conclusions about likely diagnosis must be most tentative in the absence of independent individual clinical assessments. Orcutt et al (2002) reported that higher level of combat exposure was related to increased PTSD upon return from the Gulf War and increased reports of traumatic events in the two years thereafter. Ai et al (2002) reported on a highly distressed sample of 129 Kosovar refugees, 60% of who met PTSD criteria. Shalev et al (1997) compared individuals who had developed PTSD with participants who had been exposed to SCUD missile attacks and not developed PTSD and found that PTSD patients may acquire and maintain prolonged conditioned responses to various stressors and become sensitized to reminders of past traumata following onset. The three studies of Vietnam veterans all reported strong dose-response relationships between direct exposure and PTSD. Kimerling et al (2000) found a significant association between direct traumatic exposure and PTSD. Direct trauma exposure and PTSD symptoms were also associated with reports of greater physical health impairment. Fontana et al (1998) found PTSD directly related to the dose of traumatic exposure. McFall et al (1999) compared three groups of

veterans, one with PTSD inpatients (n = 228) with veterans with PTSD not in treatment (n= 273), with a small group of non-veterans (n=64) who were psychiatric inpatients without PTSD. The authors reported that male veterans seeking inpatient treatment for PTSD exhibit more violent behavior than the other two groups. They recommend routine assessment of violent behavior among inpatients with PTSD, as well as specialized interventions for anger dyscontrol and aggression.

Only one study (Eriksson et al, 2001) examined the development of PTSD regarding indirect exposure levels. In this study, it was also determined that international relief workers may be indirectly or directly exposed to traumatic events that put them at risk for developing symptoms of PTSD. Higher levels of PTSD were generally associated with higher reports of direct life threat exposure. However, participants with high levels of exposure reported lower levels of PTSD symptoms when they also reported high perceived social support. The lowest scores of PTSD were associated with below average report of exposure and above average perceived social support.

Media Exposure and PTS Symptoms

None of the studies reviewed explored the variable of media exposure on those directly and indirectly exposed to war and its relationship to the development of PTSD symptoms.

Prior Trauma History and PTSD

None of the studies explored the relationship between the variable of prior trauma and the development of PTSD symptoms and exposure levels. Several of the studies (McFall et al, (1999; Kimerling et al, 2000) reported taking a trauma history as part of the study, but did not report the outcomes of this particular variable. All of the studies focused

primarily on the development of PTSD symptoms following the war event. Orcutt et al (2002) described the link between combat exposure and later trauma.

Terrorist Acts and Trauma

Literature investigating exposure to and resulting distress from terrorist activities has looked at events such as the World Trade Center attacks of 2001 (Galea et al, 2002; Galea et al, 2003; Schlenger et al, 2002; Schuster et al, 2001; & Wilson, et al 2004); the World Trade Center attacks of 1993 (Difede et al, 1997; Koplewicz et al, 2002); the Oklahoma City Bombing (North et al, 1999; Pfefferbaum et al, 1999; Pfefferbaum et al, 1999; Whittlesey et al, 1999; Pfefferbaum et al, 2000; North et al, 2002; Pesci, 1999; Christiansen, 1998; and Morland, 1999); the Brooklyn Bridge Shooting (Trappler, 1996); the Sarin Gas Poisoning in Tokyo (Ohbu et al, 1997) and the Omagh Bombing in Northern Ireland (Luce et al, 2002).

Sixteen of the sample sizes of the studies ranged from 65 to 3, 215. Two studies had small samples, the Brooklyn Bridge shooting, included 11 of the 14 victims; the 1993 WTC explosion study (Difede et al, 1997) included nine people trapped in the building. The majority of the studies utilized purposive sampling techniques. The Omagh Bomb study (Luce et al, 2002) mailed surveys to every staff member employed closest to the bombsite. However, several of the studies that investigated the 2001 attacks on the WTC utilized other methods. Schlenger et al (2002) and Schuster et al (2001) utilized a stratified random digit dialing telephone sampling technique; Galea et al (2002) utilized random digit dial methods, households were then contacted and screened for eligibility by location. The assessment tools included the following: Clinical Needs Assessment Questionnaire, Composite Direct Exposure Scale, Composite Vicarious Exposure Trauma

Scale, IES –R, PTSD Scale, Beck Depression Inventory, Beck Anxiety Inventory, Diagnostic Interview Schedule Disaster Supplement, Post Traumatic Stress Scale, Bomb-related media exposure scale, Revised Fear Survey Schedule for Children, PTSD Checklist, and the National Women's Study Measure of PTSD. Many of the studies developed study-specific questionnaires.

Exposure levels and PTSD

Several of the studies focused on direct exposure and the development of PTSD symptoms. Direct exposure to individuals was defined in the following ways: any individual who worked near a bomb explosion site (Luce et al, 2002); any firefighter who responded to the Oklahoma City Bombing (North et al, 2002); every survivor of a shooting attack (Trappler et al, 1996); anyone in the WTC during the 1993 bombing (Difede et al, 1997); and any individual on the subway system during the Sarin poisoning attack (Ohbu et al, 1997).

Whittlesey et al (2002); North (1999); Trappler (1996); Difede (1997); Luce (2002); and Ohbu (1997) all reported a strong relationship between direct exposure to the event and the development of PTSD symptoms. The Sarin Gas study (Ohbu et al, 1997) reported that the physical signs and symptoms of the gas disappeared within a few weeks, but that psychological problems with PTSD persisted. Over 60% of the 641 victims exposed to the gas suffered from PTSD that persisted six months or longer. Interestingly, a study by North et al (2002) found that a sample of 181 firefighters who served as rescue and recovery workers at Oklahoma City had relatively low rates of PTSD and described little functional impairment. PTSD was associated with reduced job satisfaction and functional impairment. Koplewicz et al (2002) evaluated children's symptoms and the

relationship between parent and child reactions when only the children had been in the WTC building during the 1993 bombing. When exposed children reported PTSD symptoms and fears; their parents reported experiencing PTSD symptoms. Only parents rated children's symptoms as decreasing significantly over time. Association between child symptoms and parent symptoms increased over time. Children's initial distress predicted parents' distress nine months postdisaster.

Ten of the studies explored the relationship between direct and indirect exposure to the terrorist attack and the development of PTSD symptoms. All of these studies were based on the Oklahoma City bombings or the WTC attacks of 2001. Four of the Oklahoma City studies Pfefferbaum et al (1999a); Pfefferbaum et al (1999b); Christiansen (1998); and Pesci (1999) examined community exposure to the terrorist attacks. Over 3,200 students who were in Oklahoma City on the day of the bombing were surveyed. Direct exposure was measured in these studies by assessing the physical proximity to the blast and whether or not the respondents reported knowing someone injured or killed. All of these studies indicated that PTSD symptoms significantly correlated with exposure through knowing someone injured or killed, gender and bomb-related television viewing. These studies document the intensity of community exposure to the bombing and the lingering symptoms of stress.

Pfefferbaum et al (2000) surveyed youth who resided within 100 miles of Oklahoma City. These youth neither had direct physical exposure nor personally knew anyone killed or injured in the explosion. Indirect interpersonal exposure (having a friend who knew someone killed or injured) and levels of media exposure were significant predictors of symptomatology. The findings suggest that children

geographically distant from disaster who have not directly experienced an interpersonal loss report PTSD symptoms and functional impairment associated with increased media exposure and indirect loss. Morland (1999) examined the relationship between levels of exposure, media and PTSD symptoms. Direct exposure consisted of proximity to the bombing, including the severity of hearing and feeling the bomb explosion. Indirect exposure consisted of the frequency of witnessing destruction of buildings and cars, as well as observing other individuals who were injured. Vicarious exposure consisted of knowing someone who was killed in the bombing and the relational proximity of this person. Significant correlations were found between exposure variables and PTSD symptomatology.

Schlenger et al (2002), Schuster et al (2001), Galea et al (2002a; 2002b), and Wilson et al (2004) conducted studies regarding the impact of the September 11, 2001 terrorist attacks on psychological reactions. Schlenger (2002) found that two months following the terrorist attacks, probable PTSD was associated with direct exposure. For this study, direct exposure was defined as being near the crash sites, seeing one of the sites in person or could see smoke emanating from one of the buildings (WTC or Pentagon). Indirect exposure was measured by the amount of time watching TV and specific elements of the content viewed. The national sample indicated that New Yorkers were 11 % more likely to be probable cases of PTSD than those who resided in other parts of the country. The authors estimated that this finding translates into an estimated 532,240 excess cases of probable PTSD among adults in the NYC metropolitan area following the attacks. The low prevalence of PTSD in the Washington DC area was surprising. There are differences in the actual events that could account for this

difference, such as a government vs. civilian target, less devastation and fewer visual images.

Schuster et al (2001) found that after the September 11th terrorist attacks, Americans across the country, including children, had substantial symptoms of stress. This study was a national sample and did not utilize “direct exposure” as a criterion for participation. The levels of stress were associated with television viewing. The authors posit that the 9/11 attacks are unprecedented and that for those indirectly exposed, prolonged stress reactions may be problematic, particularly with recurrent triggers from on-going threats and attacks.

Galea et al (2002; 2003) surveyed Manhattan residents living south of 110th Street. One study (Galea, 2003) assessed the prevalence and correlates of acute PTSD and depression among residents five to eight weeks following the attacks. The sample was subdivided between those living from 110th Street to Canal Street and those living south of Canal Street to the WTC site. Those living south of Canal Street were considered “directly exposed”. Predictors of PTSD were Hispanic ethnicity, two or more prior stressors, a panic attack during or shortly after the events, residence south of Canal Street and loss of possessions due to the events. It is worth noting however, that the study also found that the rates of PTSD among the entire sample (directly exposed and indirectly exposed respondents) were twice the baseline value of PTSD the prior year (7.5 percent vs. 3.6 percent). Galea et al (2002) assessed the impact of television images and psychological symptoms after the September 11th attacks. Direct exposure was measured by a report of friend or family member killed in the attacks, witnessing the attacks in person, post-event loss of a job, loss of possessions, displacement from home

or participating in the rescue effort. Exposure to television was measured by the number of times that they saw one of four images: “planes flying into WTC, people jumping from the towers, buildings collapsing and people running in a cloud of smoke”. Among respondents who were directly exposed to the attacks, those who watched this television image frequently were more likely to have PTSD and depression than those who did not. Among respondents not directly exposed to the attacks, prevalence of PTSD and depression was not associated with frequency of television image viewing.

Wilson et al (2004) conducted four different studies using a total sample of 711 college students. They used group-administered questionnaires to compare pre-9/11 related psychological distress with post-9/11 psychological distress. The definition of exposure was broad and included items such as types and amounts of media watched, being in the geographic proximity of the WTC on 9/11, having a friend or family member hurt or killed, having attended a funeral or memorial service for a victim and having visited the WTC in the summer prior to the attacks. Exposure to the attacks could vary from a minimum of seven to a maximum of 14. Psychological distress was measured using three different scales that captured acute distress, general psychological distress and PTS symptoms. The general conclusions based on this set of studies found that the effect of the 9/11 disaster experience on postdisaster psychological distress is rather small and that predisaster psychological disturbance and postdisaster traumatic experiences not related to the disaster are the primary influences on post-disaster psychological distress.

Media exposure and PTS Symptoms

Studies on the Oklahoma City Bombing and the 9/11 terrorist attacks did explore the relationship among the variables of media exposure, direct and indirect exposure to

the attack and the development of PTSD symptoms. Pfefferbaum et al (1999a) and Pfefferbaum (1999b) found that in the aftermath of the bombing, the youths in the sample of 3,218 reported that “most” or “all “ of their television viewing was bomb –related. A question was added to a scale to assess their knowledge of bombing; “what was the proportion of television viewing in first month after bombing that involved bombing? And second month? ” Television exposure correlated with PTSD symptoms at seven weeks after the bombing. Exposure to the disaster through television viewing was extensive, since virtually nothing except bomb-related coverage aired on the major local stations in Oklahoma City for days following the bombing. Pfefferbaum et al (2000) found that media exposure and indirect interpersonal exposure (having a friend who knew someone killed or injured) were significant predictors of symptomatology. These findings suggest that children geographically distant from disaster who have not directly experienced an interpersonal loss, report PTSD symptoms and functional impairment associated with increased media exposure and indirect loss.

Schlenger et al (2002) and Schuster et al (2001) both conducted national surveys of distress following the 9/11 attacks. Schlenger et al (2002) found that the prevalence of probable PTSD was significantly associated with the number of hours of TV coverage of the attacks that participants reported watching on 9/11 and the following days and with the number of different kinds of potentially traumatic events participants reported seeing. Schuster et al (2001) found that extensive television viewing on 9/11 (8 hours or more) was associated with a substantial stress reaction. The authors indicated that for some citizens, television provided information and therefore served as a method of coping. For others, particularly children, it may have exacerbated or caused stress particularly with

repeated viewing of terrifying images. Some people avoided activities, such as watching television, that reminded them of the attacks. In this instance, avoidance may have been a protective factor and a healthy response.

Galea et al (2002) conducted a phone survey of Manhattan residents to assess the impact of media exposure and the association of PTSD and depression. Four specific images of the WTC attacks were tested to determine their significance in adding to distress levels. Among respondents who were directly affected by the attacks (had a friend killed), those who watched the television image of “people jumping or falling from the WTC” had a higher prevalence of PTSD, than those who did not. The study also found that among respondents not directly affected by the attacks, prevalence of PTSD was not associated with television viewing.

Wilson, et al (2004) did not report on media effect as a separate variable, but included it in overall exposure. Trappler et al (1996); Difede et al (1997); Ohbu et al (1997); North et al (2002); Luce et al (2002); Koplewicz et al (2002); Whittlesey et al (1999) and North et al (1999) did not report on the impact of media exposure on the development of PTSD symptoms among those directly or indirectly exposed to the terrorist act.

Prior Trauma History and PTSD

The majority of the studies (Schuster et al, 2001; Schlenger et al, 2002; Galea et al, 2002a; Trappler et al, 1996; Ohbu et al, 1997; Pfefferbaum et al, 1999a; Pfefferbaum et al, 1999b; Pfefferbaum et al, 2000; Koplewicz et al, 2002; North et al, 2002; Christensen, 1998; Morland, 1999; and Pesci, 1999) did not explore the relationship of prior trauma and the development of PTSD symptoms among those directly and

indirectly exposed to the WTC attacks. Pesci (1999) and Morland (1998) noted that the lack of national mental health baseline data for adults or children suggests the need to develop systems for measuring posttraumatic stress, both for pre-event and post-event. They stated that until uniform methods, instruments and general protocol are in place, comparisons of data obtained from various traumatic events, while not without merit, have serious limitations. Both authors indicated that some individuals may have had prior trauma exposure sufficient to produce distress, regardless of level of exposure to the Oklahoma City bombings.

Wilson et al (2004) used two independent samples to compare levels of distress preattack with a post-attack sample. The differences between the means of the pre-attack and post-attack samples for general psychological distress and PTSS were not statistically significant. They reported that the WTC attack did not produce an elevation in these samples. High distress after the attack was also present in the population prior to the attack. They cautioned the reader about causal explanations of high distress after disasters and attributing such distress observed after a disaster to the experience of the disaster.

Galea et al (2003) asked respondents whether or not they had experienced any of eight stressful events, i.e. the death of a spouse in the past year. The study found that PTSD was associated with the number of stressors the respondent experienced in the 12 months before September 11th.

Difede (1997) found that patients with a prior history of psychiatric illness experienced a reemergence of their symptoms. Those with a prior history of PTSD experienced a reemergence of intrusive images from their earlier traumas following the

WTC attacks of 1993. Luce et al (2002) found that PTSD scores were significantly higher for staff directly involved with the Omagh Bombing who had previous experiences of trauma. North et al (1999) found that 57% of participants with bombing-related PTSD had a predisaster lifetime history of psychiatric illness. All post-disaster disorders were significantly associated with a history of predisaster psychopathology. Sixty-three percent of the participants in the study with any active postdisaster psychiatric disorder had a predisaster diagnosis. The authors also call for clinicians to continue searching for other psychopathology after PTSD is identified following a terrorist attack.. Whittlesey et al (1999) called attention to the fact that avoidance of clinical intervention in families traumatized by the Oklahoma City bombing was common. This could be caused by a number of diverse factors, one of which could be the impact of prior trauma.

Summary

The majority of the empirical research reviewed addressed trauma due to direct exposure (Norris, et al 2001a; Norris et al, 2001b; Beneight et al, 2002; Briere et al 2002; Brooks, 1992; Chung et al 2000; Dalgleish et al, 1996; Dyregrov et al, 1996; Fontana et al, 1998; McFallen al, 1999; Kimerling et al, 2000; Shalev et al, 1997; Smith et al, 2002; Ai et al, 2002; Ericksson et al, 2001; Difiede et al, 1997; Koplewicz et al, 2002; North et al, 1999; Luce et al, 2002; Trappler et al 1996; Ohbu et al, 1997; Whittlesey et al, 2002). However, more recently, studies have begun to explore the impact of indirect exposure, primarily through the transmission of media images and broadcasts (Najarian et al, 2001; Pfefferbaum et al 1999a; Pfefferbaum et al, 1999B; Christiansen, 1998; Pesci, 1999; Schlenger et al 2002; Schuster et al (2001) Galea et al (2002a; 2002b). In most cases a strong relationship was found between direct exposure and the development of PTSD

symptoms. However, several studies indicated that those indirectly exposed may also be at risk to develop PTSD symptoms. (Pfefferbaum et al, 2000; Schuster et al 2001; Schlenger et al 2002). Overall, the evidence is mixed concerning physical exposure to settings where others were harmed. Individuals may exhibit large differences regarding their levels of PTSD symptomatology even when they have experienced the same event. This may be due to the influence of media, prior trauma, gender, prior psychiatric history, social support factors, culture, secondary stressors and the nature of the disaster itself.

The review indicates that research on indirect exposure is sparse at this time in all areas of disaster research. Also worth mentioning is the variation in how the terms “exposure” and “indirect exposure” are defined. Each study utilized different criteria, therefore complicating comparison. Indirect exposure to events experienced by others implies no objective dose; if PTSD develops it could be created through the psychological constructions of the individual. This study can contribute to the knowledge base by highlighting and/or adding to the criteria that should be taken into consideration in expanding the concept of “exposure” to terrorist attacks.

There are numerous potential negative effects of trauma-related media coverage on victims of the trauma portrayed. Although a few studies found positive or no effect regarding media viewing, the majority of studies reported negative effects, which may include an increased sense of anxiety, PTSD, depression and new levels of fear. Systematic research examining the influence of television exposure regarding all disaster trauma and its impact is in its infancy. Only a few studies have examined how televised images of injury and mutilation following a terrorist attack contribute to the development and/or maintenance of PTSD symptoms. More research is needed to understand how

media exposure can operate as a primary or secondary stressor in order to develop effective interventions following a terrorist disaster.

Prior trauma history received little mention in the disaster literature. There could be several reasons for this dearth of research. As previously noted, there is an overall lack of baseline measures for the general public in mental health, making comparisons pre and post trauma difficult. Most studies focused on the impact of the disaster event itself and not on other prior events. Another factor to be considered is the theoretical framework of the researcher undertaking the study. The research team may not feel that prior trauma is pertinent to the development of PTSD symptoms and, therefore, would not explore this variable as a causal factor of onset. The few studies that did examine this variable found that prior trauma was significantly associated with the development of PTSD symptoms following a disaster. More research in this area is warranted.

The review of available research reports in the disaster literature for this study indicates that there is still substantial room for adding to the knowledge of the impact of the 9/11 terrorist attacks on the mental health of New Yorkers, particularly on those not directly exposed to the WTC attacks.

Chapter III

The Theoretical Approaches

This Chapter will provide an overview of the models describing the etiology of PTSD. The integrative models, which will be utilized in this study are described in detail. The last section of the chapter provides the conceptual definitions of terms that will be utilized in this study. These terms include: PTS symptoms, indirect exposure, prior trauma and secondary traumatic stress/compassion fatigue.

Theoretical Approaches to the Etiology of PTSD

Early models concerning the etiology of PTSD tended to focus on the role of single factors (i.e. conditioned anxiety, cognitive processes, biological vulnerability) in determining adjustment. The merit of such approaches lies in their potential for clear explanatory power. Despite this potential clarity, subsequent clinical observation and the absence of empirical data to completely support or reject a particular theoretical model have led to the proposal of more complex etiological models. Such models attempt to integrate the potential importance of a variety of psychological, social and biological factors in the etiology and maintenance of PTSD. Since the theoretical approach that will be utilized in this study, the etiological or comprehensive model of disaster trauma, can be characterized as a series of building blocks, and integration per se, of various aspects of the biological, psychological and conservation of resources and social cognitive theories, an overview of these theories will be presented as well. They all have their merits and strengths to add to the discussion of why individuals who were indirectly exposed to terrorist attacks of 9/11 may develop symptoms of PTSD.

Biological Models

Research into the components of posttraumatic stress, factors which may predispose an individual to its development and interventions to prevent or reduce its negative consequences have generally focused on either the (nuero)biological or the psychological dimensions (Shalev, 1997). Much research has been conducted on the biological aspects of posttraumatic stress. While not the focus of the current research in this study, there is substantial evidence that both short and long-term neuro-chemical changes occur as a response to extreme trauma (van der Kolk, 1996, 2002; Bleich et al, 1986; McFarlane, 1992; Shalev et al, 1996; Yehuda, 2002).

The biological theories are based on research that has shown that people with PTSD develop abnormalities in the brain chemicals (neurotransmitters) that regulate arousal and attention. One finding has been that while acute stress normally activates the stress hormone cortisol, people with PTSD have relatively low levels of cortisol. Because cortisol is an anti-stress hormone, shutting off other biological reactions turned on by stress, people with PTSD are unable to modulate their biological stress response. The overall effect of the decreased cortisol, coupled with chronic increased secretion of neurotransmitters, such as norepinephrine, is to make such people more reactive to arousing stimuli. By contrast, in nontraumatized people, stress activates all the principal stress hormones, catecholamines and cortisol, which in turn enable active coping behaviors. In people with PTSD, increased arousal, accompanied by low cortisol levels, provokes indiscriminate fight or flight reactions (van der Kolk, 1994, 2002; Yehuda, 2002).

Kolb (1988) has proposed a conditioned emotional response (CER) model. This model suggests that prolonged exposure to a painful, inescapable threat may produce an alteration in the neurological structures within the brain, particularly within the limbic system. Traumatic events may lead to an excessive stimulation of particular areas within the limbic system, particularly the locus coeruleus. The neurons of the locus coeruleus are activated by external threatening stimuli and when stimulated, the organism displays behaviors typifying fear and alarm. The pairing of nonthreatening with threatening stimuli may lead to an over-activation of the locus coeruleus, producing fear behavior in response to otherwise neutral stimuli. Over time, this prolonged over-stimulation leads to a generalized hyperactivity of the locus coeruleus and the resulting conditioned alarm state that characterizes PTSD.

Several researchers (Barlow, 1988; Jones et al, 1990) have proposed that posttrauma adaptation may be related to an inherited biological predisposition to experience anxiety. This model suggests that people may inherit an autonomic nervous system with two characteristics: a high resting rate (heart rate, blood pressure) and a high rate of reactivity to threatening stimuli. This vulnerability, in combination with an intense or prolonged stressor, may result in debilitating levels of anxiety. This model also suggests that certain individual factors (social support, coping responses) may raise or lower the probability of a stressor combining with the biological vulnerability to produce debilitating anxiety.

Psychological Models

Psychological explanations for the development of mental health problems following traumatic events include the learning theory model and the cognitive processing models (Freeddy et al, 1995).

Researchers involved in studying PTSD have used Mowrer's (1960) two factor theory to conceptualize the etiology and symptoms of the disorder. According to this learning model, both instrumental and classical conditioning contribute to avoidance conditioning. The first factor in this theory is the classical conditioning of a fear response. A previously neutral stimulus is paired with a noxious unconditioned stimulus (UCS), resulting in a fear response (UCR). The neutral stimulus thus becomes a conditioned stimulus (CS) for eliciting the conditioned response of fear (CR). Through the process of higher order conditioning and stimulus generalization, the conditioned fear response may be attributed to additional neutral stimuli that are paired with the conditioned response or generalized to stimuli similar to the conditioned stimulus. As an example, during a sexual assault, a woman is exposed to threatening cues, (degrading words, painful acts) that can serve as unconditioned stimuli for a strong fear response. Through associative learning, additional cues may promote a stronger fear. Therefore, situations such as sexual intimacy with a caring partner or going near the scene of the crime, may remind the woman of the traumatic event. These learned cues or conditioned stimuli develop the capacity to elicit an intense, often debilitating, fear response.

The second factor of the two factor theory refers to the instrumental learning of avoidance responses to escape or decrease the fear elicited by the conditioned stimulus. Once escape or avoidance of the conditioned stimulus has been learned, the avoidance

behavior is negatively reinforced by a reduction in the fear response (Foy et al, 1992).

Trauma victims may avoid certain cues in order to minimize experiencing overwhelming memories and fears. For example, a victim of sexual assault may avoid talking about the assault or sexual intimacies, or avoid public places for fear of seeing the perpetrator.

Although the purpose of avoidance behavior appears to be the management of painful feelings and memories, in the long run, avoidant coping strategies perpetuate feelings of fear, social isolation and perceiving a loss of control over one's life (Freedy et al, 1995).

The two factor learning theory has been used to conceptualize the underlying etiologic mechanisms in the development of PTSD in combat veterans (Keane et al, 1985; Kilpatrick et al, 1982) and rape survivors (Kilpatrick, 1985). Keane et al (1985) hypothesized that this learning theory accounted for the conditioned startle responses, avoidance behaviors and stimulus generalization found in combat veterans with PTSD. Kilpatrick et al (1982) also used the two factor theory to account for the fear and anxiety in victims of sexual assault. Exposure to the life-threatening event of rape elicits intense fear, which is then also elicited by exposure to a variety of similar stimuli or by other stimuli associated with the traumatic event of sexual assault. This theory sufficiently accounts for the development of the conditioned stress reaction as well as the posttrauma symptom presentation; however, this theory does not address the critical issue of why some individuals develop PTSD and others do not, even when they have been exposed to the same life-threatening event.

Cognitive processing models have been suggested to explain re-experiencing symptoms that are characteristic of the PTSD syndrome. One model was proposed by Horowitz (1986). He proposed that memory processes contain a motivational

component. He noted that humans seek to understand the meaning of various life experiences. Thus, images of an event are held in “active memory” as the individual seeks to determine the personal relevance of an experience. In the case of life-threatening trauma, the individual’s basic biological and emotional existence are threatened. This state of affairs presents huge challenges to typical patterns of thinking (i.e. psychological defenses) about the self and the world. From this perspective, repetitive recollections of traumatic memories alternating with avoidance behavior and feelings of numbness represent an effort to integrate traumatic memories into an acceptable view of the self (i.e. worthwhile, competent) and the world (i.e. controllable, predictable).

Foa and Kozak (1986) proposed another cognitive behavioral formulation of PTSD that includes the cognitive element of “meaning” of the traumatic event. This model utilizes the construct of fear structures developed by Lang (1979). He hypothesized that the cognitive network of fear structures contains three primary elements: information about the stimulus situation; information about physiological, cognitive, and behavioral responses to the stimulus; and the meaning of the connection between the stimulus and the response. Foa and Kozak (1986) proposed that the fear structure, consisting of cognitive and affective components, also involves the meaning of the event as dangerous. More recently, Foa, Steketee, and Rothbaum (1989) suggested that the etiological variable that distinguishes PTSD from other anxiety disorders is the attribution of dangerous meaning to stimuli that had previously been associated with safety.

Critical components of Foa and Kozak's model are the predictability and controllability of the event. The units of this fear structure provide the means for processing information related to the potential danger and therefore are the impetus for the avoidance response. In the formation of the fear structure, there is a negative association between the perceived predictability and controllability of the event and the PTSD symptoms experienced. That is, the less predictable and controllable the world appears as a result of the traumatic event, the greater the intensity of PTSD symptoms experienced (Foy, 1992). For modification to occur, the memory must be activated, and new information incompatible with the perception of pervasive and chronic danger must be integrated. Cognitive-behavioral psychotherapy may be required to help the trauma victim accomplish this goal (Freedy, 1995).

Bandura (1986) also proposed a social cognitive theory used in evaluating posttraumatic reactions. It is a refinement of his social learning theory. This model is also based on the premise that people shape their world through the interaction of several sources of influence. Social cognitive theories are based on the following beliefs: that individuals process and use information symbolically; that they evaluate their own thoughts and behaviors; that they predict and/or anticipate the consequences of behaviors; that they work towards personally constructed goals and that they regulate their behavior to meet those goals (Bandura, 1986; Maddux, 1995).

When compared to other explanations of personality and behavior, social cognitive theories are unique in that they account for situational influences and differences to explain the effects of belief and expectancies to predict behavior accurately and to provide models and strategies for effective behavior change (Maddux, 1995). One

of the central tenets of social cognitive theory is self-efficacy. Bandura originally conceptualized self-efficacy as the belief in one's ability to perform a specific behavior to achieve a known outcome (Bandura, 1977). This definition has been expanded to include people's beliefs about their (in)capacity to exercise control over events affecting their lives, as well as to exercise control over specific tasks (Bandura, 1995). Bandura maintained that efficacy expectations impact all aspects of behavior change, including acquisition of new behaviors, extinguishing (or reducing) existing behaviors and the ability to resume or to continue behavior previously performed. With this broader definition, self-efficacy can help explain people's goal-directed actions, their expenditure of effort toward those goals, and their persistence in the face of adversity (Maddux, 1995; Locke et al, 1990).

In the context of social cognitive theory, stress is a reaction to perceived inefficacy to control aversive threats or demands (Bandura, 1995). An individual's perception of threat to his or her well-being is thus a reflection of one's perceived efficacy to deal with the circumstances. If an individual feels unable to control aversive events, anxiety is the end result (Bandura, 1988; Williams, 1995). Persons with lower self-efficacy about a given situation may experience a high degree of stress when confronted with that situation. By definition, disasters, violence, terrorism, - any catastrophic event - are the antithesis of personal control. The application of self-efficacy theory to posttraumatic stress research emphasizes the importance of perceived control (Foa et al, 1992). Lack of personal efficacy is associated with chronic PTSD symptoms. Following the 1988 earthquake in Armenia, interventions were developed for adolescents to help them develop or enhance coping skills. These interventions sought to reinforce

self-tolerance for the natural reaction to a traumatic event. This reinforcement was aimed at restoring their sense of control and security and increasing their sense of coping self-efficacy. The study found significantly fewer PTSD symptoms among the group involved in the intervention than among those untreated (Goenjian et al, 1997).

Another information-processing approach was proposed by Resnick (1993) and is derived from the work of McCann and her colleagues (McCann et al, 1990). This approach suggests that traumatic experiences confront the victim with information that is highly discrepant from typical beliefs (cognitive schemas or schemata) about the self and the world. Typical schemas or schemata include issues such as: safety, trust, power, esteem, intimacy, hope, causality and control. This model suggests that suffering in the aftermath of traumatic events largely involves wrestling with the meaning of the event in terms of issues defined by existing beliefs. The meaning attributed to the trauma and one's role in the trauma will largely determine the course of adjustment (positive or negative) in the aftermath of the traumatic events. This approach broadens other information-processing viewpoints by identifying a range of schemata (i.e. beyond beliefs concerning safety) that can be challenged by traumatic experiences.

Conservation of Resources Model

Hobfoll's Conservation of Resources (COR) model of stress response provides a theoretical framework for understanding the effects of both natural and technological disasters (Hobfoll, 1988, 1989). Hobfoll postulates that people are motivated to obtain, retain and protect that which they value. Resources are defined as anything that people value or that enables them to obtain or protect that which they value. Resources can include possessions, personal characteristics, social systems (family and other

interpersonal relationships), and financial resources and the ability to attain and retain the above resources. Hobfoll divided resources into the following categories: objects (i.e. car, house, boat), personal characteristics (i.e. self esteem, self-concept, sense of mastery), conditions (i.e. marriage, interpersonal relations) and energies (i.e. credit, money, owed favors).

COR theory posits that stress will ensue under any of three conditions: when there is a threat of significant resource loss, when there is an actual resource loss and when resources are invested without resulting in significant resource gain, hence producing a net loss of resources since more resources were lost in the process of investment than were gained as an outcome of investment (Hobfoll, 1991).

Whereas at times disasters result in substantial loss of possessions and economic resources, disasters may also generate loss and cause trauma through the disruption of social systems, personal characteristics and the ability to attain and retain resources (Arata et al, 2000).

The COR theory provides an additional model that may have the advantage of being grounded in more general stress theory, while at the same time showing promise in understanding the critical function of resource loss in traumatic stress. By focusing on the full array of people's resources, attention is extended beyond an individual psychology. Instead, COR theory's resource emphasis highlights the need to understand the individual in an ecological context, owning many personal resources, sharing some social resources and having possible access to resources of the larger social system (Hobfoll, 1995).

The ecological framework illustrates how COR theory also differs from other stress theories in its emphasis on objective stressors and its relative minimization of the importance of perceptions. It is not that an individual perceives trauma to be threatening; rather, it is threatening. Individual models of traumatic stress suggest that only the most internal of the resources can be addressed (i.e. self-esteem). COR theory adds the insight that enabling resources (sense of mastery and support) can be targeted. The ecological adaptation of COR theory further suggests that broader resources will be critical (Hobfoll, 1995; Arata, 2000).

Integrative Model – Theoretical Approach to be Utilized in this Study

Currently, there are two integrative models that can help with our understanding of why individuals considered “indirectly exposed” to a terrorist disaster may develop PTSS. Foy et al (1992) developed an integrative model that will be utilized in this study. Another model proposed by North (2002) is currently under development. North (2003b) is in the process of publishing two articles that further describe this theoretical approach. It is included in this section as it lends relevance to this study.

North (2002) proposed a Comprehensive Trauma Model of Catastrophic Events regarding PTSD development that is also an integrative approach to PTSD etiology and maintenance. She states that psychiatric outcomes of highly traumatic events present as part of a large, interrelated network of multiple relevant factors. Several variations of outcomes must be considered. Although PTSD is of major interest following disasters, other psychiatric disorders such as major depression and alcohol use may present important comorbidities or even primary outcomes alone. Psychopathology may be examined in the acute post-disaster period or over the long term. Although research

tends to focus on negative outcomes, positive results such as personal growth and resilience may also result. Failure to inquire into positive outcomes may overlook them altogether to paint an especially pessimistic portrait.

North (2003) states that characteristics of the disaster agent may contribute to mental health problems that follow. Disaster typology assumes natural disasters to promote the mildest mental health consequences, technological accidents involving human error to generate greater psychopathology, and acts of terrorism with their willful human origins to be associated with the highest rates of mental health problems. Mental health consequences of various disaster types will be most difficult to untangle from other aspects of disasters that may be inextricably tied to specific disasters and types of events. North (2002) further states that the scope and magnitude of the terrorism of the Oklahoma City bombing and the September 11, 2001 attacks may represent the source of their mental health effects as much as the fact that they represented terrorist attacks. Other aspects of the disaster, such as how sudden and unexpected it was, the amount of associated terror (fear for one's life) and horror (witnessing grotesque events), duration of the event, and repetition and recurrence may also be instrumental in generating mental health effects.

Individual characteristics, such as demographics, may weigh in generating mental health effects. The community disaster setting may further shape the mental health response of the affected either by an outpouring of support or through conflict over the incident. Subsequent life events may intervene, some as a result of the disaster, such as a loss of one's home or job, due to the disaster, and others occurring endemically as part of community life, such as divorces, being laid off or fired from one's job, or inexorable

deaths of loved ones through time. These events will all affect mental health outcomes. Finally, the gatekeeper or moderator of all these different factors may be how the individuals perceive the event, how they process it and make meaning of it, and how successfully they find perspective and move on to heal and resume their lives (North, 2002).

Basically, there are several domains containing multiple variables that contribute to post disaster outcomes. This model takes into account the following domains:

1. Causal agent characteristics, such as the type of disaster and the severity.
2. Individual characteristics, such as degree of exposure, demographics of sex, age, marital status, education and SES, personal characteristics such as interpersonal support, experiences with other life events, resource availability and utilization and psychiatric history and personality type.
3. Gatekeeper Perceptions: Post-traumatic cognitive processing; intrusion (recall) vs. avoidance (numbing), active vs. passive, ability to make meaning out of the trauma and coping techniques utilized by the individual.
4. Community and family factors: Social networks, community cohesion, resources and outreach, attitudes (dissensus and conflict; ambiguous and confusing definitions of causality and attribution of blame) and societal preparedness and experience.
5. Secondary sequelae: Bereavement, displacement, injury/illness, loss of job, marital/social support, financial loss, legal sequelae, loss of time.

All of these factors contribute directly to the “event outcome”. The outcomes can be short term or long term. Psychiatric effects can include PTSD, major depression,

anxiety disorders, substance abuse. Event outcomes will also be dependent upon growth/restabilization issues, lifestyle changes, and subjective assessment. North's contribution moves trauma theory to a more integrated level of complexity, not just focusing on the mechanism of the trauma (C. North, personal communication, September 2002; December, 2002)

Foy, Osato, Houscamp, and Neuman (1992) proposed a PTSD Etiological Hypothesis model. (Please refer to Appendix E for a diagram of this model). This model is interactional, including both environmental and individual factors that might be important in discovering causal chain mechanisms of the development and maintenance of PTSD symptoms (Foy et al, 1996). In this model, exposure to a traumatic stressor places an individual at risk for PTSD. Moreover, an immediate physiological reaction in response to the stressor is thought to be a critical link in the causal chain mechanism leading to PTSD. However, whether or not PTSD later develops depends on other mediating variables that are biological, social or psychological in nature (Foy et al, 1996). These authors state that this model offers an advantage in investigating the "dose-response" relationship since it is able to account for the lack of PTSD symptoms in individuals that were exposed to extreme trauma. Therefore, protective or "resiliency" variables can prevent the occurrence of PTSD symptoms. Foy et al (1996) also stated that, conversely, PTSD can develop in cases of lower levels of exposure to trauma through the same interaction of risk or "vulnerability" variables.

Given this model, mediating variables can interact with the main etiologic agent (i.e. the traumatic event) through several possible pathways (Foy et al, 1992). There would be three primary possibilities. First, the presence of an additional variable can

place an individual at increased risk for developing PTSD by acting as a “vulnerability” factor. The mediating variable has no direct effect by producing PTSD independently. However, its presence interacts with the effects of trauma to increase reactivity. In addition, a reverse relationship to this is possible, in which a resilience or protective factor lessens the likelihood of PTSD symptoms. An example would be family or social support systems: if strong and intact, they could serve as a resilience factor; if disorganized, they could make the individual more vulnerable. Other examples of mediating variables are: age, gender and coping strategies. These risk and resiliency factors can influence the development of PTSD above and beyond the initial conditioned emotional reaction proposed by the two-factor theory (Morland, 1999). Further, these findings have established the need to continue to explore variables beyond specific aspects of trauma in order to characterize more accurately the variability in posttrauma sequelae.

Moreover, Foy describes mediating factors that are characterized as “independent causes” (Foy et al, 1992). In this type of relationship, distress is increased in an additive manner, with no significant interaction between etiologic and mediating variables. According to Foy et al (1996), an example would be prior trauma exposure serving as an “independent cause” for predicting distress when later exposure to trauma occurs.

A third type of interaction that Foy et al (1992) discuss is a “potentiation” relationship, in which a potentiating factor interacts with the etiologic factor to increase PTSD symptoms beyond the simple additive effects of the two variables. Therefore, the authors say that the mediating variable serves as both a vulnerability factor and an independent cause. Mutual potentiation occurs when distress produced by the

potentiating variable is heightened by interaction with the traumatic event. An example would be parental distress in cases of shared trauma exposure. This can be a strong mediating factor in predicting children's PTSD manifestation. Another example could be exposure to televised trauma-related media. It could elicit a fear response and /or indirectly relate to the posttraumatic stress as a traumagenic reminder operating to activate the initial conditioned fear response. Foy et al (1992) further state that this model is useful for organizing etiologic and mediating PTSD factors and for guiding assessment and treatment efforts in individuals that have been exposed to many different traumas.

The etiological models proposed by Foy (1992) may aid in our understanding of reasons why those individuals indirectly exposed to the terrorist attacks developed PTSD symptoms. Direct exposure to the terrorist attacks as the mechanism would be one of several factors that would contribute to post-disaster outcomes. Other mediating variables, as previously described, would contribute to, or inhibit, the development of PTSD.

Recent research on trauma has begun to delineate the numerous pre and post trauma factors that have been found to mediate the development and maintenance of PTSD. Pretrauma factors such as age (Christiansen, 1998; Green et al, 1991); gender (Beneight et al, 2002; Norris et al, 2001; Basoglu et al, 2002; and Najarian et al, 2001); race (Galea, 2002, Berman et al, 1996) and prior trauma (Cwikel et al, 2000; Green et al, 2000; & Kimerling et al, 2000; Briere, 2000) have been found to be associated with PTSD severity. Posttrauma factors such as social support (Dalgliesh et al, 1996), coping strategies, (Berman et al, 1996); and family factors (Eriksson et al, 2001; North, 1999;

Koplewics et al, 2002) have also been associated with PTSD symptomatology. Results from these studies have broadened our understanding of the multiple “risk and resiliency” factors influencing the development and maintenance of PTSD above and beyond the initial conditioned emotional reaction proposed by the two-factor theory. Further, these findings have established the need to continue to explore variables beyond specific aspects of the traumatic agent in order to characterize more accurately the variability in posttrauma sequelae.

As presented in Chapter One, data that was gathered by this researcher in the NYSPCC trauma recovery program, indicated that the majority of individuals who were indirectly exposed to the 9/11 attacks, exhibited high levels of PTS symptoms and distress. Many of the models presented earlier can describe why those “directly exposed” will develop PTSD or have PTS symptoms. Foy’s model (1992) may enhance the field’s understanding as to why so many of those “indirectly exposed” experienced PTS symptoms. This model also promotes exploration into other important and inter-related factors such as media exposure, a history of prior trauma and secondary traumatic stress and the development of PTS symptoms, issues of relevance to the field and to this study.

Concepts Central to this Study – Definition of Terms

The major concepts of importance to this study are: indirect exposure, physical exposure, relational exposure, psychological exposure, Post Traumatic Stress Symptoms (PTSS), prior trauma, secondary traumatic stress (STS) and coping strategies. To ensure that the reader has a clear understanding of the research effort, as well as to limit the scope of the study, each of these concepts are defined below.

PTS symptoms - The conceptual definition includes the criteria of exposure levels to the stressor and a response of fear, helplessness and horror (Criterion A1 and A2); symptoms of reexperiencing the traumatic event (Criterion B); new symptoms of persistent avoidance of stimuli associated with the event (Criterion C), symptoms of increased arousal (Criterion D). Individuals can experience a combination of PTS symptoms without meeting the criteria for PTSD diagnosis. In some individuals, certain symptoms can persist for a longer duration than others, or an individual may not be experiencing symptoms from one cluster, but possibly from others.

Indirect Exposure An individual's experience of a disaster at which they (or family members and close friends) were not physically present. In other words, they did not meet the criteria for direct exposure. This susceptibility includes their perception of psychological, relational or physical vulnerability, and/or if they strongly identify with the victims.

Subdimensions of Indirect Exposure - the facets of the realms of physical exposure, relational exposure and psychological exposure and their temporal aspects

Physical exposure includes what the respondent experienced through the sense of sight, hearing and smell and physical reactions.

Relational exposure - knowing individuals (not family members or close friends) who survived the 9/11 attacks. This includes work with clients.

Psychological exposure – includes the impact of pervasive media coverage, and situations that resulted in the respondent using avoidant, intrusive or hyper-vigilant PTS

Prior Trauma History – utilized the definition of PTSD in the DSM-IV-TR. Any prior direct personal experience that involved meeting A1 and A2 criteria. It

includes natural, transportation, war disasters; and personal experiences, such as child abuse, domestic violence, unexpected death of a loved one, etc.

Secondary Traumatic Stress – is defined as the presence of PTSD-like symptoms in the clinician – more likely tied to the client’s Criterion A-1 experience than their own – mixed with the providers’ life experiences

Coping Strategies - any behavioral or emotional attempt to meet environmental demands of stress to prevent negative consequences following a traumatic event or disaster.

Chapter IV

Methodology

A Qualitative Research Design – Primary Data Gathering Method

The purpose of this work is to characterize the complexity of exposure to the devastation of the World Trade Center, a terrorist event of a magnitude never experienced in the United States. As described in Chapter One, the specific goals of the study are:

1. To explore retrospectively, the complexity and perceived impacts of indirect exposure to terrorist trauma including its physical, relational and psychological dimensions as they are perceived over time.
2. To investigate the association between indirect exposure to terrorist trauma and the development of Post Traumatic Stress Symptoms.
3. To study the perceived effects of a history of prior trauma paired with indirect exposure.
4. To reconstruct the experiences of “indirectly exposed” mental health caregivers who provided clinical services to those directly affected by 9/11, in comparison to caregivers who did not serve clients with 9/11-related issues.
5. To identify the types of coping strategies utilized by the respondents to reduce stress.

To accomplish these goals, an interview study of twenty-six mental health caregivers who were indirectly exposed to the events of September 11th was implemented. A qualitative interview, supplemented by two quantitative questionnaires, was used to collect data.

A qualitative study was most appropriate to the goals of this study. Particularly, the goal of developing an understanding of the reactions of individuals who were indirectly exposed to the terrorist attacks of 9/11. The dimensions of their exposure on the psychological, relational and physical realms and characteristics of their anxiety and stress, and the changes that they made, or were forced to make in their life and daily routines, needs to be explored deeply in order to gain insight into their internalization and interpretation of their exposure level. The researcher needs a detailed, vivid picture of the experiences that the individual confronted during and after the terrorist attacks, as this foundational learning is critical to understanding the dimensions of indirect exposure levels.

Qualitative research is defined as an interpretive, naturalistic approach to collect and study a variety of empirical materials in their settings such as personal experience, life story, or interview (Denzin et al, 1994). It is an attempt to make sense of or interpret phenomena in terms of the meanings people bring to them. Strauss (1987) views qualitative research as an inquiry process of understanding based on distinct methodological traditions of inquiry that explores a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting.

Patton (1990) and Mintzberg (1983) emphasized that the more complex the matter under exploration, the more that researchers need to be able to utilize exploratory methods as opposed to “rigorous” research methodologies. Researchers need to be free to ask new follow-up questions as lines of inquiry emerge from the interview with the respondent. Quantitative inquiry would not allow for this type of additional questioning.

Asking a respondent only pre-determined, fixed questions would severely limit capacity to deepen understanding of the unique, unexplored experience. Defining discrete variables and cause-effect relationships at this stage in the research on indirect exposure levels to the September 11th attacks, would prematurely close off potentially fruitful lines of inquiry.

To achieve these goals, an approach that is oriented toward exploration, discovery and inductive logic is required. A qualitative, interpretive research methodology was chosen as it offers the necessary flexibility for such research. The researcher must explore this real-world situation in a non-manipulative and non-controlling manner, allowing the participant to present their thoughts without constraint. An inductive analysis is needed, as the details of the experience will determine important categories, dimensions and interrelationships between participants. For example, the whereabouts of the person on the day of the attack, whether or not they knew anyone who was hurt or injured, the effects of the event on the people in their daily living situations, such as: family, friends, co-workers and clients merit exploration if the larger intention of the study is to understand how these factors impacted the respondents' stress levels. There may be differences in responses based on whether they saw the WTC collapse in their direct line of sight, as opposed to watching it on television. Individuals' reactions may also be intensified or mediated due to their personal history of prior trauma. Exploring these issues requires open-ended questioning, rather than forced, or limited choice questions because of their complexity, the incompleteness of present knowledge and the need to understand subjective interpretations of this wrenching experience.

The advantages of interviewing as a qualitative data collection method are related primarily to naturalness and spontaneity, flexibility and control of the environment. Interviews usually create a natural situation for respondents to present information. Furthermore, it is easier and more natural for many people to respond to questions orally than in writing. A face-to-face setting may promote more spontaneous answers. These advantages provide a good argument for the use of interviews as opposed to survey questionnaires (Yin, 1994). Unlike a questionnaire, where answers can be skipped, in an interview, the interviewer can more reasonably assure that each item is answered, and questions reworded, if necessary, without distorting the content. An open-ended interview allows for a richer, more flexible set of questions than is possible in a single statement survey questionnaire. Another advantage, is that interviewers can use probes to enrich responses and explore answers in greater depth. The sequencing and timing of questions, the way items are phrased, and the elimination of irrelevant questions can all be adapted according to the characteristics of the individual respondent. In addition, by their very presence, interviewers can make use of any unanticipated data interviewees offer. Spontaneous content that is generated can provide useful data for the study, and perhaps subsequent inquiries. The nonverbal responses and behaviors of respondents also provide meaningful data. Tone of voice, eye contact, and facial expression as it accompanies verbal responses, may reflect areas where the interviewer can further probe for explanation (Gonchros, 1988).

This study was conceptualized following the preliminary data analysis of the NYSPCC database that reported on the PTSD symptoms of New Yorkers following the 9/11 attacks that was described in Chapter One. That study utilized the current standard,

though vague, definitions of direct and indirect exposure. The preliminary findings indicated that “indirectly” exposed individuals were symptomatic. This generated a myriad of questions that the survey tool could not answer. Questions such as: “What constitutes indirect exposure?” “What are its dimensions?”; “How did that exposure level contribute to their symptomatology?”; “How did their prior trauma history impact their processing of the event?”; “What was their media viewing like on 9/11 and the following days?” These questions need to be explored through in-depth questioning. The study interests further underscore the need for qualitative methods.

Another advantage to using qualitative methods is that they will allow the researcher to explore facets or nuances of the terrorist attack experience that at present represent gaps in the literature. These findings in turn may contribute to the construction of measure of indirect exposure to terrorism. Although some quantitative measures may be helpful to capture information, as noted in Chapter Two, no specific tools have been reported in the literature to explore the particular phenomenon of indirect exposure levels. A qualitative research study would inform quantitative research in this area by providing an understanding of the types of experiences, thoughts, safety actions, defense/coping mechanisms that can then be incorporated into existing instruments.

Qualitative Design Choices

A phenomenological qualitative approach was selected for utilization in this research study after careful review of various theoretical traditions of qualitative inquiry including: Ethnography, Phenomenology, Heuristics, Ethnomethodology and Symbolic Interactionism (Bogden, et al (1982); Patton (1990) and Guba et al (1994)). The phenomenological approach is most consonant with this inquiry. This study will explore

the complex reactions and thoughts of the individuals to unprecedented events.

Phenomenological inquiry focuses on the question, “What is the structure and essence of the experience of this phenomenon for these people?” Phenomenologists focus on how individuals put together the phenomena they experience in such a way as to make sense of the world, and in doing so, develop a worldview. Phenomenologists are rigorous in their analysis of the experience and principally interested in identifying elements of the experience that are common to members of a specific society or to all human beings. The Phenomenologist assumes a commonality in those human experiences. Results obtained from a phenomenological study can then be related to and integrated with other studies the same experience or phenomenon (Eichelberger, 1989).

The intention of the study is to more sharply understand the character and dimensions of the experience of individuals who were “indirectly exposed”. The inquiry seeks to understand the meaning they construct about their exposure to the terrorist attacks and their subsequent PTS symptoms. The exploration and characterization of the structure and essence of this phenomenon (indirect exposure) to the study participants are critical areas of exploration for this study; consequently a phenomenological approach frames this inquiry.

Other theoretical approaches could also be used to explore the phenomena of indirect exposure. A Heuristic approach is another method that was considered given the structure of the inquiry.

Heuristics focuses on the intense human experience from the point of the researcher and their personal experience, reflections and insights. The researcher, then, comes to understand the essence of the phenomenon through shared reflection and

inquiry with the co-researchers as they also intensively experience and reflect on the phenomenon in question. A sense of connectedness develops between the researcher and participants, as they also intensively experience and reflect on the phenomenon in question. Heuristics emphasizes connectedness and relationship while phenomenology encourages more detachment (Patton, 1990). There could have been a possibility of utilizing a heuristic approach in this research, as this researcher does have an intense interest in the phenomena under study. However, there is also an interest in obtaining the insights and experiences of others, not colored by personal experience. This will aid in capturing the broadest range of responses, many of which may be very different from the experience of this researcher. It is not the intent of the study to capture or report on the researcher's intuitive and tacit understandings in the data under examination; a more detached analysis of the experience is sought.

This study's intent is to capture the essence of the experience of 9/11. A phenomenological approach loses the "persons" in the process of descriptive analysis, in heuristics; the research participants remain visible in the examination of the data and continue to be portrayed as whole persons. Phenomenology ends with the essence of the experience; heuristics retains the essence of the person in experience (Patton, 1990). The goal here is to identify the commonalities of the structure and the essence of indirect exposure to the attacks; therefore, a phenomenological approach was utilized.

Research Design

This study is an exploratory study in which respondents were asked to reflect and report on past experiences and feelings, as well as their current state. In-depth, one-on-one interviews served as the primary data collection method. Questions regarding the

characteristics of their exposure, their personal history of prior trauma, the presence or absence of PTS symptoms, and the nature/impact of any clinical work conducted with clients with 9/11-related issues were addressed to the respondents. A field guide was developed for this purpose. (Please see Appendix F.)

This interview was supplemented by the Impact of Events Scale (Rev.) (IES-R), a survey tool that assesses the current level of PTS symptoms experienced by those in the sample (Weiss & Marmar, 1997) that was completed during the interview. (Please see Appendix G.) A survey form collected basic demographic information on the respondents (Please see Appendix H.).

Individual Interview Guide

The interview guide is intended to make the interviewing process more focused and systematic, yet flexible enough to permit the exploration of promising avenues of inquiry as they arise during the course of the interview. Open-ended questions were utilized to stimulate and facilitate the respondents' expansiveness in thinking and in answering the questions. Prompts were utilized for many questions as well. Probes or follow-up questions can be used to clarify responses and increase the richness of the responses (Miles & Huberman, 1994; Patton, 1990). Due to the personal nature of some of the questions, it was necessary to carefully assess the respondent's emotional and psychological status during the interviews, to determine if prompts should be utilized or if the questions have become too distressing or uncomfortable for the respondent. The decision on utilizing the prompts/probes was based on this researcher's clinical experience working with trauma survivors.

The field guide was constructed that covered four core areas of puzzlement: the characteristics of the exposure; the level of PTS symptoms experienced, the possible mediating or intensifying effects of a history of prior trauma among those indirectly exposed with the development of PTS symptoms, and the impact of providing clinical care for clients with 9/11-related issues, and coping skills utilized to combat stress.

The first group of questions addressed the nature of the level of exposure that the respondent experienced in the physical and psychological realms. Questions regarding their location on 9/11, how they physically experienced the attacks – meaning what did they see, smell, hear – were developed. The intent was to capture the essence of how the respondent felt physically on 9/11 and if these sensations reminded them of any past events. The intent was also to capture the temporal aspects of these dimensions – for example, did their physical stress symptoms change over the course of time?

The next group of questions in this category covered the possible dimensions of psychological exposure. They were asked which PTS symptoms they experienced and how these feelings changed over time. It was of interest to this study to explore issues regarding avoidance, hyper-arousal and intrusion - primary PTS clusters. The questions were designed to focus on these areas. Questions regarding activities or areas of the City that they now avoided, changes in their daily routine for safety purposes, and on items that may have caused distress, such as the media portrayal of the attacks, or pictures or images that “stayed with them” were developed.

Another section of the field guide was designed to address the issue of possible mediating or intensifying effects regarding a history of prior trauma with the development of PTS symptoms. Prior trauma questions were developed that

encompassed prior exposure to disaster-type trauma, such as war, natural disasters, industrial or transportation disasters; and to interpersonal-type trauma, such as family violence, the death of a loved one, or child abuse. The respondent was asked whether or not they feel that this prior experience had an impact on their reactions to the attacks of 9/11. They were also asked if they could recall any similarities or differences in their responses to this event as opposed to the prior traumatic event(s).

Another group of questions covered the dimension of “relational” exposure. Relational exposure to the terrorist attacks may constitute another facet of indirect exposure. Therefore, questions regarding the impact of the attack on family members or friends and how it affected them personally were included. This segment of the guide also included questions on relational exposure due to the mental health clinicians’ work with clients. Secondary Traumatic Stress may also have implications for the characterization of the dimensions of indirect exposure levels. Questions regarding the extent of client work related to 9/11-related issues were developed.

The last section of the interview guide covered the questions about aspects of the coping skills utilized and supports available to the clinician.

At the completion of the interview, the respondent was asked how they were feeling after describing their memories and reactions. This served both data gathering and human protection purposes, to assure, if possible, that subjects are in a calm and centered state before completion of the research interview. As part of the concern for the protection of human subjects, sources for mental health referrals were provided at the time of the interview.

Based on the limited duration of the interview, these questions were designed to capture the essence of the study's focus in one interview session. Question design options were carefully explored to allow for as much detailed exploration as possible into the four areas of the study's focus.

The Quantitative Survey Instrument – Impact of Events Scale-Revised

In this study, a quantitative assessment tool was utilized to measure the current level of PTS symptoms in the respondent. The Impact of Events Scale –Rev. was selected as it was designed to assess current subject distress for any life event, (in this case the terrorist attacks of 9/11.) The wording is not anchored to a specific occurrence but to the particular qualities of conscious experience that encompass all such events. To anchor the qualities of experience to a particular context, the life event specific to the study will be entered at the top of the form and serve as a referent for each of the statements on the list. Another consideration was the length of time needed to complete the measure; it can be completed in a short period of time, usually in less than 15 minutes (Weiss, 1997; Joseph, 2000).

Of interest to this study, was the use of the IES-R in several studies following the Oklahoma City bombings to determine PTS symptoms in youth two years after the event, who were geographically distant from the explosion (Pfefferbaum et al 2000; Morland, 1999). There are similarities to this study regarding the time period elapsed and the goal of determining the effect of indirect exposure.

The original IES was developed in 1979 by Horowitz and colleagues, prior to the adoption of PTSD as a legitimate diagnosis in the DSM-III published in 1980, and only tap two of the four criteria set out for PTSD in the DSM – IV: intrusion and avoidance.

(Weiss et al, 1997). The IES has been used in many studies that have demonstrated the work of this instrument. Studies were conducted with Vietnam War veterans (Hendrix et al, 1994), Israeli combat soldiers (Schwarzwald et al, 1987; Solomon, 1989) and mixed samples (Neal et al, 1994). The IES has also been used to study the impact of natural disasters. Earthquakes (Anderson, 1994; Carr et al, 1992), firestorms (Koopman et al, 1994; Maida et al, 1989) and hurricanes (Waters et al, 1992). The IES has been employed in a variety of studies involving criminal victimization (Arata et al, 1991) and on the impact on family members of people who have been the victim of homicide (Amick-McMullen et al, 1986). Studies using the IES to investigate the impact on emergency services workers have also been conducted. Fullerton et al (1992) used the IES to help understand the factors that mitigate the response experienced by firefighters. McCarroll et al (1995) used the IES to show that those who handled human remains during the Gulf War were more likely to be symptomatic at one year than those who did not. In summary, there is a large literature using the original IES and the IES-R and documenting its usefulness, validity, reliability and its centrality for researchers interested in tracking the psychological response to traumatic events.

There have been many standardized quantitative assessment tools designed to measure the levels of PTSD and PTSS (Briere, 1997). Prior to the selection of the IES-R, several commonly utilized PTSD or PTS symptom assessment tools were considered. They included: the Trauma Symptom Inventory (Briere, 1995); the Trauma Symptom Inventory (Briere and Runtz, 1989); the Posttraumatic Stress Diagnostic Scale (Foa, 1995), the Los Angeles Symptom Checklist (Foy et al, 1984), the Traumatic Life Events Questionnaire (Kubany, 1995) and the Distressing Event Questionnaire (Kubany, 1998).

These tools were not the best fit with this study for several different reasons. Several scales were used to assess “several or all” traumatic events that an individual had experienced; they were not designed to measure stress due to a specific event. Others were designed to measure levels of trauma due to interpersonal violence. For several scales, the applicability of their content (issues of sexual abuse, stalking, abortions/miscarriages, etc.) was not appropriate for this study. Others should be utilized to assess for PTSD diagnosis, not PTS symptoms, the goal of this study.

Background on the IES-R

The Impact of Events Scale – Revised (IES-R) was developed by Daniel S. Weiss and Charles R. Marmar in 1997 to parallel the DSM – IV criteria for PTSD. The IES-R was designed and validated using a **specific** traumatic event as the reference in the directions to individuals completing the measure. Any use of the measure requires that this issue be made explicit by the person administering the measure, and that respondents are clear about what specific event they are reporting on. Events like “the automobile accident,” “the earthquake,” “the sexual assault,” “the terrorist attacks at the WTC on 9/11,” are all appropriate events. It is not appropriate to use the IES-R to measure things like “stress on the job,” “my divorce,” “my boss’s criticism,” and the like. (Weiss, 2003).

Built as an adaptation to the IES, the IES-R is a self-report measure designed to assess **current** subjective distress for any specific life event. The IES-R has 22 items, seven items having been added to the original 15-item IES (Weiss et al, 1997). The seven items include six that tap hyper arousal symptoms such as: anger and irritability, heightened startle response, difficulty concentrating, hyper vigilance; and one new intrusion item that taps the dissociative-like re-experiencing when experiencing true

flashback. Respondents are asked to rate each item in the IES-R on a scale of zero (not at all), 1 (a little bit), 2 (moderately), 3 (quite a bit) and 4 and above (extremely) according to the past seven days.

Psychometric Properties of the IES-R

Reliability

In their studies of different population samples, Weiss and Marmar (1997) reported that the internal consistency of the three subscales was found to be very high, with intrusion alphas ranging from .87 to .92, avoidance alphas ranging from .84 to .86, and hyper arousal alphas ranging from .79 to .90 (Briere, 1997). Test-retest reliability for the Intrusion subscale is .94, for the Avoidance subscale is .89 and for the Hyper arousal subscale is .92. Test-retest reliability for the entire scale is .87 (Marmar et al, 1997).

Validity

Weiss and Marmar noted that the hyperarousal subscale has good predictive validity with regard to trauma (Briere, 1997). The intrusion and avoidance subscales, have been shown to detect change in respondents' clinical status over time and detect relevant differences in the response to traumatic events of varying severity (Weiss et al, 1997; Horowitz et al, 1979). Regarding content validity, the intrusion and avoidance subscales, had high endorsements of up to 85% (Horowitz, et al 1979). Content validity is not available for the hyperarousal subscale.

Scoring Method for IES-R

This researcher scored all of the IES-R forms according to the protocol. For scoring information please see Appendix G. The results of these scores are presented at the end of this chapter.

Demographic Information Questionnaire

At the start of the interview, each participant was asked to complete a Participant Demographic Questionnaire (Appendix H) which contained questions on the basic demographic information such as gender, age, income, education, household status, employment, health and current clinical status for statistical and analytical purposes. It provided enriched detail regarding the description of the sample population. The impact of some of the demographic variables on the primary concepts under study was also part of the final data analysis.

Population of Interest – Sample for this Study

Mental health professionals played an extremely important role in the mental health recovery effort launched following the terrorist attacks of 9/11. They were also an occupation highly represented in the preliminary data analysis of the NYSPCC Trauma recovery program, referenced in Chapter One, which stimulated interest in this project. This current study was designed to explore questions raised following that preliminary data analysis regarding the characterization of indirect exposure levels to terrorist trauma.

Of importance, is that a recent review of the disaster literature revealed no published articles that utilized a sample of clinicians in this area of research. This may be one of the few qualitative studies to focus exclusively on mental health clinicians in New York City following the terrorist attacks of 9/11.

Utilizing a sample of mental health clinicians may also aid in the understanding of how clinical work with clients having 9/11-related issues contributed to secondary traumatic stress, another focus of this study. Mental health professionals assumed a tremendous responsibility after the terrorist attacks, in both providing services to those

impacted by the event, and in serving current clients whose situations may have been adversely affected in the aftermath of the event, due to economic and service delivery issues. The opportunity to interview clinicians that had clients with varying degrees of exposure to the attacks of 9/11 added richness to this study. Clinicians were able to add their voice, describing the types of stress and PTS symptom levels experienced by their clients and by themselves. They also provided substantive comment regarding this dimension of exposure, and how working with clients with different exposure levels to the attacks impacted their PTS symptoms.

Due to their experience with client stress and their clinical training, mental health clinicians were better equipped to provide detailed answers to this study. Their clinical training often covers the psychological aspects of fear and trauma and its impact on the individual. Utilizing respondents who had knowledge of this subject enriched the study.

Inclusion criteria

The criteria for inclusion included: meeting the study definitions of “mental health clinician”; the criteria for “indirect exposure”; and whether or not the clinician engaged in “9/11-related therapeutic work with clients”.

These terms are defined for this study. The term “mental health clinician” encompasses MSW – level social workers, psychologists, psychiatrists and therapists or guidance counselors with a Masters degree in Counseling.

Mental health clinicians must meet the criterion of indirect exposure - meaning:

1. They were not physically located below 14th street in Greenwich Village in Manhattan on the day of the World Trade Center attacks and
2. They did not have a family member or close friend harmed in the attacks.

Since another goal of this study is to explore the similarities and differences of the experience of “indirectly exposed” clinicians, who provided clinical care to clients with 9/11-related issues versus those clinicians who did not provide such care. An attempt was made to recruit an equal number of clinicians from both categories.

Twenty-six clinicians who were in New York City or the surrounding area on 9/11 and met the criteria for indirect exposure were recruited for this purpose.

Sampling Options and Rationale

After reviewing the sample options available as defined by Weiss (1998), Patton (1990), and Epstein and Tripodi (1977), it was determined that purposive sampling would be utilized in this study. Qualitative inquiry typically focuses in depth on relatively small samples, selected purposefully. The logic and power of purposeful sampling lies in selecting information-rich cases for study in depth, whereby one can learn a great deal about issues of central importance.

Availability sampling, a non-probability sampling procedure in which researchers use the most available appropriate sampling units was utilized. A large portion of social work research and evaluation relies on this type of sampling procedure, including community surveys (Seaberg, 1988). It was a relatively small sample, using a selection of information-rich cases, whose study will illuminate the understanding of the social work field regarding the dimensions of indirect exposure to the terrorist attacks and its impact on the mental health of those individuals. Recruitment for the sample was conducted through targeted outreach to social service and mental health agencies.

Snowball sampling was also utilized for recruitment. Individuals who agreed to be interviewed, were asked if they knew of anyone else who would be willing to be

interviewed on the topics of this research study. When this occurred, the clinician was asked to give those individuals this researcher's name and contact information. If they decided to contact this researcher, a preliminary phone interview was conducted to ascertain both their understanding of the study and their suitability to be included as a participant. All of the respondents met the inclusion criteria.

Colleagues of this researcher, who were mental health providers under Project Liberty and the American Red Cross, offered to relay information about this study to clinicians who participated in the mental health recovery effort. This was also attractive as it was very helpful for this investigator to be introduced to the next respondent, by a respondent who had participated in this study.

Procedure - Sample Recruitment

Recruitment was conducted via mailing a letter (Please refer to Appendix I) to an extensive list of Executive Directors and Clinical Program Directors and mental health counselors at social service agencies, foster care agencies, government agencies, hospitals, schools, etc. in New York City that participated in 9/11 relief efforts, informing them of the study. The NYSPCC has a list of mental health provider agencies that were also contacted regarding this study.

The recipient was asked to share the recruitment letter with their colleagues and/or clinical staff. Copies of the "Dear Colleague" letter #2 (Please refer to Attachment J.) were enclosed for the Directors' use for posting in staff areas or to be placed in staff mailboxes. In the recruitment letter, the recipient was asked to call or e-mail this researcher to arrange a time to discuss the project and their possible participation.

The recruitment letters were mailed in three “waves” of twenty-five letters each time, starting at the end of January 2004. The researcher allowed for three to four weeks between each mailing so that she could respond to inquiries and arrange interviews in a timely manner.

After three mailings, an adequate number of subjects had been recruited for the study. Forty clinicians responded to the recruitment effort. Of those who responded, 26 clinicians that met the screening criteria were interviewed. There were three screening questions utilized during the initial call with the respondent. They were as follows:

1. Do you meet the criteria for indirect exposure?
2. Do you meet the criteria for mental health clinician?
3. Did your work entail providing clinical care to clients with 9/11-related issues?

Approximately thirteen individuals that responded did not meet the screening criteria for the study. One met the criteria, but decided not to proceed and cancelled on the day of the interview, citing that it would be too stressful. Four respondents had worked directly with 9/11 clients but they had not achieved a masters-level degree in the mental health field, thus not meeting the criteria for “mental health clinician”. Three respondents had worked with 9/11 clients but were physically located outside of the New York City area on the day of 9/11, thus not meeting the criteria for “indirect exposure”. Three of the respondents were located below 14th Street on the day of the attack, thus not meeting the criteria for “indirect exposure”. Two of the respondents were still experiencing extreme stress reactions to the attacks and were advised to seek input from their therapist prior to agreeing to participate. Both of these individuals decided not to

proceed with the interview. One respondent requested payment for the interview and decided not to proceed after it was explained that a stipend would not be provided.

Following their agreement to be interviewed, a mutually convenient time and place was arranged for this purpose. All of the interviews took place in an office setting or an agreed upon public space, such as the library at the Hunter College School of Social Work. Nineteen of the respondents requested that the interview take place at their place of employment. This researcher traveled to those locations to conduct the interviews. Four interviews were conducted at the library of the Hunter College School of Social Work. Three interviews were conducted at The New York Society for the Prevention of Cruelty to Children's main office.

Protection of Human Subjects

This section will present the procedures that were followed regarding: the informed consent process, ensuring confidentiality and data storage.

Protection of Human Subjects – Informed Consent Process

Every research method presents unique ethical and scientific considerations. Investigators must design studies with an eye to minimizing the negative effects of the study's methods themselves. Patton (1990) also emphasizes the importance of anticipating and dealing with the design and implementation of qualitative studies, since qualitative inquiry may be more intrusive and involve greater reactivity than surveys, tests and other quantitative approaches.

For this study, a particular issue of concern was that there was a possibility that some of the questions and subject matter could cause emotional upset to the respondent. For example the questions about their reactions on 9/11, their history of prior trauma and

the toll that the work had on them emotionally and psychologically could produce distress upon recall. In light of these issues, considerable efforts were undertaken in this research project to assess any risk to individual respondents. Issues of confidentiality, informed consent, continued program participation and data access and ownership were addressed.

In December 2003, the Institutional Review Board of the Hunter College Office of Research Administration, Committee for the Protection of Human Subjects reviewed the application for this study. It was approved on January 26, 2004 and assigned Protocol # HC-120313907.

To ensure that the respondents fully understood the risks and benefits associated with this study, this researcher reviewed these issues with each respondent before the one-on-one interview started. These items were covered on the IRB approved Informed Consent form, (Appendix K). The respondent also reviewed the Audio Tape Release form (Appendix L). All of the respondents agreed to be audiotaped for the qualitative interview of this study. During the signing of the Informed Consent, each respondent was told that this study could present minimal risk to the participants. The study may raise some distressing or difficult psychological issues for them regarding their emotions related to the terrorist attacks of 9/11 or in regard to their own personal prior trauma history. To guard against the risk of psychological distress, during the signing of the informed consent, the participants were told that if they experience any type of upset that they may take a break, skip that question, stop the interview or withdraw from the study. After the informed consent was signed, each respondent was provided with a list of mental health referral sources to utilize if they should so desire.

It was not anticipated that any medical or other troubling condition would be uncovered during the research interview. None did occur during the course of these interviews. However, if the researcher felt that the participant had experienced psychological distress that is substantive during any part of the interview, the interview would have been stopped immediately. If the participant exhibited any thoughts or actions that could be interpreted by the researcher as an intent to cause harm to oneself or others, the participant would have been brought to an emergency room or to their therapists/doctors office, if available, by this researcher.

After these consents were signed, this researcher reviewed the instructions for completing the Impact of Events Scale – Revised assessment tool and the demographic questionnaire. The opening script on the field interview guide also included a description of the goals of the study and encouraged the participant to contribute other information not included in the interview questions, if they felt it relevant to the study. The participant was also reassured of confidentiality and anonymity prior to the start of the interview.

Prior to the start of the interview, each participant was asked to sign the Audio Tape Recording Release Consent Form. They were told that as part of this research an audio recording would be made of their answers during the qualitative interview. They were assured that their name would not be identified on the tape and that solely this researcher will use the transcribed tapes for the purposes of this research project. They were also told that they can listen to the completed tape, if they so desire to decide if they do not want any portion of the tape, in whole or in part, not utilized for this research project. All of the participants agreed to be audiotaped for this study.

Emotional Reactions of the Respondents

Campbell (2002) emphasized the importance of the researcher developing a diverse awareness of the emotional needs of a research population, through community service, academic literature or other means; and being able to respond to the emotional needs of a research population. The data collection phase can be shaped and informed by prior emotional reconnaissance work. The manner in which the investigator interacts with the participants reflects an awareness of an attempt to respond to their emotional needs. It is important to note that attuning to the affective needs of research participants does not require that researchers compromise their intellectual curiosity or sacrifice methodological rigor for the emotional good of the participants. Paying attention to the potential emotional needs of a research population and responding to them in data collection, can create a setting in which participants will experience beneficial effects. Qualitative interviews in particular, may provide participants with a supportive setting for expressing personal feelings, thoughts and problems; provide a medium for self-acknowledgement; aid in their sense of purpose; increase their own self-awareness; serve as a source of empowerment; be emotionally therapeutic or provide a voice for the disenfranchised.

Emotions ran high during many of the sessions with the clinicians. Often tears were shed. Nine clinicians cried during the interview sessions. For some, it was the first time that they had told their story to anyone. Many expressed their surprise at both the tears and of how emotional it was for them to discuss these issues, even though over two and a half years had passed. A few clinicians cried sporadically throughout the entire

interview. Others cried when they were discussing the traumas from their past. Several cried when they recalled the events of the day, or their inability to reach loved ones.

Another emotion visibly expressed during the interviews was anger. Five clinicians grew notably agitated and angry during the face-to-face interview session. These outbursts occurred while they were discussing their upset with how the events of 9/11 were handled by the government; their anger at tourists who flocked to the World Trade Center after 9/11; or simply as how angry they were that the world as they knew it had vanished. The force of these emotions coincided with body movements, such as hitting the table to emphasize a point, fidgeting in their seat, raising their voices - in two cases to almost a screaming pitch. They too, seemed surprised by how strong these emotions were so long after the event had passed.

These sessions were draining for both the respondent and the interviewer. Though each participant was given the option to stop or continue the interview at another time, each person was steadfast in their decision to keep discussing the issues regarding 9/11.

At the completion of the interview this researcher again discussed the mental health resources list with each participant. Each participant was also asked if they would like to receive a summary of the study, once completed. If they wanted a copy, they completed a form with pertinent address information regarding mailing. (Appendix M). Every respondent asked to be sent a copy of the summary and completed the form.

Confidentiality of all participants was protected by maintaining de-identified files under locked conditions. All materials are stored in this researcher's home office, to which only this researcher has access.

The transcribed interviews and interview notes and memos were typed on the personal home computer of this researcher. The demographic survey forms and the IES-Rev. scale are also stored on the personal computer of this researcher at her home office and are not accessible to others.

In accordance with the IRB standards, the data will be stored at this location for three years. After that all data will be carefully destroyed.

Reliability and Validity Issues in Qualitative Research

One important way to strengthen a study design and its reliability and validity is through triangulation, or the combination of methodologies in the study of the same phenomena or programs. This can mean using several kinds of methods or data, including using both quantitative and qualitative in the same study (Patton, 1990). Triangulation is a powerful solution to the problem of relying too much on any single data source or method, thereby undermining the validity and credibility of findings because of the weaknesses of any single method. The practical mandate is to gather the most relevant possible information. In practice, it is possible to do so successfully and creatively (Patton, 1987).

A challenge in any study is to maximize reliability and validity. Particular issues regarding reliability and validity of concern to this study include: the retrospective nature of the study; the impact of intervening events that have occurred that may color the responses of the respondents; the stress that may occur from the questions raised in the one-one-one interview (for example, questions regarding the events of the day, what media images of 9/11 stayed in their minds, and the clinician's prior trauma history), thereby inhibiting or stopping responses to questions; the researchers biases and

experiences that impact the ability to code and report on the data gathered during the interview; and ensuring the accuracy and completeness of the data collected. This researcher implemented measures during the collection and analysis to enhance the reliability and validity of this study.

To address the issue of the retrospective focus of the study and the impact of intervening events, the nature and purpose of the study was described at the beginning of the interview. The sequence of the interview also aided in helping the respondent recall the specifics of 9/11. The first step in the process entailed the respondent completing the IES-R form, whereby the respondent was asked to report on current PTS symptoms anchored specifically to their 9/11 experience. The field guide utilized for the one-on-one interview was designed to promote recall of the day and also addressed changes in the respondents' feelings over time. The triangulation of the data sources will also help circumvent threats to the retrospective nature of the study.

Regarding the issues of handling respondent stress in the interview, prior to the start of the interview, the respondent was told that if their upset or stress level is too intense during the interview, that they could stop, take a break or discontinue at any point. Each respondent was also provided with a list of mental health resources to utilize in case of persistent upset after the interview. The topics of the types of questions that were asked, were also stated in the recruitment letters so that individuals that chose to participate had advance knowledge of the issues that may produce discomfort. The participants were also offered the option to continue the interview at another time, if this researcher determined that it is in the respondent's best interest.

The issue of researcher experience and bias causing a threat to the reliability and validity is always a concern in research, more so in a qualitative study. In this study, the researcher also has a personal experience with the subject at hand. She viewed the destruction of the WTC from her living room window, lost contact with the staff of her agency after the first tower imploded and took measures to account for each of them after the attack. She also observed many of the trauma recovery sessions that her agency conducted following the terrorist attacks. This researcher has received comprehensive training in disaster preparedness, stress management and dealing with secondary traumatic stress that aided in this study. She completed intensive training courses through the American Red Cross and Project Liberty on the topic of trauma mental health counseling, and is quite familiar with the ranges of emotions and reactions of individuals who had various levels of exposure to the events of 9/11. In October 2003, she also completed training through the NYC Department of Mental Health on Compassion Fatigue and appropriate interventions. In July 2004, she received additional training in these areas as a member of the NYC Medical Reserve Corp, a unit that will serve as “first responders” for health and mental health issues following future acts of terrorism. Therefore, this researcher was familiar with the types of reactions that the respondents could have during the interviews. These trainings provided this researcher with techniques designed to help people manage their reactions to exposure and traumatization. This researcher had effective measures in place to handle emotional content and the clinicians’ reactions. This training also aided her in her ability to maintain an empathetic, yet neutral stance that aided the process and enabled her to obtain a large amount of sensitive information from the respondents.

The researcher brought “empathic neutrality” to the interview due to this training. Patton (1990) describes empathy as a stance toward the people one encounters, while neutrality is a stance toward the findings. Neutrality can actually facilitate rapport and help build a relationship that supports empathy by disciplining the researcher to be nonjudgmental and open. Empathy communicates interest in, and caring about people, while neutrality means being nonjudgmental about what people say and do in data collection. This researcher drew upon the range of feelings that she experienced on 9/11, to enrich the questioning process. This insight was helpful for probing during the interview as well.

Since the face-to-face interview was a critical component, this researcher took steps to make sure that the accuracy and completeness of this data was assured. The audio recording equipment utilized was in proper working order and was tested at the beginning of the interview. The researcher did a sound test with each participant to make sure that their voice level was clear and that the placement of the recorder was optimal. Besides the tape recording, notes of key phrases or major points made by the respondent were written down.

The period after an interview is critical to the rigor and validity of the qualitative inquiry. The tape recording was checked immediately. If some sections were not clear on the tape, it was possible to compose notes on that section from memory and notes. Reviewing the tape soon after the interview also provided the opportunity to seek clarification with the respondent on areas of vagueness or ambiguity.

This researcher composed memos and notes about the interview immediately following the end of the session. These notes included observations on: the location, the

interviewee's demeanor, specific times the participant cried or expressed other emotions, the participant's overall emotional state at the beginning and end of the interview and observations about this researcher's role in the interview. Other information that helped establish a context for interpreting and making sense out of the data was also recorded.

The audiotapes were transcribed by this researcher as promptly as possible. Each interview lasted approximately 75 minutes; it took about seven hours to transcribe each interview tape. In most instances, the transcription was started the weekend following the interview. Due to this researcher's full-time job, this was the most feasible timeframe.

This researcher had the option to obtain feedback from the participants utilized in the study to ensure that the analysis and interpretation of the data is accurate. A follow-up conversation with participants also provides an opportunity to explore other themes that may have come up during the course of interviews with later participants, as well as verification of information gathered at the initial interview.

Data Analysis

Data for this project was collected at a single interview and included three data sources:

1. The one-on-one interviews utilizing the field guide
2. The participant demographic form
3. The Impact of Events Scale- Rev. (Weiss & Marmar, 1997).

Data analysis of qualitative and quantitative data, also known as triangulation of data sources, is probably the most widely used data analysis strategy in the social and behavioral sciences. For this study, a sequential qualitative-quantitative analysis was conducted. Tadashakkori et al (1998) describe this process. The initial qualitative analysis leads to the identification of groups of individuals, or groups of attributes, that

are similar to each other in some respect. These identified groups are then compared on the quantitative data that was gathered. First, emerging themes from the qualitative data are formed. Then quantitative data is analyzed either to confirm or to expand the inferences obtained from the initial qualitative analysis.

Technical procedures based on the methods of Miles and Huberman (1994) were utilized for this study for the qualitative data analysis of the interview transcripts. This is a style of qualitative analysis that is based on immersion in the data, as well as making constant codings, sortings and comparisons of data to ensure conceptual development and density.

Each interview was tape-recorded. In addition to increasing the accuracy of data collection, the use of a tape recorder permitted the interviewer to be more attentive to the interviewee. Notes were also be taken, both to help formulate new questions as the interview proceeds, and to clarify or expand upon a statement made earlier in the interview.

Memos or annotations were also utilized to both sharpen insight, as well as to indicate potential gaps in the analysis or to identify specific areas of new inquiry that require exploration. Glaser (1978) defined a memo as “a theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding. It can be a sentence, a paragraph or a few pages...it exhausts the analyst’s momentary ideation based on data with perhaps a little conceptual elaboration”. Memos are primarily conceptual in intent. They do not just report data; they tie together different pieces of data into a recognizable cluster, often to show that those data are instances of a general concept. Memos help enrich the analysis process by moving empirical data to a

conceptual level, expanding and further refining the data codes, developing core categories and building toward a more integrated understanding of experiences, interactions and processes (Strauss, 1987).

During this study, this researcher composed memos that captured both analytical issues and self-reflective thoughts following the participant interviews or during the data analysis process. After each session, this researcher used the Dictaphone to immediately record observations, feelings, and other pertinent data not captured on the interview tape, such as the affect of the interviewee in response to the subject matter, where the interview occurred, and observations about the interviewer's role in the process. This usually occurred either immediately after the interview, or within the same day. As soon as possible following the interview, this researcher transcribed the audiotape-recorded interviews and memos. She also carried a small notebook with her to record thoughts as they occurred for later reflection. These memos helped create a link between the concrete data and more abstract theoretical thinking.

Initial qualitative data analysis began shortly after the interviews were completed. The first task in qualitative analysis begins with a presentation of the descriptive data. This process began with the verbatim transcriptions of all audiotaped interviews utilizing a transcription machine. This researcher transcribed all the tapes. This process served several purposes. The researcher was able to relive the interview and thereby gain additional insights into the process, it was also helpful to be able to note the voice inflections used by the respondent and the timing of emotional upset in the interview. It also helped the researcher critique her interviewing skills and note modifications to be made in following interviews. This process resulted in manuscripts of approximately 14-

17 single-spaced pages for each respondent. One tape was shredded beyond repair when rewound in the transcription machine. This researcher, upon consultation with her advisor, decided not to re-interview the respondent. Notes from this session were utilized instead.

This researcher performed content analysis of the data by following the procedures as outlined by Strauss and Corbin (1990.). The first step in the process of identifying, coding and categorizing the primary patterns in the data is a rudimentary content analysis (Patton, 1990). This means analyzing the content of interviews. The content analysis commenced with open coding. Miles and Huberman (1994) state that analysis consists of reviewing a set of field notes, whether transcribed or synthesized and dissecting them meaningfully, while keeping the relations between the parts intact. During the beginning stages of analysis, the interview guide was used as the theoretical structure to frame this research project. This researcher read through all of the transcripts and memos and made comments in the margins about how different parts of the data may be linked together. A list of these preliminary labels was then organized into a data index. This made it easier to search for patterns and themes.

Three types of coding were utilized in this study: open coding, axial coding and selective coding. Open coding was conducted by scrutinizing the interview notes closely, line by line, phrases, or by sentences, to identify categories, their properties and dimensional locations (Strauss, 1987). These codes may be descriptive, interpretive or pattern codes. The aim of open coding is to open up the inquiry. Every interpretation at this point is tentative. Miles & Huberman (1994) recommend using a “start list of codes” that comes from the conceptual framework, list of research questions, problem areas or

dimensions of the study. To aid in this process, this researcher used a color-coding system, highlighting the codes in different colors. It also allowed for data to receive more than one “color-code” if this researcher felt that a comment or sentence could be referenced in another category as well as a primary category.

After this process was completed, a comprehensive code sheet was constructed.

With regard to the level of indirect physical exposure to the events of 9/11, some of the categories for coding included:

- The way that they found out about the attacks
- Their location at the time of the attack
- Actions taken after finding out about the attacks
- Exposure through sight - personally
- Exposure through sight via media
- Unusual sounds
- Unusual smells
- Physical feelings on 9/11
- Physical feelings/changes over time

With regard to the unit of analysis of “prior trauma” some of the categories included:

- Reminders of prior experiences similar to 9/11
- Experience with natural disasters
- Experience with transportation disasters
- Experience with war
- Experience with personal crisis trauma
- Physical impact on the respondent
- Similarities/Differences to 9/11
- Emotional impact on the respondent
- Similarities/differences to 9/11

For the aspects of psychological exposure to the attacks of 9/11 some of the categories for coding included:

- PTS symptoms on 9/11
- PTS symptom changes over time
- Daily routine changes
- Safety concerns
- Current level of safety

- Areas/Activities avoided since 9/11
- Current worries
- Media viewing on 9/11
- Frequency of media viewing
- Differences/similarities from normal patterns of media watching

For the concept of “relational exposure” some of the initial coding categories included:

- Family or friends negatively impacted by 9/11
- Acquaintances hurt or impacted by 9/11
- Impact on the respondent

For the concept of “secondary traumatic stress” some of the initial coding categories included:

- Extent of 9/11 client-related work
- Types of problems encountered
- Familiarity with these problems
- Comfort level with these problems
- Biggest challenges faced with client work
- Impact on the clinician

For the concept of “coping strategies” some of the initial coding categories included:

- Supports available to clinician
- Services that helped the clients
- Coping strategies utilized by clinician
- Coping strategies that helped the most

The next stage of the content analysis was axial coding, which is the set of procedures used to put the data back together in new ways after open coding. This enabled the researcher to look for new insights and to make connections between the core categories and subcategories. At this point, an intense analysis was conducted around each category and theme. During this phase of coding, the researcher consolidated codes and located evidence for core themes, and constructed support in the data for them.

Identifying multiple instances of empirical evidence strengthened this connection between a theme and the data. As this process continued, the researcher gained more insight into the data and the process became more interpretive. This process revealed the linkages about the physical aspects of indirect exposure, the occurrence of PTS symptoms, the impact of a history of prior trauma and topics that were covered in relation to the secondary traumatic stress of the respondents.

The final stage of data analysis was selective coding. At this stage, the researcher had identified the major themes of the research, and had significantly condensed and collapsed categories. Selective coding involved scanning data and previous codes and looking selectively for instances that illustrated themes and made comparisons and contrasts, after most or all of the data collection was complete. Selective coding began after all of the concepts were well developed and the overall analysis began to organize around several core generalizations or ideas. During selective coding, major themes or concepts ultimately guided the researcher's search. Specific themes identified in earlier coding were reorganized and reexamined for more than one major theme generating patterns (Neuman, 2000). Once the researcher had an understanding about the main themes, categories and subcategories, a cross-case analysis of the data was completed. The first step in cross-case analysis was the construction of a conceptual framework (Miles & Huberman, 1984). Prevailing themes of each respondent's responses were then grouped together, thus illuminating the relationships between concepts and themes.

Following this process, the concepts and themes that emerge were interpreted and incorporated into a narrative report. Direct quotes and vignettes of participants that allowed the readers to understand quickly and explicitly how the various themes tie in

with the interviews were used. Sufficient quotational data should be presented to illuminate and support whatever analysis the researcher provides in narrative form (Patton, 1990). Sufficient description and direct quotations should be included to allow the reader to enter into the situation and thoughts of the people represented in the report. Qualitative analysis presents “thick” description that presents detail, context, emotion and the webs of social relationships that join persons to one another (Denzin, 1989). It establishes the significance of an experience, or the sequence of events, for the person or persons in question. The voices, feelings, actions and meanings of interacting individuals are heard. It connects individual cases to larger issues.

Rigorous attention was used to ensure that the concepts and theories were generated inductively. According to Miles and Huberman (1994) it is important to stay “self-aware” during the entire data collection and analysis process, from the coding process, data analysis, conclusion drawing and verification. This researcher’s own theoretical orientation, familiarity with existing research and the characteristics of the study will affect the concept and conclusions that were drawn. Only through sustained awareness could regular self-correction occur.

Analysis of IES-R and demographic data

The participant demographic form was entered into an SPSS 10.0 database that was constructed for this project. Frequency distributions were conducted as one method of data analysis.

The results of the IES-R and the frequency distributions of the demographic questionnaires were integrated into the qualitative data analysis and aided in the understanding and defining of the dimensions of indirect exposure levels.

Following this process, the data gathered through the IES-R and the demographic survey were analyzed and summarized. This provided an opportunity to analyze the differences and similarities of the respondents' current PTS symptom levels and demographic statistics with the qualitative data. For example, the respondents' current levels of symptoms were analyzed in regards to their reporting of a history of prior trauma; to the amount of clients that were on their caseload with 9/11 related issues and to their level of media exposure.

Respondent Demographics

Reflective of the constituency of the field, the majority of those who responded to the recruitment effort and who were interviewed were women. Twenty-four females and two males participated in the study. There was a wide, but evenly distributed, age range of the respondents, who were between the ages of 26 years to 63 years old. Close to half of those interviewed were of minority status. Fifteen (or 58%) were white, five were Latino, four were African American, one was biracial, and one was West Indian. Nineteen were born in the United States, three were born in the Dominican Republic, two were born in the West Indies; one was born in Puerto Rico and one was born in Europe.

The group was roughly evenly divided regarding marital and parenting status. Eleven of the respondents were single. Ten were currently married; two were living with a partner; and three were divorced. Fourteen of the clinicians did not have any children. Eight were living with children under the age of 18; three were living with children over the age of 18, and one had grown children living outside of the home.

As a whole, the group was well educated. Ten had completed their graduate degrees in Social Work; eight had completed post-graduate courses and eight of the

clinicians had completed doctoral degrees in Social Welfare or Psychology. Regarding income, the majority earned between \$50,000 and \$90,000 on an annual basis. A quarter earned more than \$90,000 and a quarter earned less than \$50,000. Two clinicians did not report their income levels. The majority of the clinicians were employed full-time. Three were employed part-time and two reported that they were self-employed working varied hours each week.

Nine of these respondents had been employed as mental health clinicians for over 20 years. Eight had practiced between 10 to 20 years; three had practiced between five to 10 years and six had practiced for five years or less.

Nineteen of the respondents reported that they were not currently in therapy or using psychotropic medication. Five reported that they were currently in therapy; one participant was in therapy and using medication. One respondent did not answer this question. During the period of time following 9/11, nineteen of the respondents did not participate in any type of trauma recovery sessions or workshops; seven did attend these types of sessions. At the time of the interview for this study, only one clinician currently participated in support sessions or workshops related to disaster recovery.

The IES-R scores of the respondents are presented in the following section and reported on in more detail in Chapter Five. Of interest is that the respondents were closely divided between two major categories. Fourteen respondents were experiencing “none” or just “a little bit” of symptoms of PTS; while 12 respondents were still experiencing “moderate” and “extremely high” levels of PTS symptoms, two and a half years following the attacks. It was also of interest to note that the IES-R scores of the respondents were not reflective of their level of 9/11 client-related contact. The

clinicians' score range was equally divided between the two subgroups of clinicians that had clients with 9/11-related issues and those that had no clients with 9/11-related contact.

The Respondents – Thumbnail Sketches

Twenty-six respondents were interviewed from February 26, 2004 through to June 24, 2004. Their stories are riveting and complex. All of these respondents met the inclusion criteria for the study. They were located above 14th Street the day of the terrorist attacks, did not have any close friends or family members harmed in the attacks and were mental health clinicians by profession. Brief biographical sketches on each clinician follow. Items of interest to this study, such as their IES-R scores and their percentage of work with clients with 9/11 related issues are included.

They are presented in ascending order of the amount of time they spent with clients on 9/11-related issues, starting with those clinicians who had no contact with 9/11 clients. The number preceding the initials indicated the order in which they were interviewed for the study.

No 9/11 client related contact

#2 L.P. is a 29 year-old, Latina, female social worker. She works full-time as a mental health clinician with clients who are mentally ill and chemically dependent. She has been in the field for nine years. She is married with no children and is working towards her doctorate in Social Welfare. She did not have any clients with 9/11-related issues. Her IES-R score was 1.2, indicating that she is currently experiencing “a little bit” of PTS Symptoms related to the terrorist attacks.

#4. M.N. is a 40 year-old, Black, female social worker, born in the Dominican Republic. She has been employed in the mental health field for 11 years. M.N. is single and does not have any children. She is currently employed full-time, the owner of a consultant business helping non-profit agencies with fundraising and program development issues. During the 9/11 attacks she worked as a mental health clinician in a hospital clinic. She did not have any clients with 9/11-related issues. M.N.'s IES-R scores was .2. M.N. is not currently experiencing any PTS symptoms related to the terrorist attacks of 9/11.

#6 L.W. is a 35-year-old African American, female social worker, who has been employed as a clinician for 4 ½ years. L.W. is single and does not have any children. She is currently managing a program for “at-risk” mothers to prevent abuse and neglect at a NYC hospital. She did not have any clients with 9/11 related issues. L.W.’s IES-R score was 0. She is not experiencing any PTS symptoms related to the attacks.

#7. S.M. is a 59 year-old, white, female social worker that has worked in the mental health field for 37 years. She is currently pursuing her doctorate, while working part-time in a foster care agency. She is living with her partner and has two grown children. S.M. did not have any clients with 9/11 related issues. Her IES-R score was 3, indicating that she is still experiencing “quite a bit” of PTS symptoms related to the attacks.

#10 A.M. is a 30 year-old, Latina, female social worker. She is employed full-time in a social service agency as a preventive services caseworker working with high-risk mothers and their children. She has worked as a clinician for four years. A.M. is single and lives with her adolescent daughter. She did not have any clients that had 9/11 related issues, but her agency was a Project Liberty provider. A.M.’s IES-R score was 2, indicating that she is experiencing a “moderate” level of PTS symptoms related to the attacks.

#12 M.V. is a 26 year-old Latina, female social worker who has been practicing as a clinician for four years. She is employed full time as a counselor at a social service agency. M.V. is single and lives alone. She does not have any children. M.V. did not have any clients with 9/11 related issues, but other parts of her agency were directly involved in the trauma recovery effort at Ground Zero. M.V.’s IES-R score was 3.2, indicating that she is still experiencing “quite a bit” of PTS symptoms regarding the terrorist attacks.

#22 D.K. is a 46 year-old white, female social worker. She is employed full time as a manager for a social service agency serving homeless families with children. She has been practicing in the mental health field for 20 years. She is married and has a five-year old daughter. D.K. did not have any clients with 9/11 related issues. Although she was a volunteer for the Red Cross in the past, she did not participate in this effort. Her IES-R scores was 1.2, indicating that she is currently experiencing “a little bit” of PTS symptoms.

#19 M.G. is a 36 year-old, Black, female social worker. She is employed full-time as a manager at a homeless shelter and has been a clinician for 14 years. M.G. is divorced and lives with her adolescent daughter. M.G. did not have any clients with 9/11 related issues. M.G.’s IES-R score was 1.9, indicating that she is experiencing close to a “moderate” level of PTS symptoms related to the terrorist attacks.

#15 R.M. is a 49 year-old Latina, female social worker that was born in the Dominican Republic. She is currently working full-time in a preventive service agency as a mental health clinician. She has been practicing for 25 years. R.M. is divorced and lives with her teenage daughter. Her agency was a provider of Project Liberty services, but she did not

work in this area. R.M.'s IES-R score was 4+, indicating that she was experiencing an "extreme" level of PTS symptoms related to the terrorist attacks of 9/11.

Moderate levels of 9/11 client-related contact

#21 D.E. is a 49 year-old, white, female social worker. She is employed full-time as a manager at an agency serving mentally ill homeless adults. She is single and lives with her teenage daughter. D.E. has been providing mental health care for 13 years. She had clients in her private practice with 9/11 related issues (about 20%). She did not have any clients with 9/11 related issues in her full-time position. D.E.'s IES-R score was 1, indicating that she is still experiencing "a little bit" of PTS symptoms related to the attacks of 9/11.

#14 K.H. is a 44 year-old Latina, female social worker born in Puerto Rico. She has been employed as a mental health clinician for four years. She is currently working full-time in a hospital outpatient unit as a mental health counselor. K.H. is divorced and lives with her two teenage children. She had a few patients with 9/11 related issues after 9/11, (about 15% of her caseload) but the majority of her work was not 9/11 related. K.H.'s IES-R score was 2.7 indicating that she is experiencing a "moderate to quite a bit" level of PTS symptoms related to the terrorist attacks of 9/11.

#25 S.R. is a 63 year-old, female psychologist born in Europe. She is employed full-time as a private psychotherapist and has been practicing for 39 years. S.R. is married and lives with her husband and grown daughter. Following the attacks of 9/11, she had several clients with 9/11 related issues, (about 25%) but it was not the majority of her caseload. Her IES-R score was 2.1, indicating that she is still experiencing a "moderate" amount of PTS symptoms related to 9/11.

#3 B.G. is a 63 year-old, white, female psychologist who has been employed for 28 years as a private therapist. She currently works part-time in her private practice. She is married with five children. B.G. had several clients in her practice with 9/11-related issues (about 25%), though not the majority. Her IES-R score was 3, indicating that she is still experiencing "quite a bit" of PTS symptoms related to the attacks.

#13. M.S. is a 55 year-old, white, male psychologist. He currently works full-time as the psychologist of a large foster care agency and has been practicing as a mental health clinician for 27 years. He is married and has two grown children. At his primary place of employment, he did not deal with clients that had 9/11 related issues, but in his private practice about a third of his clients had 9/11 related issues. M.S.'s IES-R score was .3, indicating that he is not experiencing PTS symptoms related to the terrorist attacks of 9/11.

#17 J.W. is a 60 year-old, white, female psychologist, self-employed as a therapist. She works full-time and has been practicing for 22 years. J.W. is single, has no children and lives alone. She had several clients in her practice with 9/11 related issues (about 33%) and also provided counseling to several firemen following the attacks for a short time.

The majority of her clients did not have 9/11 related issues. JW's IES-R score was 1.3, indicating that she is experiencing "a little bit" of PTS symptoms related to 9/11.

#16. M.M. is a 54 year-old, white, female social worker self-employed as a therapist. She is currently pursuing her doctoral degree. She has been practicing as a clinician for 30 years. M.M. is single and lives alone. She had a few clients in her private practice with 9/11 related issues (about 20%). Following the attacks of 9/11 she volunteered as a crisis counselor and conducted several debriefing sessions for first responders. M.M.'s IES-R score was .2 indicating that she is not currently experiencing any PTS symptoms related to the terrorist attacks of 9/11.

#23 M.G. is a 60 year-old, white female psychologist. She is self-employed full-time as a therapist and has been practicing for 24 years. M.G. is married and does not have any children of her own, but has several stepchildren. About a third of her private practice caseload had 9/11-related issues. MG's IES-R score was 1.2, indicating that she is still experiencing "a little bit" of PTS symptoms related to the attacks.

#11 S.G. is a 39 year-old Black, female social worker born in the Dominican Republic. She has been employed as a mental health clinician for eight years and is currently employed full-time as the Program Director of a social service agency. She is married with two children. Her in-laws live with her too. S.G.'s full-time job did not have many clients with 9/11 related issues, but she worked in the evenings and weekends providing crisis counseling through her agency's Project Liberty contract to families who lost loved ones on 9/11. S.G.'s IES-R score was 2.7, indicating that she is still experiencing "moderate to quite a bit" of PTS symptoms related to the terrorist attacks.

High level of 9/11-related client contact

#8 S.K. is a 32 year-old, white, female social worker. She has been practicing as a clinician for 10 years. She is married with an infant daughter. S.K. currently works full-time as an EAP clinician and also has a private practice. Following 9/11, she worked full-time directly with clients that had 9/11-related issues as a Project Liberty provider. She also had many clients in her private practice with 9/11 related issues. S.K.'s IES-R score was .2, indicating that she was not currently experiencing any PTS symptoms related to the attacks.

#1 M.W. is a 34 year-old, white, female psychologist, who has been practicing full-time for 12 years. She is married with no children. Following 9/11, she had several clients in her private practice with 9/11 related issues (about 33%). For a three week period, she conducted intensive therapy with families who lost loved ones in the WTC attacks, supporting them while they read the transcripts released by the Port Authority. M.W.'s IES-R score was .9 indicating that she is still experiencing "a little bit" of PTS symptoms related to the attacks.

#26 J.N. is a 60 year-old white, female psychologist. She is self-employed and works full-time as a psychotherapist. She has been practicing as a mental health clinician for 21 years. J.N. is married and has two grown children living outside of the home. Following

the attacks of 9/11, she volunteered in her area high schools as a crisis counselor. Approximately one-third of her clients in her private practice had issues related to 9/11. These clients were women and children who had lost their husbands/fathers in the terrorist attacks. JN's IES-R score was .1 indicating that she is not currently experiencing any PTS symptoms related to the terrorist attacks of 9/11.

#18 E.B. is a 41 year-old, white, male social worker, with another degree in Counseling and Divinity. He is employed full-time as a clinician for a social service agency serving the homeless. He has been practicing as a clinician for 13 years. E.B. is single and lives alone; he does not have any children. He worked at Ground Zero, in the makeshift morgue and the Family Assistance Center as a volunteer for three weeks following the attacks; all of these clients had 9/11 related issues. At his regular full-time position, none of his clients had 9/11 related issues. His IES-R score was 4+ indicating that he is experiencing "extreme" levels of PTS symptoms regarding the terrorist attacks.

#9 W.A. is a 42 year-old, biracial, female social worker, born in the West Indies. She has been practicing as a clinician for four years. W.A. is single, lives alone and does not have any children. She is employed full-time at a college as a teacher and a counselor. Following the terrorist attacks of 9/11, she worked full-time for two and a half years as a Project Liberty provider. All of her clients had 9/11-related issues. Her IES score was 3.9, indicating that she is still experiencing "extreme" levels of PTS symptoms regarding the terrorist attacks of 9/11.

#5 A.H. is a 26 year-old, white, female social worker, who is pursuing her doctorate degree. She is working full-time at a foster care agency. She is single and has no children. A.H. spent several months working directly with families that had 9/11 related issues. She was placed at Ground Zero two days after the attacks and worked in the Family Assistance Center for several months. She had prolonged and continued client contact in this regard. AH's IES score is 1.4, indicating that she is still experiencing "a little bit" of PTS symptoms regarding the terrorist attacks of 9/11.

#20 P.D. is a 41 year-old West Indian, female, social worker. She is employed full-time as the director of an emergency mobile crisis unit. She has been a practicing clinician for 15 years. P.D. is divorced and lives with her adolescent daughter. Following the attacks of 9/11, she was deployed to the WTC site, and the Family Assistance Center on a full-time basis for six months. All of her clients had 9/11 related issues. PD's IES-R score was 1, indicating that she is still experiencing "a little bit" of PTS symptoms regarding the attacks.

#24 A.N. is a 44 year-old, white, female social worker. She is currently employed as a consultant for disaster relief part-time and has a part-time private practice. She has been practicing as a mental health clinician for 20 years and is currently pursuing her doctorate. A.N. worked full-time in the Project Liberty Relief effort for two and a half years following the terrorist attacks. All of her clients had 9/11 related issues. A.N.'s IES-R score was 4+, indicating that she is still experiencing "extreme" levels of PTS symptoms related to the attacks.

The following chapter captures the range and breadth of factors experienced by the respondents. It presents the qualitative findings and variables associated with indirect exposure to the terrorist attacks of 9/11 and the level of PTS symptoms experienced by the respondents, the impact of their prior trauma history, secondary traumatic stress experiences and coping skills utilized by the clinicians.

Chapter V

The Dimensions of Indirect Exposure

This chapter reports on the aspects of indirect exposure that were explored for this study. The findings regarding the complexity and perceived impact of indirect exposure to terrorist trauma will be described. This includes how the respondents experienced the attacks through their sense of sight (both in person and via media), hearing, smell and their concurrent physical reactions. The presence and level of PTS symptoms that they experienced; changes in these levels over time; and an analysis of the IES-R scores will be presented. This addresses the second goal of this study.

For context, a description of the respondents' whereabouts on 9/11 when they found out about the attacks, and their initial reactions to the events was included.

The Respondents - How they found out about the terrorist attacks

The people interviewed for this study were all going about their daily lives the morning of 9/11/01. Many were on their way to work, a few were home in bed, some had stopped for their morning cup of coffee at the corner bodega. Three were on their way to job interviews. Since they were all above 14th street in New York City at the time of the attacks, they found out about the disaster in different ways. Some were phoned by friends or concerned family members, some heard about it on the radio or television. Some met neighbors in the street, who spread the word.

A number of the respondents, at the moment of the attack, did not comprehend their serious nature. Others thought the situation would be quickly rectified.

"I met a neighbor in the street and she said something had hit the WTC, and I kind of went "you know" and shrugged and continued on my walk" (3.2)

"I was on my way to work and was about to go up the stairs to my office. A co-worker runs to me and tells me, "A plane hit one of the towers." And I was like, "whatever" and I kept walking upstairs." (12.1)

"Actually I was driving to a job interview and I was listening to the radio, when it was announced that we were under attack, or that a plane had crashed into one of the towers, the first plane. And I was like, "Is this one of those shows that makes jokes in the mornings?" And I thought, "Oh this is ridiculous." (14.1)

Others immediately realized that this was not an accident or overblown media story. They reported that their anxiety levels were immediately heightened.

"I found out because my boss at the time, her husband worked by the WTC and called and told her that he saw people jumping out of the building. He worked at the Port Authority. She screamed and then told us." (8.1).

"I found out by actually I made a phone call to the college where I worked at then. The Dean that I had called mentioned if I knew of what had happened and I said, "No, what are you talking about?" He yelled, **"The country is under attack! Put the television on! We are being attacked!"** (9.1).

"I had just got my daughter off to school and I was getting ready to go to the hairdressers because I had an interview. I called the hairdresser to say to meet me at the shop, and she said, "Did I hear" and I said, "Hear what", she said, "The towers" and she told me what happened, so I ran to the television and I saw the destruction. At that time, my ex-husband worked in the World Trade Center I had to know if he was okay. He was okay. Thank God, that was the day he called out!" (20.1)

One respondent learned about the terrorist attacks on TV, while simultaneously watching the smoke rise from the burning towers through her living room window. She will never forget how "surreal" that experience was for her.

"Okay, two ways. One, I was watching The Today Show; I remember that they showed a video of the first plane hitting the building. While watching, I had to make a phone call to one of the mothers of a child with cancer. And when I was on the phone with her, I could see the smoke from the top of the towers through my window." (23.1)

Initial Reactions

"Scared, I was very scared, just like the world was falling apart" (3.3)

Foy (1992) states that overwhelming trauma in conjunction with an immediate stress reaction (conditioned emotional response) constitute the necessary and sufficient conditions for PTSD symptoms to occur. Denial, disbelief, panic and fear are common reactions when someone learns about a terrible life threatening disaster. These clinicians, “indirectly exposed” also had stress reactions that ranged from disbelief and denial to being very nervous and terrified.

“Disbelief - it’s probably a plane that got out of track and hit the building. I was flabbergasted. I couldn’t believe it. I was in denial (4.3)

“I had to keep seeing it over and over again, I couldn’t believe it. I just couldn’t believe it. It helped to see the smoke through my windows. (23.12)

“I was crying and a nervous wreck.” (25.1)

“I think I stood there and looked in total dismay and in awe, thinking this is not happening, this cannot be real and I kind of sat there for, I don’t know how long and watched... I felt panic and worry and fatigue and chaos, just total panic. I guess was my reaction to the whole thing, and disbelief. This can’t be happening.” (9.3).

Several respondents voiced that they could not believe that a terrorist attack had occurred in New York City in the United States of America. They viewed America as a “superpower” and as a “protector” not vulnerable to terrorism.

“It was surreal, it was surreal, I couldn’t believe it was happening. I truly didn’t believe it was happening. It was unbelievable; it was like how could this happen to the all-powerful United States?” (11.5)

“I couldn’t believe that this was happening, because as an American, it’s not supposed to happen here. The implicit social contract or assumption is “it happens someplace else. I cannot be in a city under attack, not New York City. I just can’t. It just can’t be happening, but it was happening.”(18.5)

“I knew that we were going to be taken care of, you know by the government. But I was in shock. I was in shock. How could it happen here?” (20.3)

One respondent was upset that the attacks were not thwarted by the U.S. government.

“I did not want to believe that something like that would happen here. And then I thought about conspiracy and the government and that they knew about it and how dare they not do anything. (14.4)

Indirect Physical Exposure through the Senses – Sight, Smell and Sound

To gain a sensual understanding of what constitutes “indirect” exposure to a terrorist disaster, questions exploring how the individual experienced 9/11 through their physical senses were asked during the interviews. Although not directly exposed, they had vivid, detailed memories of how they experienced the attacks visually, on 9/11, and what they saw, heard and smelled in the days that followed. Many of these sights, sounds and smells also caused them distress, anxiety and fear. They reported that they felt as if they were directly exposed.

Black clouds spreading across the skyline, the horrific sounds of bodies falling from the WTC towers, the smell “of death” that emanated from the burned buildings were engraved in the respondents’ minds.

“The black cloud, it was almost like a Greek/Roman mythical thing. Hitting me, it was black and the day was so beautiful. It was a gorgeous day, but it was black over that site. (17.4)

“The worst was the bodies falling.”(7.4)

“It’s death, I don’t know how to explain it to you. It’s a scent that goes into your brain and it stays there and sometimes it’s like a cologne that person uses but it has a different scent of death to it. It’s just the smell of death. (11.18)

“Hearing - when I was walking around the neighborhood, this one man that I know from the neighborhood was screaming and crying and I found out that his wife was working in the WTC” (10.5).

“But I do remember seeing smoke, some fire, I remember seeing smoke. Then I remember that the building was there and then - it wasn’t there” (8.3)

The sensual categories are ordered from what caused the most to the least distress and alarm to the respondents, or, what they saw on 9/11, what they smelled and what they heard.

First, is a report on both what they witnessed in-person, and on the images that they saw on television. This study delved deeply into the respondents' media watching, as it has been posited theoretically, that the media may contribute to both vulnerability and contribute independently to PTS symptoms.

The sensory intake of these sights, sounds and smells following the disaster, "potentiating variables" for PTS symptoms, heightened the distress of the clinicians. These sensual stimuli were so vivid and strong that this researcher opted to include an abundance of data strips from the respondents so that the reader can gain a richer understanding of how their senses were bombarded.

Exposure through the Sense of Sight - What They Saw

The respondents articulately described the images of the day that they witnessed in person. The readiness with which they reported was impressive. These images were still prominent in their minds.

The snowstorm of paper and soot

On 9/11, the respondents described how they were "blinded by a snowstorm of paper and soot". Adding to their distress and confusion was being engulfed in smoke that permeated the downtown area, creating a cloudy, dirty fog. They reported that it blanketed the area, covering everyone on the street, the cars and houses, adding to their despair and fright.

“Things were falling from the sky in Brooklyn. I saw soot falling from the sky like snow, like from the remnants of a fire. That was like the craziest thing. I remember walking home from Borough Hall with the soot falling down from the sky and everything being really cloudy and not being able to see anything. Everything was black with soot. There was soot on all of our windows.” (2.9)

“There was paper everywhere, and one piece of paper at the end of the driveway about this size (hold up hands apart about six inches). I picked it up and it was a piece of stationery from Cantor Fitzgerald, and it was in an unusual shape, all burned on the edge, and it had a phone number. The phone number was at the bottom of the stationery and it had a partial address, NY, NY and a zip code. We ended up having it framed.” (7.7).

One respondent recalled how the “beautiful blue sky” vanished. The particles flying through the air reminded her of a childhood scene of someone shaking a mop out of the window. It took her a minute to realize that this dust was the remains of the WTC.

“I saw particles of soot and paper flying everywhere. As you recall it was a beautiful day, in fact, I remarked on it before the tragedy. It was beautiful, sharp, crisp air. So my first thought was a memory of when I was a child, shaking the mop in the apartment above you, when the particles would fall. It didn’t strike me for a few minutes about what I was seeing. These pulverized particles from the collapse of the WTC. Then, I went outside the cars were covered with it.” (17.4)

The black cloud against the beautiful blue sky

The respondents recalled the black cloud of smoke that spread over the WTC area. The glorious beautiful day eerily disappeared as the gray smoke engulfed the downtown area.

“I remember the blue sky, it was the most beautiful day, just gorgeous. Then I saw a dark cloud after a while...” (3.3)

“The building is kind of high up, so if you went out on the balcony all you could see was this huge cloud of smoke, downtown, like way downtown.” (2.4)

“A cloud, a huge cloud of grayish, blackish smoke-like atmosphere that enveloped the whole downtown area.” (4.10)

The planes crashing and the towers imploding

Several of the respondents reported being transfixed, watching the WTC burn and then the towers implode. They had a clear line of vision to the attack site from their location in the City that day.

“Everyone was converged in the hallway at the window and at that point, I saw that the WTC was on fire and I said, that’s not a little plane. While we were watching, the second plane hit the other building.” (6.2)

“When I looked out, I saw, all of the buildings burning. You could see, up there there was a pretty good view, more than you would expect from being that far. But I do remember seeing smoke, some fire, I remember seeing smoke. Then I remember that the building was there and then it wasn’t there.” (8.3)

“I was told that a plane had crashed into the WTC and we could see it from the window over here you could see the WTC. So we looked out and we saw smoke billowing from the WTC.” (13.2)

One respondent, trapped in traffic on the George Washington Bridge, was transfixed on the WTC site, as the towers engulfed in flames crumbled to the ground.

“My husband I watched the towers fall from our car. We were stuck on the GWB. The smoke was thick, black, putrid. It will be in my mind forever”. (25.1)

The rescue teams

The onslaught of fire engine, police cars, ambulances and screaming sirens was overwhelming. The upset of seeing army helicopters over NYC caused fright and dismay. NYC was under siege. The shock among those interviewed was evident.

“I looked out my window and saw fire trucks and ambulances coming from all over. One thing that really frightened me was that I lived in South River, New Jersey, which is about 50 miles from here, and I saw ambulances from South River. I thought, “My God, we have to be bailed out by South River.” So there was that, there was the confusion, there was a haze, there were people walking in hoards, in droves, up Broadway - only in one direction, it wasn’t the normal, it was like refugees. Suddenly businesses closed. I remember walking and there

was an Apache-type helicopter hovering over 96th Street. You know, they had mounted machine guns, cause they are designed for that.”(18.3)

The survivors

One respondent was upset by the images of the people fleeing as they marched uptown in a daze. They were covered with the soot from the attack and devastation of the buildings.

“Just people in a trance, in a daze with black ash on these white faces and it was very shocking.” (21.5)

Ground Zero

One clinician was deployed to Ground Zero the night of the attacks. She described the devastation of the WTC site as similar to the haunting scenes in *The Terminator* movie, a science fiction film that portrayed a ruined, scorched Earth following an invasion by alien destroyers.

“It was surreal. It was surreal; I can’t put it in words. I had no idea where I was. It’s not the same place that I used to go shopping with my friend and hang out. You know, and have drinks; it was not the same place at all. I caught my boundaries when a fireman ran off of one of the mounds to bring me a hard hat. Cause at the time I was in front of the Millennium hotel and at the time, they were afraid of the structure... It was night; we went in about one o’clock in the morning. It was like I went into a different world. Did you ever see The Terminator?

MLP mm hm.

P: Do you remember when they flashback from the present day to when the cyborgs took over? That’s what it looked like - like that rundown doom, that state of devastation. Con Ed was right there doing a lot of underground work, cause they had to try to reconnect some power lines. And across was a big caterpillar machine, trying to dig out - that big huge machine – for all of the rumble.” (20.3)

Odd Images, Common Sights Out of Place

For several respondents the “images of the day” that stood out firmly in their minds, were not of the towers burning, or the black clouds and smoke, but of sights that they thought of as odd, or out of place.

"It was odd, I do remember seeing a lot of people with briefcases on the street, who obviously hadn't gotten to work." (23.4)

Masses of people walking over bridges, their affect bewildered and subdued, were reported.

"Tons of people walking, walking, walking. Of course, there was no public transportation then." (22.5)

Feelings of "eeriness" were pervasive. The familiar traffic-clogged George Washington Bridge was now suddenly, unfamiliar, jammed with people, not cars. People were crossing over the bridge, walking away from NYC without a clear sense of what awaited them on the other side.

"And the people, hundreds of people walking across the George Washington Bridge. That was just really eerie. It was just, you know, eerie, walking, in the wrong direction, there was nothing on the other side." (22.3)

"I remember walking across the bridge, I remember seeing all of the people walking across the bridge. I remember when I was walking just feeling very lost, other people feeling very lost, not making sense of what happened." (8.4)

Empty streets and the unfamiliar sights of taxicabs traveling to uptown destinations generally avoided were jarring.

"So we leave and there was nobody on the streets, I have never seen 91st Street so empty in my life. I have never seen the highway, cause we work right by the highway, not one car in sight. I've never seen something like that in my life." (12.3).

"I remember seeing a lot of yellow cabs, that I never see a cab up here. I remember thinking, "I have never seen so many yellow cabs up town, (in the Dominican Heights) because they **never** want to come uptown, (laughs) so um, I remember that, it was really odd for me." (10.6).

Others recalled the upset of people in the street or on the subway. Hysterical people, cried as they waited in long lines for the telephone - as cell phone and many residence phones had lost service. They had to try to reach their loved ones. Another

person reported on the funereal tone in the subway. People appeared downtrodden and depressed.

“When I got off in upper Washington Heights, some people looked hysterical on the street. I felt, that maybe, oh my God - a woman was trying to get to the pay phone and there were lines and everything. I felt “Oh my God, they must have found out that something happened to their person. Cause this one woman, like she was in tears.” (19.9)

“...but mostly I saw people like myself, who were in disbelief or it just didn’t hit them yet. There was a somber kind of atmosphere, like even the air was thick and heavy. Walking through Manhattan and just eerie, and depressing. Even while riding the train, everybody was so quiet and defeated like. Like coming from a mass funeral.” (14.6)

Indirect Exposure via the Media to the attacks of 9/11

The media broke new ground with their coverage of 9/11. Never before in the history of the United States have so many people witnessed a terrorist attack as it was actually occurring. Due to the speed of today’s media, and the ability to provide instant access to disaster sites, hundreds of thousands of people were able to directly observe the attacks on the WTC, but physically were indirectly or remotely exposed.

The psychological impact of the media among those “indirectly exposed” was powerful. These media images contributed to the respondents’ distress. This study’s theoretical framework posits that the media images served as “potentiating variable” capable of producing distress independently, but also interacting with the terrorist attack to heighten the resultant PTS symptom reaction beyond the simple additive effects of the two items.

One respondent was frightened when she realized that the newscasters, usually calm, cool and collected, were scrambling and frantic as they tried to report the news about the attacks. This caused her to feel more frantic herself.

“It was the TV, it was the constant, planes crashing on the TV, they kept on repeating it, and repeating it. I remember walking in on the news, and everybody was so frantic on the news and that really scared me. I remember thinking if the newscasters are frantic, then this is something real.” (2.4)

Most of the respondents vividly recalled a combination of images from television and images they saw in person. At times during the interviews, the descriptions of both media and “in-person” sights streamed from them as if they were one and the same. This researcher had to clarify the source of the visual images. These media sights appeared to leave indelible memories that they were easily able to recall in vivid detail.

All of the respondents interviewed for this study watched the media on 9/11. They easily recalled the horrific images that pervaded the networks on 9/11.

Images of people falling to their deaths

The power of the image of people jumping to their deaths from the towers produced tremendous angst. Although the media stopped running these pictures soon after 9/11, many of the respondents saw people jumping as they watched the news. They reacted with dread and horror, as they couldn't believe that people had no alternative but to jump to their death.

“The worst was the bodies falling and that sound, that awful sound when they hit the ground. I'll never forget it. It was so horrible - the thought that people were put in a situation that the choices left for them were to jump. Well, that's not a choice - it gives me chills even thinking about it now, it's indescribable.”(7.5)

Almost half of those interviewed had seen the images of people falling to their death from the WTC. This powerful image stayed with them and produced visceral upset. The respondents reported that they identified with these people “as like you and me”. They were fellow New Yorkers, and they were witnessing their death as it was actually occurring. These graphic media portrayals intensified the upset.

“I saw the people who were throwing themselves out of the windows. People looking out of the windows, trying to get out, people like you and me...”(10.3).

“We just stayed there, and the TV, the camera was still rolling as people were throwing themselves out of the building. We were all witnessing that, and we didn’t say a word, we didn’t say a word... We didn’t say a word, but the anchorwomen just kept screaming, they’re throwing themselves out of the window!! Just hearing it and seeing it and seeing it, it was intense.” (11.5).

“The constant replaying of the towers being hit, people running around with soot all over them, I remember one channel, I’m not sure which one, the bodies flying through the air, the people jumping out of the towers, things like that I remember seeing on every channel.” (5.15)

One respondent had videotaped people jumping to their deaths. Those images were imprinted in her memory.

“I was watching the same images over and over, and over, I even taped the people jumping off from the top floor, from the 80 something floor, that’s all that I can remember, seeing this man jumping out of the window.” (15.12)

One person commented that although she realized people must be falling to their deaths, she didn’t see it on TV.

“I remember seeing the pictures of people running from the building. Part of me knew that there had to be bodies falling out of the building and I couldn’t see any. And I was relieved **NOT** to be able to see that, and at the same time, it made me feel like there was something wrong with this picture. So, I almost wanted to see it, just to be able get anchored into what must have really been happening. At the same time, I felt very protected that I never saw it.”(23.3)

Images of the planes crashing

All of the respondents reported that they saw the planes crashing into the towers over and over again. All of those interviewed commented on the repetition of the images.

“They kept going over and over what happened, so they kept showing it. So they would talk for a while, then they would show it. Then they would show people screaming, then they would show it again, the planes, hitting. Then they would talk a little about it and then show the Pentagon. They just kept up a repetition and it was just crazy, just crazy. I was like, this just cannot be happening, this is so freaking crazy, I have never seen something like this in my life.”(12.6)

“On TV, over and over again, planes hitting the towers, people running for their lives, fire, different angles, from Brooklyn, Staten Island, different people that they would capture, people covered in ash, firefighters.” (1.5)

“I remember seeing the plane hit and they played that over and over again.” (23.3).

Images of the towers imploding

The respondents’ painfully recalled the moment when the twin towers of the world trade center imploded due to the inferno of heat that melted their internal structure. Scenes of people running and screaming through the streets “running for their lives” to escape being engulfed by the debris were described.

J: “The collapse. The collapse of the building and the people screaming and running. The debris the sense that um, I was watching people who had entered a totally different zone. That they were truly running for their lives. And that the City that I know so well, I spent sixteen years of my first married life, raising my kids in the middle of Manhattan. I couldn’t reach friends. I had millions of friends that still lived in the city. I couldn’t reach them. The constant replaying of the buildings being hit, the sequence.... hit, hit, buildings come down, running debris, everything kind of petrified in ash”(26.6)

Several commented on the strangeness of seeing the attacks while they were occurring from a distance yet watching them simultaneously on the TV screen. The impact of simultaneously bearing actual witness in real time was emotionally jarring.

"I kept going back and forth, between the television coverage and looking out the window. And it was just enormously eerie and upsetting to be able to see the smoke and then at the same time see what was happening on TV. Cause, usually what I see on television, I am totally removed from. It's usually a picture of something that I don't have any connection with."(23.1)

"This is what made it so horrific, we had a conference room, we are at 104'th and Broadway, we have a conference room that faces south, we had a large-screen TV on, and we could physically see the smoke come up from lower Manhattan. I remember watching it live on TV, If you've ever been to a rock concert, I saw YES recently at the garden and there were like 25,000 people, so you can't really see the band without a jumbo-tron. So you could see the picture. So, I was watching a horrific, surreal jumbo-tron. I was watching this and I was like, "Oh my God, this is like a concert, but this is people's lives..."(18.6)

Many respondents expressed how the media images caused them emotional upset, anxiety and distress. Of note, is that this type of exposure appears to be different from direct exposure, in that many of the respondents reported watching the gory, horrific scenes repeatedly, causing the images to be further ingrained in their psyche. Although they had the ability to moderate or correct their exposure, few did. Nadar (1993) and Morland (1999) have found that exposure to trauma-related media may increase the risk for the development and maintenance of PTS symptoms.

Another aspect of this type of indirect exposure that appeared to cause distress was the unpredictability of what they might see on television. Some watched hoping that the news would be informative or hopeful. However, there were no disclaimers announced before most of the news coverage. Therefore, they were constantly re-exposed to distressing images without warning. This repeated and unpredictable exposure heightened stress and anxiety level among many of those interviewed.

"I tried to not watch it, but it would be on, but, I just found it very painful to watch. Like right now, I'm not seeing the image of it all that clearly. I think if I saw it now, I would see people jumping to their death."(8.3)

"I remember seeing the plane go in, over and over again; they kept playing it. It was like surreal. I didn't have any strength to stop watching. It made me cry, I couldn't work, nobody could."(6.2)

"I think watching it made me feel depleted. It was painful, watching it was really painful. It was terrible, but I did watch." (8.13)

Only three of those interviewed said that they were able to stop watching after realizing the detrimental impact that the media was having on their emotional and psychological well-being. The coverage made them sad and depressed.

"Tooo much. Tooo much. Too much in that, and I think in that the whole sense of shock and that this can't be happening, and I'm looking it must be a movie, but I think for me, by watching it helped me realize that this is not a movie, that this is actually happening. And when I realized the impact, I said, this is not good because it made me really sad and down and depressed. So I stopped."(9.22)

"Well, I got caught up in it, I guess like most, and I wanted to know what happened. And I would be watching CNN in spots and the urban news and cable news and reading about it. I became very much emotionally involved in it, to the point where I felt that it was unhealthy and I decided to cut it down appreciably, because I felt myself becoming sad, or anxious and hyper alert, hyper vigilant. I was getting upset about it. So I decided that it was just too much and not healthy for me so I decided to cut it down. I didn't go cold turkey, but I would only watch it intermittently." (13.7)

"The image of the plane hitting the building over and over again, from all different angles. And then the pictures of the terror on the street, the people running and all of the clouds of dust and the smoke. And seeing the smoke up, up here. I shut that off, clearly, people watched, it, but I couldn't see it anymore. It was not serving me well, it was just not serving me well." (22.2)

One respondent reported that she only altered her viewing pattern because she realized that her child was being over-exposed to the coverage.

"I remember one of my friends, her mother recorded the whole thing on a video tape, and I went back out to my friends house and we were watching for hours, for hours the same thing, over and over and over again. And that was all that was on TV. And after a few days, I caught myself, I was just watching and I remember my daughter saying, "Mommy, I am tired at looking at this, it's too sad." And then it clicked with me, "Okay, I need to watch this on my own time."(10.4)

One respondent stated that the excessive coverage kept her in a state of “intellectualizing” as opposed to “feeling”.

“I think the coverage was so excessive that it kept you from feeling it almost kept you in a state of intellectualizing. I turned on Channel Two and just watched as I sat there and I wanted them to play the one with the plane going through. To me, it almost seemed like a video game, one of those guided video game that kids play. I wondered, “Did they really capture this or did they simulate it?” It didn’t look real to me, it just seemed to cut through the building like a knife, and I was like, “Did they? No, they wouldn’t...did they do this to sensationalize the hype? Or did they actually capture that and then the people jumping out of the windows?” I was like, okay, that’s enough. But then I somehow, I didn’t turn it off.” (4.16)

Several respondents reported that the media coverage made them angry due to its sensational and continuous coverage. In the end, some felt that the psychological harm caused by the repeated shots of violence, negatively impacted both themselves and everyone else that viewed the media scenes.

“I got tired of seeing it on TV though, I got pissed off after a while. I got tired of seeing the people’s bodies fall out of the buildings. I felt like it was sensationalized. After awhile it took away from the seriousness of it. The media just overdid it. It kind of took away from the whole thing, maybe that’s my way of viewing it. I stopped watching TV, because I got so annoyed. I really got pissed off, I was like, “I am tired of seeing those buildings fall down” **How could people heal if you are going to keep showing it over and over again!** (6.6)

“Ah, I got tired of it after a while cause they weren’t saying anything new. So after a while, I felt you know, disgusted, a sense of disbelief, then I also felt angry, I was like, “please!” Then I began to realize that they were just repeating it for ratings. It was being used to hawk for ratings, and I got really mad. Then I didn’t want to watch any more news.” (18.18)

“I was particularly angry at the stupidity of the broadcasting the film of the crash over and over again. That was not healthy for anyone to have those images over and over again.” (17.9)

Their Media Viewing Patterns on 9/11

“I was just glued to the TV. I watch the news, but I don’t usually have CNN on all day long. All the shows were preempted anyway so unless you were watching

cable, that was the only thing on television, but I found myself compelled to watch. I had to. (1.6)

The majority of those interviewed reported watching an extraordinary amount of television on 9/11 and the days that followed. Far beyond their normal viewing patterns. Many felt that they “needed” to be connected to the television set to gain information. Many reported feeling “glued” to the television, their main way of finding out what was happening in their City.

MLP: “How often did you watch the news?”

M: Constantly.

MLP: was that your routine?

M: No, I just wanted to know, I **had** to know, and God forbid they should say something new, because I wanted to hear it, but they just kept saying the same thing over and over and over again.”(4.16)

“The next day, it was so hard, so hard to get up. I did not want to pull myself away from the television, I just felt glued.

MLP: what was that like? How much time did you spend watching (interrupts)

S: **All day.**

Uh! I had two TV’s one upstairs, one downstairs and both, the cable were on all of the time. I didn’t want to go to sleep that night”. (7.15)

“And I was glued to the television. The biggest mistake that anybody could make, I was just glued, I couldn’t stop. That day, I could say that from 2 pm in the afternoon until about 11 o’clock at night.” (14.18)

Several people stated that they needed to keep seeing it over and over again, because they couldn’t believe that the attacks had occurred. Regular reference was made to the media portrayals as being “surreal” or that the respondents felt like they were watching a movie, not something that was actually happening. Although all of the respondents found the images upsetting, there was a compulsion to keep watching. This tension of not being able to tolerate the horrific scenes, yet being drawn to watch them caused additional stress. Many of the respondents couldn’t pull themselves away from the news, however upsetting it was to them.

M: "I remember being **glued** to the television. We were **glued** to the television.

MLP: How much media did you watch that day?

M: **Huge**

MLP: Was that normal for you?

M: No.

MLP: tell me about that.

M: I had to keep seeing it over and over again. I couldn't believe it. I just couldn't believe it."

MLP; How many days did you do that for?

M: It seemed liked forever...."(23.12)

"Tooo much. Tooo much. Too much! I think in that the whole sense of shock and that this can't be happening, and I'm thinking it must be a movie. But I think for me, by watching it helped me realize that this is not a movie. That this is actually happening. And when I realized the impact, I said, this is not good, because it made me really sad and down and depressed. So I stopped."(9.22)

"I felt like I was hypnotized. I felt like I was in the twilight zone. It was surreal; you know it was like flashing images of something to me that wasn't real. I was like, "Is this a movie? Is this for real?" I just kept thinking this can't be happening. So it was a lot of flashes. I cried, I got upset" (12.22)

Only one respondent that considered herself "addicted" to television reported that her viewing time was not more than normal. But, she shared that she and other felt the need to gain information.

MLP: Did you watch TV more that week than usual?

A: "No, I'm TV anonymous, I should be in TV anonymous. I am addicted to TV. I think that it was probably on a lot, I wasn't home a lot I was at the Pier, but it was probably on everywhere. We were at the office and the Pier. I think that the need to have it on, for so many people and for myself was to find out if anything else was going to happen and to know when and what would happen." (5.16)

Images of 9/11 that Stay

The respondents' accounts of the images that "stayed with them" were impressive. Even though two and a half years had passed, many respondents reported on an image or several images that they "will never forget".

"Oh, that's hard to decide because they are so strong, I guess first it would be the bodies falling and that sound (she smacks the table). That banging of those bodies, the imploding of the building, that image of the plane coming in - I find it

hard to pick **an** image that stands out, cause it's many. It's also the faces of the families, holding pictures of loved ones that I remember too." (7.5)

One respondent poignantly described how her memories of the images of the attacks and her reactions to the media changed over the course of time. She explained that with the passage of time, she felt that she was able to process her grief. This enabled her to feel more emotions when viewing the images of 9/11.

"It's sort of like one big image, from the two planes and the two buildings coming down, it's sort of like one memory. I wrote something on the second anniversary, and I had just seen something on TV, some big special review. And it showed those beginning images again and I found myself writing. Now that we were two years away from this and we can look at those images with a much deeper reaction now, more grief is available now. Just thinking about the tragedy of it now. Whereas at the beginning, we were, well if we compare this to 10 years from now, we'll be saying the same thing. Here we were approaching year three we thought we were you know, beyond, but we are not. I know that from Northern Ireland and from people that have survived and have talked to me about five years past Oklahoma City and the bombing there, so I know about the longevity. But I think seeing the images at the second anniversary, the very same images, not something new, um, had me taking in the depth of those images. Not that I haven't before, but it was in a larger part of myself taking them in." (16.20)

During the interview session, the respondents were asked if there was any image of 9/11 that stayed with them at the present time. This included both images that they had seen in-person and/or through the media. Striking to this researcher was how urgently and vividly the clinicians recalled these images even though over two and a half years had passed. Some of the respondents are still "haunted" by the images of 9/11. As reported by the respondents, the image of bodies falling out of the World Trade Center seemed to be the most prominent; followed by the planes crashing into the building and the towers imploding.

"I saw the people who were throwing themselves out of the windows. People looking out of the windows, trying to get out. The smoke, and when the towers came down. I remember the media person talking and then the towers fell and she

started to run. That image always come back to me, people running and the smoke coming, people falling out of the windows, that always stays with me too. (10.16)

“Towers falling, the towers falling, and then I try not to think about the bodies falling because it was too painful. I didn’t allow myself to think about those bodies, cause that’s what’s real for me, - those bodies- seeing those bodies throwing themselves out of the window, that was real for me. Because that was death. But when the towers fell, I didn’t see anybody, so that I could deal with better. But not those people throwing themselves out of the window.”(11.25)

D: “**The** image that they plastered in our brains, the media, of the planes hitting the towers and the image of people jumping. And the image of people coming from the ruins covered in soot and some of the images of the firefighters.

MLP: How long did they stay with you those images?

D: I think that those images stayed with me for at least a year. Now, if somebody brings up 9/11, I think about or I can see in my mind, a faint image of people jumping.” (21.16)

One respondent commented on how upset she was when an anniversary broadcast on 9/11/02 had the sounds that corresponded with the bodies falling from the building.

“And then I remember totally losing respect for Mayor Giuliani, which I know is a very unpopular thing, because up until that point, I had not seen, on television, the images of bodies falling or hearing the sounds specifically knowing and making that identification and in a formally taped show, that could have been edited. He allowed that to be shown next to his interviews and I thought that that was completely, completely unnecessary and completely insensitive. There is **nothing** helpful about that to anybody. And that’s when I just lost respect and got angry with the media and did much less watching.” (24.31)

Another mentioned how she preferred to remember the image of Mayor Giuliani and President Bush on 9/11 as opposed to other images of the day. They brought her comfort. As opposed to the horrific images bombarding the media causing upset and distress, these leaders appeared strong and concerned. Their “take charge” attitude conveyed a sense of safety.

MLP: “Does any image regarding 9/11 stay in your mind?”

M: “Which I think a good one. Giuliani and President Bush. Giuliani because at one point, you know he’s always looking like the jerk, right, that’s what people say. But, I saw a man with compassion for the City. At that point, he was like, I felt like he looked strong, but he looked human. But to me, he was concerned. He

had a direction. He was like this is what we are going to do. And when people go behind the curtain, that's what they want. They want someone to take charge and that stays with me. The other, although I can see the tower in my mind, I prefer the images of the President and Giuliani." (19.12)

The Images of 9/11 – How long Did They Stay?

MLP: "How long did those images stay with you?

S: Forever.

MLP: when was the last time that you thought about them?

S: Saturday." (11.26)

Images of traumatic events are often recalled easily when an individual sees or experiences something that reminds them of the original experience (Carlson, 1993). Many of the respondents still think about the images of 9/11. They stated that they easily recall the images of that day. The respondents reported that the images of the planes crashing into the building, the people fleeing for their lives, innocent people jumping to their death and the towers imploding were still constantly in their thoughts.

"There still there. They are definitely still there. And when I'm out, like when I run over the Brooklyn Bridge, I run a lot, and it's always when I'm outside that I'm like, I'm right here and it would have been right there..."(2.7)

MLP: When was the last time you thought about them?

E: "Ah, probably within the last week, the images are with me for the rest of my life.' (18.27)

These images were ingrained in their psyche. Their recall was almost instantaneous. Some respondents reported that "not a day goes by" when they don't think about the events of 9/11. The images that caused them the most distress are still fresh in their minds.

"I could think back as if it were yesterday. The images of that day."(3.2)

Respondents reported that as time passed, they had more feelings available to process the images. However, this in turn, made them sad. One respondent reported that

tears would come into her eyes even after all of this time had passed, for she never allowed herself to grieve before.

MLP: "Certain images stayed with you, you said earlier, when was the last time that you thought about them?"

A: Um, probably a couple of days ago.

MLP: How did they make you feel?

A: I still have a bad feeling and now that I'm getting less numb. I start to get a feeling like I'm going to cry. I think that some of my grieving is starting to come through, which is okay. I mean I think it's a good thing, I think maybe because I was containing it for so long. But I still think it's pretty fresh for a lot of people. I don't think a day has gone by where I haven't heard somebody say something like "since 9/11" or "after 9/11" so for me it's still really prevalent in my mind."
(24.33)

For others the images are fading, or are only recalled when something they see triggers a memory. Government warnings raising the security code and people talking about 9/11 provoke thoughts about the images of 9/11.

M: "They are still with me. I can still replay them. They don't come unbidden though."

MLP: when was the last time you thought about them?

M: I started thinking about it again this week, because they are now talking again about everything being on high alert". (23.14)

"I think that those images stayed with me for at least a year. Now, if somebody brings up 9/11, I think about or I can see in my mind, a faint image of people jumping." (21.16)

In summary, the respondents reported that what they saw on 9/11 caused extreme distress. The sights were particularly intense and disturbing to many. In addition to the disaster sights viewed in-person, media watching of the replays of the attacks also appeared to contribute to increased distress and acted as a "potentiating" factor for PTS symptoms. The respondents' accounts lend credence to theoretical framework utilized in this study. The vivid nature and quality of this type of exposure appeared to intensify their reactions. This left them feeling more vulnerable and exposed.

These two types of visual exposure are important facets of the concept of “indirect” exposure levels, which will be further delineated in Chapter Six.

Indirect Exposure - The sense of smell

“It was a kind of smell that I never smelled before, it was like a mix of corpses and chemicals and fire and smoke, that smell was distinct.” (4.19)

The impact of indirect exposure to a disaster as experienced through the olfactory senses is rarely discussed in the disaster trauma literature (Norris, 2002). The impact of the smells of 9/11 was dramatic and upsetting to 22 of the respondents. Only four respondents reported not smelling anything on 9/11 or the following days or months. This group reported that they either had a “horrible sense of smell” or that they were in the outer boroughs and did not venture into Manhattan.

The odd, foreign nature of the smell was described by the respondents. Many of them realized that the smell was a combination of fuel and of burned bodies. The stench that permeated the area was overwhelming. Some described it as “the smell of death”

“There was this horrible smell, just that odor of debris and like of burned people. (2.5).

“It’s death, I don’t know how to explain it to you. It’s a scent that goes into your brain and it stays there. Sometimes it’s like cologne that a person uses, but it has a different scent of death to it. It’s just the smell of death.”(11.18)

“Oh it was very horrible. I can’t describe it. It was like a stench, not a very pleasant stench. It was a death smell. I was wondering how people could operate down there. Work and be down there.” (13.5)

“I smelled something similar, when I was a young person, 14 or so. A man that lived in the first floor of my building died, he was killed with a bat. They found his decomposed body three or four days later. And for a year, the whole building just had this smell, so that was the closest thing that I could compare it to.” (4.19)

Several of the respondents made associations between the smells of 9/11 and the Auschwitz concentration camps. They expressed horror when they realized that this is what the concentration camps must have smelled like.

"I'm Jewish and I think to myself, "Oh my God, this must be what the concentration camps smelled like." It was a horrible, horrible smell. It stayed for days." (3.3)

"We got the call to go downtown and I remember the smell of the metal, of bodies. I think the first thing that came to my mind was that I thought this was what the concentration camps must have smelled like." (5.4).

Respondents commented on the fact that although they were located quite a bit away from the actual site, the smells were so powerful that they felt very exposed.

"It smelled like you know – Auschwitz. And the fact that it was such a present exposure, it was such an immediate exposure, both direct and indirect. Cause we were up here, away from any center of devastation and yet it couldn't be any more primitive, deep and basic". (16.9)

Another spoke of how bizarre it was that no one was talking about the stench of the burned bodies. She too, drew a comparison to the Holocaust.

"This is really bizarre, no one is talking about that this is the smell of burning bodies. And I don't know if people didn't realize it. I guess that we have a number of friends that are Holocaust survivors, so I started thinking about that and in talking to them, their reaction was, "You know, there were only 3,000 people." This was not 3,000 people a day, every day." (23.8)

For those who worked at Ground Zero, the smells were overwhelming. During the interview process they grew increasingly agitated as they tried to describe them. It was evident that the recalling smells provoked distress. Nasty smells, acrid smells, smells so horrible that they had trouble putting them into words.

"Down there it was a nasty smell, it was a combination, of dirt and rodents, I can't put that smell into words, I know it was in my hair and in my clothes for a long time. Even after I washed what I wore, I smelled it. The sneakers, I kept them in my hallway for a while, then the site of them just made me sick, cause I remembered **what** I was walking all over - so I just threw them out." (20.6).

One respondent had spoken with soldiers that served in Vietnam. He imagined that the smells of Ground Zero were similar to the decomposing bodies often left in the jungles after combat.

E: "Smells, when I worked at Ground Zero, after the event, the smell I cannot forget.

MLP: Tell me about that.

E: Talk about the most powerful...it was sort of an acrid, sweet smell, now I don't know, some said it was burning metal, or burning glass. But I spoke with people who actually saw combat and they said, "That's nonsense, that's human beings. That's the smell of burnt people. That's what it smells like after combat." I met a guy who fought in Vietnam and he said, "That's what it smells like after people get killed in the jungle and you can't pick them up." I'll never forget that, that smell. I can't get out of my mind. I never want to smell it again, never."(18.9)

"Smelling this acrid odor that was **not** like anything else that I have ever smelled. None of us even said anything for a few minutes - and then we knew what it was, and we went "**ohhhhhh**". It was very nauseating. You just knew, even though I never smelled it before, I knew that it was the smell of burning flesh. And it was very human. It was not any other odor that I have ever smelled before. And it was sickening, not only physically but emotionally." (24.6)

Other respondents noted the health risks associated with the smells. "The" smell was terrifying to them. They expressed their concerns about the air quality, as these chemicals burning bothered their eyes and throats. They were fearful of developing respiratory problems or cancer.

"That morning, I open the window, and hopped back into bed and the room was **filled** with "**the**" smell. It was scary, I felt like it was something like bad. I just felt really terrified, even before we really knew what it all was. There was something so wrong about that taste. So, I flew out of bed and slammed back down the window and got back into bed and my first thought for my own safety was "what have I just breathed?" What's here?"(7.3)

"Being someone with respiratory problems, it was a very troubling reality to note that the wind was bringing it all the way uptown. And there was a night, it was Thursday night, to think that I would remember days of the week, one from the next, two years ago, even six months ago, just doesn't happen, but we all know about trauma comes into the brain, it is just incredible."(16.8)

“It’s like a chemical burning. I remember saying to myself, keep your mask on because you are going to get sick from this. I knew that we were all going to get cancer. I’m a little hypochondriac. It was just a burning smell, initially when you first inhaled down there. It burned your nostrils and kind of like burned your throat. But after a while you get desensitized to it. But the smell, it’s just like a smell of some chemical burning, but you can’t quite put your finger on it.” (20.6)

Associations of the olfactory dimension of indirect exposure should be incorporated into the concept as the smells produced discomfort, distress and stayed vivid in the minds of the respondents long after the events of 9/11 had passed. As with the media, these accounts were strikingly vivid. The smells were associated with people dying and this appeared to intensify their vulnerability and consequently feelings of being directly exposed.

Hearing the Disaster

“But the sirens, the whirls of the helicopter, the **wowowowowo**, something out of Apocalypse Now, I mean, you hear those images, I was a kid during Vietnam, but I remember those images. And I had relatives fighting there and people I knew, so you remember that image of the sound of the helicopter. But you have to remember, that is a foreign image. That only happens if you go to the theatre of combat. **And I heard it in my city.** And it was there, and they were ready to fire shots in anger if necessary. I remember the sirens screeching, and it wasn’t just one. It was, you usually hear one or two sirens in Manhattan. But when you hear a symphony of them, a cacophony of the stuff, it creates a sound that it’s hard to explain. It’s not just one or two. And they were coming from Stamford, Connecticut and South River, New Jersey and everywhere else.” (18.7)

Another physical sense - that of hearing, played a role in the indirect exposure level of the respondents. The respondents were asked to describe what sounds they remembered from 9/11. Some individuals reported hearing sounds of emotional hysteria, as people tried to locate loved ones. Others recalled sounds directly associated with the terrorist attacks. It is of interest to note that as with the sense of sight, several people

recalled media sounds as most prominent, while others most vividly recalled “in person” sounds.

What they heard in-person – sounds on 9/11

Respondents recalled hearing people in distress. The panicked voices of people trying to reach their loved ones and people sobbing in the streets were reported.

“Everyone was trying to figure out how to reach their children, what happened to their grandmother, trying to communicate. Mostly worries and concerns from people about survivors, how many are dead, how many are surviving, separation of husbands and wives, that was all that people could talk about. Osama Bin Laden, became a household name, for the wrong reasons, but it did, just the same.” (4.8)

“When I was walking around the neighborhood, this one man that I know from the neighborhood was screaming and crying. I found out that his wife was working in the WTC.” (10.5).

“My friend - screaming.”(12.3)

One person remembered the sound when the second plane hit the WTC towers.

This sonic boom paled in comparison to any sound that she had ever heard.

“Then there was a loud boom, it sounded like a oil tank explosion. I grew up in a city that was surrounded by oil tanks, so I think as a child I was sensitized. Not that I’ve had that much trauma with oil tank explosions, but it’s big time if you live near the water. I’m used to certain loud noises in downtown Brooklyn. But, that I will never forget. I will never forget that loud boom, and I realized later that that was when the second plane hit. It coincided with the 8:54 time, or whatever it was.” (17.1)

“I remember the planes and sirens. But boy, those planes, they were so scary.”(7.16)

Sounds heard through the media

The sounds that the respondents heard through the media were also recalled. The television and the radio reports were a critical source of indirect exposure to the attacks.

As with the visual media imagery of the day, these sounds caused upset and anxiety.

“One sound that stays, well they’ve showed it on TV so many time, you’ve probably seen it many times, the picture when they show the plane is going into the building and the firemen are just looking up, they hear it that noise, **uuhhhhhh Pow!** That I will never forget. Just the thought of a plane, like just for that, I can’t believe it.”(12.7)

The sounds of bodies landing smack on the ground as they jumped out of the burning World Trade Center were etched in several respondents’ minds.

“Something that I heard, but I didn’t see, was the people jumping out of the building. I turned the radio on and started to listen to it.” (5.2)

“The worse was the bodies falling and that sound, that awful sound. I’ll never forget it.” (7.4).

One respondent reported she will never forget the *voice* of a news correspondent narrating the attacks. The reporter’s screams and her shrill, panicked voice produced even more fear and panic in her.

“I forget who the anchor woman was, she had a very high pitched voice, **very** high pitched. And she was narrating it with an anchorman with salt and pepper hair, one of the best Latino anchormen, channel 41, and he was narrating with her. Her pitch was **so high** “**the second plane the second plane, the second plane, hits!**” And then you saw it. We just stayed there, and the TV, the camera was still rolling as people were throwing themselves out of the building. We were all witnessing that, and we didn’t say a word, we didn’t say a word... We didn’t say a word, but the anchorwomen just kept screaming, “**They are throwing themselves out of the window!**” Just hearing it and seeing it and seeing it, and hearing it, it was intense.” (11.5)

For a clinician working at Ground Zero, hearing the radio and CNN cable news became her main method of gaining information about the status of the City after the attacks.

“What I heard was CNN, **uuhhhhhh**, and 1010Wins, over and over and over and **over and over!** It was like **alright already!** Um, CNN and 1010 Wins and I remember feeling like I needed to be connected to the radio. Needing to know what was going on. Cause the funny thing is when you’re down there, you know nothing. You’re taking care of business, but you know nothing, and you have to tune in or call someone and say, “What did they say?” What did they say? And **you’re right in there!** It was the funniest thing.” (20.5)

Of interest is that although some respondents reported hearing sounds associated with the terrorist attacks, others reported that it was the odd *absence* of sound that they remembered most clearly.

“That sense, the hearing, you know it’s funny, what I remember is everything without sound. Now, I know that’s not true, but I think for me, there was always these narratives over the visual but the narratives were second person observations. Like listening to Edward Morrow during the war, the replays during the war, of his telling you what was happening. I wasn’t as conscious of the narrative as I was of the visual.” (26.7)

The silence of the City, void of its usual hustle and bustle, was discomforting to many. The phones had stopped working; transportation had halted. Normal air traffic had ceased. The silence was eerie and deafening. The City was “dead”.

“There was like this eerie silence, cause there was no air traffic, there wasn’t the usual sounds of the City. And it was very bizarre, the silence. And then every now and then you’d hear this loud, fighter jet go by.”(21.3)

“At one point the phones were ringing and ringing and then nobody was calling. And that was weird.” (11.10).

“I remember that woman crying, just horrible. And then the silence, silence, silence (3.4)

“Quietness, I felt like the City was just dead. There was not a sound to be had.” (5.4)

Although upsetting to some of those interviewed, the sounds described about 9/11 did not seem to produce the same levels of distress in the majority of the respondents, as the sights and smells that they experienced. One exception to this was “the sound of bodies falling and hitting the ground” from the WTC, heard on television. That sound was upsetting and produced distress and anxiety among those who heard it. Similar to the sense of sight, it is important to note that both in-person sounds and media

sounds were capable of producing distress, and heightening their feelings of being directly exposed.

The sounds regarding the terrorist disaster are another facet of the dimension of indirect exposure. This should be added to the conceptualization of exposure level as it produced discomfort, distress and remained vivid for the respondents long after the events of 9/11 had passed.

Physical Reactions to the Disaster

“I think my adrenalin was up. I probably felt as if I could move cars, you know like I could have more strength than I actually had... Like the fire department walking up all of those stairs. Cause like that’s where I was. I was like, “I can move cars right now.” (19.6)

There is an intricate relation between the physical and the sensory responses to 9/11. Foy’s (1992) model posits that the biological variables for each individual may serve as one of the risk or resiliency factors involved in the onset or maintenance of PTS symptoms. Physical reactions to a disaster can range from feeling physically ill and exhausted to having “superhuman” strength. Respondents often reported that they felt one, the other or both.

“Drained, exhausted, but at the same time, an adrenalin rush.” (1.9)

“I vacillated between anxious and having more energy, my system was all revved up and sort of feeling fatigued, because no one could sustain that.” (2.5)

“At that point I had the adrenalin hype to be productive and get as much done as I possibly could. I think the reality of what happened hadn’t set in yet.” (5.5).

“I was hyper. Like I had all of this energy”(14.7)

Others reported having more debilitating physical reactions on 9/11, often feeling nauseous, exhausted, or as if they were going to faint.

"I felt like I had just finished doing a really hard workout. I felt exhausted. My heart really had a workout, emotionally. I had a constant pounding in my heart. I felt like constant palpitations. The whole day, I was really scared, I was really scared. I don't think that I've ever been so scared or felt that **type** of scared. "I felt like I was going to pass out"(12.9).

"Very anxious. On edge. Stomach problems, it was in my stomach, not a headache, it was stomach." (22.6)

"Sometimes I felt like my hands were shaking, so I would put my hands down, so people wouldn't see. I remember going to the bathroom and putting cold water on my face. I was very hot, very hot. I wanted to take my clothes off." (11.9)

One clinician reported that his vomiting and upset was a reaction to his new understanding about America's vulnerability. This attack was a violation of the social contract that he had with America to keep him safe. His worldview had been forever altered.

"That evening, I did actually get sick in the street. In Manhattan, on 9/11, I actually just vomited in the street. I just lost it. You know, so sick to my stomach, repulsed, frightened, but also, the one thing was that I kept thinking, "I cannot believe that this is happening" this is somehow a **violation**, not just of the borders of the country, but of the kind of contract that **I** have with America." (18.8)

One person described her physical discomfort due to the air quality following the attacks.

"I realized that my throat has closed up and my eyes are stinging, after an hour and a half. I realized probably it wasn't just that the window was open and I thought the air must be coming in, even though it's the upper West side. A lot of people downtown don't realize the wind was blowing to the upper west side and in fact the air was quite difficult to breathe. So that was both direct and indirect exposure to it."(16.6)

Several respondents reported that they felt "numb", when asked how they felt physically on 9/11. Their physical experience was overwhelmed by a perceived inability to process the events of the day. They didn't experience physical sensations of headaches, nausea or increased agitation. Light-headedness and "out of body" dissociative

experiences were reported. These reactions were further explored in the interview section covering PTS symptoms.

“I was numb, so I wasn’t really feeling physical reactions” (4.8)

“I think that I got a chill, a numb feeling, it was just like a numb feeling. Physically, like I was in shell shock, I think”(6.4).

“Lightheaded, very lightheaded. It was like an out of body experience.” (11.12)

“I think I sort of felt like I was out of my body in a way. You know, I don’t really remember how I physically felt. I just remember it was just a sense of going through the motions, and not really understanding.” (8.6).

Although these respondents were indirectly exposed, they experienced intense physical reactions, understandable since their senses had been bombarded with images, sounds and smells. This is also inconsistent with other findings reported in the literature on disaster trauma (Norris, 2002). These publications suggest that individuals removed from the disaster site do not experience such intense physical sensations. Their physical experience of 9/11 was acute and stressful. The level of physical distress experienced by the individual constitutes another facet of indirect exposure level.

Respondents reported on the sights, sounds, smells and physical reactions in vivid detail. They went to great length to describe their experiences; and they had little difficulty regarding recalling them despite two and a half years passing. They reported feeling “exposed” even though they were “once removed”. Clearly, the “ripple effect” was very strong. Their in-person experiences combined with the concurrent media exposure produced a type of doubling effect, intensifying reactions. Attention needs to be paid to this issue as the concept of exposure levels is rethought. The ramifications are important to consider. Their accounts suggest that the “cut-off” for exposure risk was not restricted to the disaster site or close proximity.

Indirect Exposure on 9/11 and the Presence of PTS Symptoms

In order to gain a better understanding of the impact of indirect exposure, another goal of this study is to explore the presence of PTS symptoms that occurred among those indirectly exposed to the terrorist attacks. Two methods were utilized in order to understand their psychological exposure. They were asked specific questions in the interview and they filled out the Impact of Events Scale – Rev (IES-R.).

Although “indirectly” exposed to the terrorist attacks, those interviewed for this study reported strong levels of PTS symptoms in the aftermath of the disaster. Some stated that they “felt directly exposed” just being in New York City that day. There was definitely a perception of experiencing “a near miss” prevalent among the group.

For clarity, the symptoms reported by the respondents are grouped according to the PTS symptom clusters- avoidance, hyper-arousal or intrusion.

On 9/11

Respondents reported feeling that denial and numbness helped them survive on 9/11. Their senses were overwhelmed trying to take in the horrific magnitude of the devastation.

“A numbness, I think because there is only so much you can take. All directions, by the media and the people around you, are bombarding you. That, sort of coupled by denial, the need to push it away. After crying and feeling so afraid - the numbness almost served as a good defense mechanism - otherwise, your body and mind just can’t sustain it.”(1.7)

The majority of the respondents stated that they experienced many symptoms of PTS immediately following the attacks. Avoidance symptoms appeared to be prevalent.

Avoidance reactions included: denial, staying away from reminders of 9/11, not talking about it or not dealing with feelings about 9/11, or feeling that they were “numb” about

the event. Many of the clinicians stated that they felt that the attacks were not real - they just couldn't believe that this disaster had happened.

"Regards to myself, it was just like a numb feeling. Physically, like I was in shell shock." (6.4)

"It was difficult and painful. But at the same time, there was a numbing or a shock that this can't be real, but I'm not watching a movie, this was reality..."(9.2)

"It felt like a dream. I didn't feel like it was real."(12.1)

"I engaged in some denial and avoidance responses. In some ways because even though it was real in the sense that I was watching it, but I think that there was a part of me that tried to make it not real. By movies and watching TV, you get practice doing that and that's basically how I think I responded. But at times, my feelings were numb about it. (13.10)

"Numb, I felt numb". (14.14)

Many respondents reported experiencing intrusive PTS symptoms following 9/11.

Intrusive stress symptoms included: trouble staying asleep, any reminder bringing back feelings about it, still experiencing strong waves of emotion about the attacks, dreams about 9/11, having pictures pop into their minds and thinking about it when they didn't mean to think about 9/11. The respondents' symptoms ranged from nightmares and flashbacks, to images of 9/11 that would just pop into their minds.

"I was about ten or nine, and I saw people being killed. So 9/11 brought back to me, the civil war that I experienced, the killing, the bullets, people crying and begging for them not to get killed. I started crying a lot on 9/11. I started crying and remembering. I had memories and flashbacks of what I had witnessed back in my country. I was right in the middle of everything." (15.2)

"I thought about it when I didn't mean to, it certainly came crashing into my consciousness. I felt as if it hadn't happened or wasn't real, pictures just popped up in my mind. Back at that time, I had nightmares.

MLP: What were the nightmares of?

E: The towers. Seeing the towers and seeing what I saw at Ground Zero in my dreams. I stood literally in the middle of it, the thing about 9/11 was that there was literally, one degree of separation on this thing." (18.16)

“Any reminder - I mean I was living in it. I can’t remember if I had sleep problems, but everything made me think about it.” Pictures about it, just popped in. I do remember trying not to think about it, but it couldn’t happen. The third day afterwards, I started to not talk to anybody when I went in to stores. Because I could not **bear** to hear any more stories, so I really shut down. I could hear it in my office, but there I have a role, I can help somebody. I couldn’t in public. I just stopped talking to people.”(23.19)

PTS symptoms characteristic of hyper-arousal, were also common among those interviewed. Hyper-arousal symptoms could include: irritability or anger; lack of concentration; hyper-vigilance - such as a feeling of “jumpiness” or of being watchful and on guard, being easily startled, having trouble falling asleep, trouble concentrating, or having reminders of 9/11 cause uncomfortable physical reactions such as sweating, trouble breathing or a pounding heart.

Some felt very anxious and hyper-vigilant.

“I felt very anxious, but I felt subconsciously out of control which was why I over extended myself and as a reverse tried to feel in control. I just felt hyper-vigilant and, I’m already pretty obsessive compulsive so that just kicked up a notch. I felt paranoid, careful.”(2.9)

“I was very watchful and on guard when I went into the subways. I was hyper-vigilant” (13.10)

“Jumpy. On the bridge, with noises upstairs” (22.11)

One respondent reported that her anger “came out of nowhere” on 9/11 when she saw people enjoying themselves at a sidewalk café.

“I remember being on the West side and seeing all of these people at cafes and eating lunch and I thought, “**What are they doing!**” It was just weird, all of these people were just sitting there like drinking wine and eating - I had a very strange feeling, the anger, I almost felt like screaming at them “**Don’t you know what happened!**” I don’t know what that was about.”(5.3)

Several respondents described their strong fears, terror and sense of impending doom when asked about the presence of PTS symptoms. Interestingly, although they

were indirectly exposed, these individuals reported that they experienced feelings of intense fear and helplessness and horror - the criterion A2 for PTSD.

“Terrified, that the reality as I knew it had totally changed into this alternate world. I was like a stranger in it. That’s how it felt.” (14.6)

“I felt like I had taken a stimulant, that type of emotion. My heart was pounding. Cause you are getting so much information flooded at you and you’re trying to make sense of it cause it was all so sensational. You are trying to grab onto what you know is reality, not other people’s drama. But I remember feeling the same way that I felt the day my brother committed suicide, yes. Like **doom**. There is no other way to describe it but like “oh shit.” (20.4)

“Scared, I was very, very scared. Just like the world was falling apart.”(3.3)

“Shocked, terrified, I had that sort of sense that this was one of those kind of life-altering events that affects you. You know it’s just going to affect you and your world as you see it and have lived it, and that’s happening.” (22.6)

One respondent expressed her dismay that although she experienced intense psychological distress, her physical distance from the World Trade Center site, made her feel that the impact on her wasn’t taken seriously.

“There’s a part of me that wished I had been there, because there was so much emphasis on people that were down there, I almost wished that I had been closer, I know that wouldn’t have been safe, but it was almost like if you were above 14th Street, then you almost didn’t matter.” (2.7)

Besides PTS symptoms, several clinicians described having symptoms of a dissociative nature on 9/11. It should be noted that trauma clinicians and researchers have sought to understand the role of dissociative experiences in the response to trauma. Dissociative experiences, feeling “out of body” or in a removed state of consciousness, may serve in a protective fashion similar to avoidance and numbing symptoms after a traumatic event. They have been reported to occur both at the time of a trauma, and following a trauma, and that there may be a need to integrate them into the trauma framework (Marmar et al, 1996; Classen et al, 1993).

"I think I sort of felt like I was out of my body in a way. You know, I don't really remember how I physically felt. I just remember it was just a sense of going through the motions, and not really understanding. I don't think that I had that much of an appetite. I just think that I didn't feel like myself, I felt like someone else was within my body. Not feeling like yourself." (8.4)

"That day, I think it was a Tuesday, and I know that I left my house, perhaps in a state of being here and not being here." (9.3)

"Lightheaded, very lightheaded. It's like an out of body experience. I knew that I was doing things and making in my mind the right decisions, but every so often, I would feel myself floating and looking down at me, and I was like "okay, I'm not dying here...(laughs). I'm not passing onto the next life experience yet am I? What is this?" (11.12)

How their PTS symptoms changed over time

Life before 9/11 and after 9/11, a marker in world time, was a prevailing thought among those interviewed. Coming to terms with life in a post 9/11 world was stressful and sad.

"I just feel a sense of loss and destruction. When you think of it, I think of so many sad feelings, and how the world changed after it, it was sort of a life changing experience... But there's kind of like this time now, before 9/11 and after 9/11, it's like now things are different, before and after. I think sometimes when we talk, there's like this time difference." (8.6).

"I think the stress symptoms stayed, I think that they intensified actually. I noticed how I, well I don't do this much any more, but then, when I went onto the train, I would stand by the door, instead of walk in. If I would hear the planes overhead, or if there was a loud noise at night, I would automatically think that something was very wrong." (2.10)

The respondents were asked to describe how the level of stress reactions that they experienced on 9/11 changed over the course of the first and second year since the attacks. For many the searing pain, stress and shock that they initially felt had diminished. But for others, the slightest provocation, like an image of 9/11, made them feel vulnerable and stressed.

“As I talk about it, does the intensity of the feelings return, yes. As I sit here and talk about it, I see an image of something that reminds me of it, it jolts you. It’s like most grief reactions, it’s like 99.9 % of the time you’re feeling it, and then it’s 98 or 95 and 90, it never goes away. I try to explain to people how the grief process works, it never leaves you. You never get over it. But what happens is that the time period between the searing pain, diminishes to the point where you can function again, you reintegrate it into what you are. So, am I able to function again, yes, am I all right? Well, I’m not all right; I’m walking around, doing my job, but not all right.” (18.17)

A few of those interviewed reported that their stress levels declined after a month or so.

“I think that by the end of October 2001, I was okay.” (22.9)

“Yes, you know I was numb for a while, then a month or so later, I was okay. I was like happy that I don’t work in lower Manhattan, I was happy that I work in the South Bronx, those were my thoughts.”(5.5)

For about half of those interviewed, the stress levels subsided over the course of the next few months, with only one or two symptoms staying at higher levels. They felt that their PTS symptoms were elevated primarily when something triggered a memory or when the City was put on high alert for terrorist watches. The literature suggests this is the norm for people directly exposed to disaster trauma. (Norris, 2002).

“Well I think they became normalized, I mean I did not think about it as much, except when we had the alert system rise. When it went up high, and I heard there were some issues, I would become concerned, not so much for myself, but if my daughter went to the City, I would become more concerned that I would normally. High alerts did bring back some of the issues and I became more anxious about it.”(13.11)

Symptoms of avoidance and hyper-arousal were most common during this time. People reported still feeling anxious about traveling over bridges and through tunnels. The unexpected noise from a chair being dragged across the floor easily startled. Feeling “jumpy” and “on edge” were common symptoms.

"I kind of felt very anxious and again because I leave the City, I'm constantly going over bridges and tunnels, so that was a very, very difficult time, I could be shaking, I was in abject terror going over the bridge each week." (3.5)

"Jumpy and easily started, absolutely, in fact on October 19th in 2001, I will never forget this, I was training a group of 19 people, downtown in Manhattan and we were talking about trauma and about 9/11. On the floor above us, someone must have dragged a chair across the floor instead of picking it up, and 19 people were out of their seats. We jumped into the air, no one stayed seated. And it was so immediate, and I will never forget, of course we talked about it, it became part of our learning about trauma and our startle response, and I'll never forget it." (16.14)

But I was jumpy and very easily startled, for a very long time. While driving over the bridge, I contemplated, "If they drop a bomb and I know I can't swim that well, I could..." When I was stuck in traffic, this is where my mind would go. I could probably go through those bushes. Yes, I was always planning an escape route to get to Peekskill to get my daughter." (19.19)

One individual offered an insightful observation about the disturbing connection she experienced regarding her hyper-vigilance symptoms and racial profiling. She struggled with herself as she typecast Middle Eastern men as possible terrorists. Her distrust for foreigners was upsetting to her, as she had never thought of herself as someone who would discriminate against others.

"Yes, I felt **very** watchful and very on guard. I swore that I could have become a detective, cause I was just watching everybody. What I resented what it did to me, was that I became **very** distrustful of anyone that looked foreign. Anyone who had the garb, the headgear, covered their face. I was **so** angry with myself for doing that cause you know, I became angry at the people who reacted to anyone who looked Middle Eastern, but I subconsciously was doing it too. Like I would say things in my mind like "That damn towel head", and you know that's not me and shouldn't be because they didn't all have something to do with that. And it took a while; it took real conscious frontal lobe work all of the time to achieve." (20.14)

Two respondents reported that they experienced intrusive flashbacks of the event after a year had passed. For one, it was the sound of the planes that brought back the memories of 9/11, for another it was the smells that were associated with Ground Zero.

"Hearing airplanes fly over my building still bring me a lot of flashbacks.

MLP: when you have the flashbacks, what are you remembering?

"Airplanes destroying the towers, and then I imagine airplanes falling on my building, it's going to crash into my building, it's too close." (12.14)

"So that smell, you know it's funny. I was sitting in a restaurant, and they had just done renovations, and the smell came back to me. Now, I don't know if it was partly the chemical smell, maybe it was, or maybe I was having a flashback after working at Ground Zero. "I remember I take the 149th Street and Grand Concourse subway, there was a bundle - there was a stairway that was gated off, at the 149th Street concourse and there was a pile of rags and dirty stuff in it, it looked and smelled like the stuff that I saw at Ground Zero and it was a flashback. **It was traumatizing. It was jarring**, you know I've probably seen that pile of stuff a thousand times, but I pass by that subway every day and there it was. You know I saw it in a whole new light and it viscerally hits you. It literally hits you like a ton a bricks. Like a metaphor, **boom!** You feel the center of your body being impacted and I'll never forget that, that smell, I can't get out of my mind. I never want to smell it again, never." (18.8)

Several of the respondents reported that the stress symptoms morphed into more of a lethargy and depression. They experienced a prolonged period of sadness after the initial stress dissipated.

"Over time, I think that I felt empty, like an empty feeling, when something, a loss happens like that I think a feeling of sadness and emptiness. I don't think that I had that much of an appetite. I just think that I didn't feel like myself." (8.6)

"I think I was tired, sad and zombie-like, not really being there. Like my body was doing all of the walking, like my brain was there, but sort of like I was not cooperating in a sense. That's how it felt." (14.8)

"And then as more time went by, I could feel the shock more, like I wasn't so numb. It started to sink in, I felt such sadness and pain around that this could be humanly possible, that people could do things like this. You know, that started to sink in and I felt very sad about that. I felt very concerned about my daughter growing up in this world and all of that. Just enormous, deep disappointment in the human race. That they, we as human beings, could do something like **that?**" (21.6)

One woman who worked with families who lost loved ones in 9/11, stated that she protected herself from stress by remaining emotional detached for several months after the disaster.

“Of course they are going to go into shock, cause everybody went in there (the Armory) hoping and praying that they wouldn’t be on the list (list of identified deceased). And, that anybody they were connected with were not on the list either. I think at 5 o’clock, I had a detachment. I lived in a surreal state for a long time. You know, I was emotionally detached. I didn’t feel, I didn’t allow myself to feel; I did what I had to do. (20.11)

Her feelings changed to anger about six months after 9/11. She explained how enraged she became with the pomp and circumstance of the commemorative ceremonies, feeling like the families were being put on display. She felt it extremely inappropriate and offensive to those deeply immersed in the recovery effort.

“You know for me, I started “feeling” when they started having the ceremonies. Boy was I angry; it angered the crap out of me. I can’t tell you why it made me angry. But I was very, very angry. For some people it was closure. For me, it just brought out anger. **How dare you** have all this pomp and circumstance with all the crap that went down? You got on a ferry; you walked the grounds, **what the crap did that mean?** What was that about? I just felt sooo resentful. I felt like we were being, that we were on a display.” (20.11).

Current PTS Symptom Levels

Many of the respondents still experienced PTS symptoms even though over two and a half years had passed. They described being nervous, anxious and hyper-vigilant at the time of the interview. The savagery and brutality of the attack resonated and stayed in their minds.

“But realizing that it (9/11) can happen at any time, but then having to push that away because you can’t really function at that kind of level and live your life.” (1.13)

E: “Yeah, anxiety sort of, nervousness, a sense of hyper vigilance - but 9/11 is so far off of the scale. I mean they (PTS symptoms) went away after the earthquake, after a few days, like whatever, they weren’t lasting. I just remember that I was more nervous at that time about movement. But it subsided. 9/11 has not subsided.

“It’s still living with me. And that’s the difference and it’s human inflicted. I think I fear you know, man is wolf to man. I fear human beings and their own savagery much more than I fear nature.”

As another method of measuring their current stress, the IES-R was utilized to capture the current level of PTS symptomatology in relation to the attacks of 9/11. All of the respondents agreed to complete the survey tool, which was administered at the beginning of the interview session, before the one-on-one interview. The IES-R was scored according to the directions provided by the authors (Weiss & Marmar, 1997).

The Impact of Events Scale - Revised (IES-R) Results

“It’s not going to go away. To me, 9/11, it’s like a scar that doesn’t heal. To this day, I can’t stop thinking about it.” (12.13)

Of the 26 respondents interviewed, the majority (20) were still experiencing some level of PTS symptoms related to the attack. Of significance, is that close to half of the respondents (12 or 45%) were still experiencing moderate to extreme levels of PTS symptoms, over two and a half years after the attacks on the World Trade Center. This is quite contrary to the disaster literature and may have important implications for disaster research. The other half experienced little to no current PTS symptoms. Results of the IES-R scores of the respondents are presented in Table 1.

Table 1

Current PTS Symptom Level in Relation to 9/11 Attacks

IES-R Rating	Not at all	A little bit	Moderate	Quite a Bit	Extreme
# of Clinicians	6	8	3	5	4

For the majority of those interviewed, their personal reporting of their stress levels matched their IES-R scores. However, there were two exceptions that will be described at the end of this section. In these cases, the respondents’ affect during the

interview and their narrative reports gave this researcher cause to believe that the IES-R scale did not accurately reflect their current distress level, which appeared to be higher than reflected in their scores.

Six of the respondents did not appear to be experiencing any PTS symptoms regarding the terrorist attacks of 9/11 at the time of their interviews in 2004. The scores of eight of the respondents indicated they were experiencing “a little bit” of PTS symptoms related to the attacks of 9/11; three were experiencing “moderate” reactions and five were experiencing “quite a bit” of PTS symptoms. The scores of four of the respondents indicated that they were still experiencing “extreme” levels of PTS symptoms related to the 9/11 attacks.

Respondents with Moderate to Extreme Levels of Current PTS Symptoms

Respondents that had scores in the moderate to extreme levels on the IES-R described their current PTS symptoms and are reported on presently. They described the hyper-arousal symptoms that on occasion impacted them. They expressed that they often felt watchful and on guard when on the subway, traveling over bridges or through tunnels. A sense of hyper-vigilance, “waiting for the next shoe to fall”, regarding their personal safety was prominent.

“But this issue of personal safety, I guess over time, when you go over the bridge enough and nothing happens, you kind of breathe a sigh, but it’s still there at some level.”(3.9)

“The stress, my stress level over the past few years has been reduced somewhat, but I think I’m on constant guard that this is likely to happen again. And I say that when we had the barge explosion. And I say that when we had the blackout on the eastern seaboard. I say that when I saw the information on the AM New Yorker that because President Bush is coming to this city, the train station will be closed down, again, I go back to 9/11. So for me, it’s a constant reminder, stress level might be reduced, but anything brings me back to that day. And like what I said earlier on, constantly waiting for the other shoe to fall. Constantly waiting for

okay, there has to be ramifications, there has to be something else - **whack!** It's constantly living on guard."(9.16)

Several of those interviewed still refused to use the subway system, and preferred above ground transportation. Their fear of being trapped, fear of being bombed made them second-guess this mode of travel. Their anxiety level had not dissipated

"There was a question (on the IES-R form) that said, "do you think about it now?" Well I think about it all the time when I have to go on a train. For example, the only reason that I second-guess about going on a train is because it happened. If 9/11 didn't happen, I wouldn't hesitate to get on a train. Or thinking about getting on a bus instead of a train. But when I hear and listen to the news and the stuff going on at war and the people getting killed, it all comes back." (10.11)

One respondent noted that hyper-arousal symptoms returned following counseling sessions with 9/11 clients. She had trouble falling asleep after listening to their stories.

S: "Depends on how I get up in the morning, depends on what I've done the day before.

MLP: What do you mean?

S: If I work with a family who lost a loved one on 9/11, and I see that family tonight, and the family is dealing with something traumatic, I would be able to go home and make it home okay, but I will have an uneasy sleep. And, tomorrow I would be hyper vigilant." (11.21).

Avoidance symptoms were reported. Denial - "still have trouble believing that it really happened" was troubling for some. Staying away from reminders was also cited. Several respondents stated that their feelings about it were numb; and they had not yet come to terms with the reality of the destruction.

"I'm still experiencing disbelief about what happened. I always saw those two buildings and they are not there. For me it's a constant reminder of what 9/11 was, especially this morning. They are not there. I think that is one of the things that will always scare me, seeing the boat coming (the Staten Island Ferry) and seeing those two buildings, they are not there...(9.16)

"I **still** can't believe it, I just can't. To this day, I just can't believe that that happened." (12.7)

Several respondents reported that they did everything possible to avoid going to the WTC area. That section of the city was now a “graveyard”. They also spoke of avoiding places that might be crowded, as they could be potential targets for future terrorist attacks.

“I avoid the WTC area. I went to the WTC for my last job, cause I had a situation with my pension. And now that whole office doesn’t even exist. I’m sure those people, maybe they got out, or maybe they died. I don’t think I would go there. I don’t think I would ever go there. I think that it’s like a graveyard. I don’t normally go to graveyards. I don’t mean any insult to the people that died.” (19.22)

“I don’t go downtown if I don’t have to. I avoid that area right there - the one downtown where the towers were. I don’t go out to places where a lot of people are gathered together. I don’t go out like that anymore. I’m in bad shape I guess, but I avoid those places. A lot of anxiety. I don’t go out much anymore.” (15.11)

Intrusive PTS symptoms were still experienced by several respondents that scored in the moderate to extreme range. Images that reminded people of the dust of the crumbling buildings and the sounds of airplanes flying overhead produced stress and uneasiness. Reminders brought back intense and distressing feelings.

“I guess it comes back to the question regarding the images. The crumbling concrete, not only for when the towers were going down, but that fine grain concrete that was everywhere afterwards. We came home yesterday and we drove in the driveway, and a piece of the cement stairs that goes up to my tenant’s apartment had begun to crumble. The first thing we looked for when we came home was, “Have the crocuses come up yet?” So, I got out of the car and right away, I saw the crocuses. But there was a piece of something that looked like Styrofoam, near one of the crocuses, so I reached down and picked it up, and it was concrete and I’m not going to say, “Oh it brought me right back.” **But, I didn’t like it. I didn’t like it. It made me upset that it was there. It wasn’t about the crocuses.**”(7.25)

“Airplanes, constantly right over my building and I think they are going to fall. It’s the weirdest feeling, cause sometimes when I’m in my apartment and I live alone now, and I’m like, “Am I losing my mind?” I’m like, “Hello, it’s just like regular airplanes, 9/11 is one thing, this is another.” But sometimes, I just can’t separate it.”(12.10)

As of May 2004, one respondent's intrusive PTS symptoms continue to cause her distress on a regular basis. Her olfactory distress impacts her daily functioning. She reported that when she is stressed, she seems to smell the odors of burned bodies that permeated the downtown area for months after 9/11. She was stationed there for many months. She attributed this constant reminder to the fact that she was finally allowing herself to start the grieving process now that her work was done, but it was scary for her all the same.

A: "I carry 9/11 with me, I think is still more in the unconscious, where I have this odor of 9/11 that continues to bother me, that upsets me and makes me feel anxious and afraid and like something is wrong when I smell it. It's almost like I have this fear and anxiety that I'm not ready to let go of yet. And this smell brings it back to me. This smell, I thought it was coming when I was just stressed or overtired. But now that most of that has settled down, it's coming actually more often. So I think I'm actually starting to process so I'm carrying it more emotionally and outwardly strongly **now**, than I did for the past two and a half years.

But, the olfactory disturbance, it's nauseating and it makes me afraid.

MLP: What does it make you afraid of?

A: That's a good question, just as I said it, I was trying to figure out what does it make me afraid of? That something is going to be wrong with me - that I am going to be sick, or hurt".

MLP: mm hm

A: "that I'm not safe." (24.18)

Another respondent reported that disturbing, intrusive thoughts come back frequently – when she is caught in traffic. Having been trapped in traffic on 9/11, she reported that for the past few years, whenever she is in a traffic jam, she is afraid of being caught up in a terrorist attack. She detailed her escape plan in the interview.

M: "I don't know why this traffic thing is staying with me. In the beginning, it was more like "what am I going to do?" Now, it's more like a calculated plan.

MLP: Tell me about that.

M: For some reason, I see the terrorists, they are all lined up and I'm sitting in traffic. So I think okay, if the terrorists are all lined up and they are spot-checking the cars, what I would do is to pull the car over and sneak over to the grass and

the trees – **craziness!** I don't know what other people think when they drive, but traffic can be really crazy, the type that's not going anywhere. But these thoughts never happen when I can move freely, only when I'm stuck in traffic. I think it's all related that this all happened when I was stuck in the traffic on 9/11, which was so obscene at the time."(19.23)

Respondents with "None to Low" Levels of Current PTS Symptoms

For respondents that scored in the low ranges of the IES-R, current symptoms were experienced much less frequently. It appeared that anniversary commemorations of 9/11, terrorist events in other countries, and media alerts, triggered the reoccurrence of stress symptoms with this group.

"I think the hyper vigilance, I still have a little piece of. I think every time the news comes on about the terrorist attacks in Madrid, I mean my heart went out to all of those people. I think when I hear things like that it reminds me of 9/11." (5.11)

"Certainly on the anniversary, it brings me back a little bit, all the symptoms. But then they go away more quickly."(1.18)

"I don't have too many (PTS symptoms) now. But I guess I would if another alert came. I'm also very sensitive, cause my daughter spent a year in Israel and she does go back and visit, so I'm very focused on what's happening in Israel. So, the terrorist attacks there do upset me and I think it does bring me back to 9/11. It makes it a bit more real for me, so that certainly can raise my anxiety."(13.11)

Conflict between IES-R scores and Current PTS Symptom Level

In two cases, this researcher felt that the IES-R scores might not have reflected the current level of PTS symptoms. Both of these clinicians had heavy involvement with 9/11 clients. They scored in the "none" or "a little bit" range on the IES-R. However, their affect and comments led this researcher to believe that the material under discussion was still so emotionally and psychologically charged that they were unable to discuss it. It was this researcher's opinion that they were avoiding or repressing possible painful or

negative feelings during this time. These respondents deflected questions about the impact of the work on themselves.

One respondent indicated that she makes a strong effort NOT to think about 9/11. Her answers to some of the questions were vague, as she stated that she had problems with recall. The interview was interspersed with responses such as:

“I don’t remember that clearly, I think that I don’t **want** to remember.” (8.10)

When the questions regarding current feelings about safety and current worries was asked she replied:

“I couldn’t even **allow** my mind to think about another terrorist attack, because I think it’s too frightening to think about.” (8.12)

This unusual quality of response only occurred with two of the respondents. The other respondents’ scores seemed in sync with their verbal reports. However, this underscores the need for, and importance of, secondary traumatic stress assessment and intervention for those working with high-risk clients. It also calls attention to the fact that clinicians should carefully assess a respondent’s verbal reports and/or reactions when using a quantitative scale, as it may not accurately portray their current symptom level.

IES-R Scores compared with Amount of Work with 9/11 Clients

Another goal of this study was to explore the differences in the levels of secondary traumatic stress (STS) among clinicians that worked directly with clients with 9/11 related issues and with those who did not have any client with 9/11-related issues. Nine of the clinicians fell into the category of “no clients with 9/11 related issues” and 17 clinicians did provide services to clients with 9/11 related issues. Within this second category, there was a variance among the amount of 9/11-related client contact for the clinicians. Some clinicians had a small to medium percentage of their caseload of clients

with 9/11 related issues (N=9). The remainder of these clinicians (N=8) had the majority of their caseload comprised of clients with 9/11 related issues, and/or had more intensive experiences, i.e. working at Ground Zero or in the Family Assistance Center. For study and discussion purposes, Table #2 presents the IES-R rating for the clinicians by their level of involvement with clients with 9/11-related issues.

Table 2

Clinicians' IES-R levels X Level of Involvement with 9/11 clients

IES-R Rating	Not at all	A little bit	Moderate	Quite a Bit	Extreme
No 9/11 Clients	2	2	2	2	1
Some 9/11 Clients	2	3	1	3	0
Many 9/11 Clients	2	3	0	0	3

It appears that client contact was not relevant to the level of IES-R scores of the respondents. Respondents who had no clients with 9/11 related issues reported IES-R levels from "not at all" to "extreme". Clinicians that provided intervention to some clients with 9/11-related issues reported IES-R levels from "not at all" to quite a bit". Clinicians that provided intervention to many clients with 9/11-related issues, reported levels from "not at all" to "extreme."

IES-R Scores compared with Prior Trauma History

Another goal of this study was to explore whether the respondent's prior trauma history acted as a risk factor or a resiliency factor for the development of PTS symptoms

following the terrorist attacks of 9/11. Table #3 represents the rating of the IES-R Scale by the respondent's prior trauma history. Of interest, is that the majority of those who had multiple incidents of past trauma scored higher on the IES-R scores for current PTS symptoms.

Table 3

Prior Trauma History X Clinicians' IES-R Levels

IES-R Rating	Not at all	A little bit	Moderate	Quite a Bit	Extreme
Prior Trauma History One Incident	5	5	2	1	1
Prior Trauma History More than One Incident	1	2	1	4	3

Twenty-five of the twenty-six respondents reported that they had endured traumatic events prior to the terrorist attacks of 9/11. Fourteen reported that they had experienced one major prior traumatic event. Of these, five were not currently experiencing any PTS symptoms related to 9/11; five were experiencing "a little bit" of PTS symptoms related to 9/11; two were experiencing a "moderate" symptom level; one was experiencing, "quite a bit of symptoms" and one was still experiencing "extreme" symptom levels.

Twelve respondents reported two or more prior traumatic events in their lives prior to the attacks of 9/11. Of these, one was not experiencing any PTS symptoms

related to the attacks; two respondents were experiencing “a little bit” of PTS symptoms, one was experiencing a “moderate” level of symptoms, four were still experiencing “quite a bit” of symptoms and three were still experiencing an “extreme” level of PTS symptoms related to the terrorist attacks of 9/11.

This finding is of interest, as it has been suggested that clinicians with greater incidence of past trauma may also be at increased risk for STS (Figley, 1995). This will be further described in the last section of this chapter covering STS symptoms experienced by the clinicians.

In summary, as evidenced by these accounts, PTS symptoms were still surprisingly strong among many of those interviewed. The theoretical framework of Foy’s (1992) PTSD Etiological Hypothesis model can be helpful in understanding why such strong reactions occurred in those both geographically and relationally distant from the disaster site. This model is interactional and includes both environmental and individual factors that might be important in discovering causal chain mechanisms for the development and maintenance of PTSD symptoms. “Mediating” variables could be present in the clinicians’ lives that interacted with the 9/11 event reaction to produce PTS symptoms. These variables could be biological, psychological or social, and could act as either risk or resiliency factors for the clinician.

For 9/11, variables such as mental and physical health status, prior trauma history, the type of family and social support system, the level and type of media watched following the attacks, and the level of horror that the person experienced when finding out about the attacks could all play a role in PTS symptom development and longevity.

When you combine these factors with the fact that 9/11 was “man-made”, these reactions are quite understandable among those indirectly exposed.

Current Worries and Safety Concerns

MLP: How did 9/11 change your level of safety?
I don't feel safe at all. We are not safe! (15.9)

Emotions ran the gamut when the issues of current worries about terrorism and safety concerns were discussed. Respondents were asked, “What are you most worried about now?” “How did the events of 9/11 impact your feelings of safety? How safe do you feel now?” Some expressed that although they were more nervous about their safety now than before 9/11, they would “absolutely not” let it impact their daily routine or choices about living their lives. They would go on airplanes, travel abroad and visit crowded shopping malls. The terrorists would not cow them. The following anecdotes illustrate the resiliency of the group.

“Well the way I saw it was I thought that the increased security was ludicrous. There were these patrol cars sitting at the entrance of certain intersections. A cop with a gun, against terrorists with two planes! (Laughs.) Somehow, it didn't seem like they could stop it! So, if you really have no control over certain things, then you really need to go and face them. Okay, I'm not going to let this stop me. I live in the Bronx, and I'll live my life and live. I'll grieve for the people, but I won't say that I can't go across the George Washington Bridge because that is next. That just won't happen to me. I didn't let it impact my normal routine that way.”(4.9)

“No, I was afraid, but I wouldn't avoid.”(7.23)

“Initially I didn't want to go to malls, but hey, I'm a shopaholic, don't mess with my only vice. If I'm going to blow up, I'm going to blow up in a good pair of shoes.”
(We laugh) (20.15)

“I'm not going to stop going on airplanes, I'm not going to stop going on the subway, I'm not going to stop doing what I want to do, I'm like not going to not go to stop going to baseball games because they might blow the stadium up. I'm

still going to do what I want to do, and I'm not going to let them make me live that way."(5.12)

For others, their current fears and anxieties did cause changes in their behavior, which included avoiding activities and taking additional security precautions. For example, they stocked up on non-perishable food, water and flashlights for disaster supply kits; ordered extra refills of their medication; and developed family safety plans. One must take note that after 9/11 the residents of New York City had to adapt to a new way of living, without a "roadmap" of security. For some of the respondents, the changes they made in their lives enabled them to cope with the day-to-day uncertainty and continue with their daily routine as much as possible. Some of these coping behaviors, may have been considered "symptomatic of PTS" prior to the 9/11 attacks. Post 9/11, they might be actually be considered healthy coping mechanisms.

One respondent also thought about seeking a gun permit to enhance her feelings of safety for herself and her family.

"For the first time I began to think about having disaster supply kit, and more details about what I currently have, I felt like I needed more medicine, more things to take care of cuts, food, maybe even to have some kind, I hate weapons, but I did think about maybe getting a permit to have a gun in the apartment."(14.16)

Others took advantage of the fact that their place of employment allowed them to work a staggered schedule. This enabled them to use the subway at "off hours", when less people were traveling. They expressed that this could lessen their vulnerability of being caught underground if another attack occurred.

"It's possible for me to work staggered hours, it's a 24 hours facility. The senior management, sometimes they will come in very early. So, I'll work 11-7 or 12 to 8. It's good for the program to have senior people on site for 12 or 24 hours. But, I do that more now. Because I figure if they are going to blow up the subways, they are not going to do it at 10am in the morning. They are going to do it at the

height of rush hour. So, yeah, I do. I mean I am certainly happy when there is a terrorist alert, what is it red, or orange or whatever the colors are... I make sure that I stagger my hours as much as I can. Sometimes I can't like if I have to be there earlier to meet with the clients or for the program. But yeah, if I can work staggered hours, especially during those terrorist alerts, I will." (18.19)

Avoiding congested areas and public events was another precaution. The lighting of the tree at Rockefeller Center was not attended as it coincided with increased security alerts issued by the government.

"I don't go downtown, I have a very nice life up here (upper East Side of Manhattan). I stay in my neighborhood except for having to go to the Island each week. I avoided downtown and crowded places. As late as this December (2003), you know having all of these alerts does not help. But, I wanted to take my grandson to Rockefeller Center. I didn't go because it was high alert. I said, "Oh my God, that's the place where there will be lots and lots of people." I was scared, so I didn't go." (3.6)

Several respondents expressed their current fears about travel and mass transit in New York City.

Today, I don't ride the trains any more - **at all**. They are targets. If I can get to where I'm going on two buses, I'll do that - go that far out. Like if I have to go like down to you at the NYSPCC, I'll have to take a train. But it better be an express train, not a local.... But if I could get anywhere, like just this morning, I was running late and I could have taken the train and gotten here in five minutes and a friend of mine was on the platform and the train was coming and she said "A. hurry up!" and I said "no, I'll take the bus". So I, no, I won't get on those trains. (10.7)

"The trains are very difficult for me. Because we are sitting ducks, we are sitting ducks down there.

MLP: What do you think is going to happen?

S: They are going to blow it up." (11.30)

One respondent doesn't like her family to travel together anymore. If a terrorist attack happens, she doesn't want them all to be killed. It was very important to her to have her family name carry on.

S: Okay, let's talk about going over the bridge. God forbid, I'm caught on the bridge with my family!

MLP: What's that like?

S: Well it's like, grace of God if we go, we'd go together. But, I don't want us to be together because if anything ever happens, I want at least one of us to make it so that our name carries on. I am worried about history, our family history, now that 9/11 happened. (11.22)

Another preferred that her family all travel together. If a terrorist attack occurred, then at least they would all be in the same place. She described narrowing the time she spends away from home as another safety precaution.

R: "I made changes, when I go out of my home, I don't go out at a strange time. My daughter and I used to have different schedules. Now we try to go out of the home at the same time.

MLP: Why do you go out of the home at the same time?

R: Cause if something is going to happen, let it happen together. I try to get home as soon as I can after work, I don't go out if I don't have to, as a way of prevention." (15.9)

Emotions of the Clinicians during the Interview Sessions

The outpouring of emotions by the clinicians in the interviews was striking. Few had the chance to tell their story to anyone before this study. It was if they had bottled up their emotions and now had the chance to describe how 9/11 had impacted them. They expressed their fears, anger, anxiety, and sadness with an unanticipated readiness. The interviews stopped many times due to tears being shed, as they recalled the events of 9/11, a particular client, or a memory that made them sad. At other times, their anger erupted. Respondents were furious over tourists gaping at the destruction, souvenirs being sold on the street, and the media's portrayal of the tragic events. Almost 30 months later, their emotions were still heightened. The power of these emotions is described in the passages in this section.

K: It's interesting when I think back now; I know that I didn't give myself a chance to cry. This interview was **my** chance to be human, because **then**, I needed to be **there**. That's why I needed to do this. I need to do this as a person if I am going to need to take care of somebody else. (Tears welling in her eyes.)

But I'm okay now. Thanks. (for a tissue.) I think what we need is for someone to tell us clinicians that it's okay to be human, that its okay to cry. You may go out there and just hold somebody and cry with them. And it's okay in a situation like this. That's what I think." (14.28)

One respondent cried as she described reading the obituary memorials in the New York Times. She felt compelled to pay respect to the deceased, making a quiet time for herself every day to grieve.

"Awful. I would have a ritual. Every day, I would make a quiet time for myself. I **had** to read them. I **had** to respect those people and kind of somehow just pay a respect to them and after I read them I felt really sad. Eventually, I would pick myself up and do what I had to do. (Wiped away tears.) Yeah, but every day, I would just wait for the paper to come.

MLP: mm hm.

B: Not answer the telephone, pay respect, I had to pay respect." (3.11)

Another respondent broke down as she recalled how her family finally reached her via e-mail to make sure that she was safe. She was the only family member living in NYC. Her panicked and concerned family tried to reach her and finally resorted to e-mail. She cried and cried as she recalled how relieved they were when they finally connected via the Internet.

"My sister-in-law who lives on her e-mail in Massachusetts had been waiting to see me sign on, cause they couldn't get through on the phones. And immediately, she sent me an instant message. And she said, "Is it you, is it you?" And I went back and it was wonderful that she was there and that she knew I was safe. We agreed that she would make all of the calls to the family up there and let everybody know that we were okay - this is really awful isn't it? (she started to cry)

This is such wonderful work that you are doing this..."

MLP: Are you okay? Here, please take a tissue; are sure you want to continue?

S: Yes, I'm fine, I want to continue, it's just that frantic feeling that they had, which really is very, very powerful." (7.12)

One clinician cried several times while she recalled images she saw on the television and connected them with her work with a client. She described how despondent she felt as she watched the sad scenes of people looking for their deceased

loved ones. She associated them with her work with a distressed client who trucked the mangled remains of the towers and the victims from the WTC site to the landfill so that the forensic evaluations could be started for identification.

“W: I felt sad. Um, because of what I was watching, the people who had lost loved ones, they were constantly shown on TV, looking for their loved ones. (Gets teary-eyed). I’m sorry.

MLP: That’s okay, do you need to stop?

W: No, no, I just remember a client who I worked with, who was brought into the city to help. We have a large landfill on the Island. He was asked to come to Manhattan with his truck to get debris and what not and take it back to the Island. I remember him saying when the truck got back to the landfill on Staten Island he was afraid to, I guess to go on top and get things, because he was walking on people. And, it was an eerie, creepy feeling that it was people that he might be stepping on, body parts and remains.

And I thought of that when you asked me about the effect that the media had on me. I remember watching TV of people with pictures “if you see him please let us know” and thinking of your losing your loved ones and thinking back to this client who has bits and pieces of remains of people, wow. (Cries again)

MLP: It’s just so tragic.... (Silence.) Do you want to stop?

W: No. I’m okay.” (9.23)

Respondents also cried as they recalled the events of the day, feeling as if life as they knew it was over. One person felt certain that her life would never be the same again. Doom and despair permeated her thoughts. The events of 9/11 had changed her worldview.

“It was just so weird. I felt blank, I felt blank, like that’s it. I don’t have any more control. I felt like, “this is the end.” That’s what I felt like “this is the end.” I really thought that it was just beyond, just downtown. I felt like everything was just going to keep going and they were going to keep... This thing, whatever it was that affected me, was going to affect everything. Every block, it was just going to come down slowly. So, I was just waiting and that was my feeling, that was my reaction.”

MLP: Mm hm.

M: (Started to cry....)

MLP: Are you okay? (Handed her a tissue.)

M: I’m fine. I’m fine. I’m sorry.”(12.5).

The other emotion that was visibly present during the interviews was anger. Other respondents were enraged with the tourists that came to NYC to view the smoldering towers. Others were livid that street vendors used this tragedy for personal profit from selling baseball caps and photos of the destruction. Their resentment was palpable.

“I remember that I was angry at the tourist, not visibly, but they were looking at it in a way, wow, I can feel that I’m getting upset right now thinking about it. I wanted to **smack** them. They were looking at it like it was some tourist attraction like some, I don’t know like it was Mt. Rushmore or something! - And not having any clue what we experienced here and what it really meant, and just listening to their conversations and their snapping pictures away, and just feeling like, **“Get out of my city, how dare you come in with that kind of attitude!”** (1.19)

These outbursts occurred while they were discussing their upset with how the events of 9/11 were handled by the government; their anger at tourists who flocked to the World Trade Center after 9/11; or simply as how angry they were that the world as they knew it had vanished. The force of these emotions coincided with body movements, such as hitting the table to emphasize a point, fidgeting in their seat, raising their voices - in two cases to almost a screaming pitch. They too, seemed surprised by how strong these emotions were so long after the event.

The media portrayals of innocent people plummeting to their death as they jumped from the towers, was extremely upsetting to several of those interviewed.

L: “I stopped watching TV, because I got so annoyed. I **really** got pissed off. I was like “I am tired of seeing those buildings fall down.” How could people heal if you are going to keep showing it over and over again!

MLP: Mm hm.

L: **How can people move forward when bodies are falling out of the buildings!** I mean we know that it was a bad thing. But, **stop**. I also think that it desensitized you after a while cause you got so used to seeing something over and over again, you become immune to it, its like seeing violence over and over again, so I was just annoyed after a while.”(6.6)

One respondent just could not believe that vendors used this tragedy for personal gain. Baseball caps should be associated with baseball, not a tragedy.

“You know what I don’t understand, what’s up with these damn baseball hats that say NYC Ground Zero 9/11/01! I want to take them off somebody’s head and say, “What the hell is wrong with you? Do you think this is a tourist spot? This is not bloody Yankee Stadium. This was a war zone. What’s next? Baseball hats from Auschwitz? Come on! I cannot understand that. So as far as images, my response is intensely emotional when I see them. I remember European tourists, especially from Germany and France in the 70’s and 80’s who would say “take us to the South Bronx, we want to see it?” They wanted to gape at despair and the abject destruction of an entire community. And I don’t get it and it makes me very upset. This is not a joke, this is things I want to forget about and I can’t.” (18.13)

For some, these interviews were the first time that they had told their story to anyone. Many expressed their surprise at their tears or at their anger, and of how emotional it was for them to discuss these issues, even though over two and a half years had passed. It is important to note how vivid the memories of the 9/11 attacks were for those interviewed. Upset, anger and sadness were still remarkable and came tumbling out with unexpected intensity.

The role of and impact on this researcher should also be noted. The intensity of the emotions in these interviews was remarkable. At times, it was very draining. In one regard, it was if this researcher acted as a “container” for the respondents, many of who had a tremendous need to express their emotions and fears. Hearing their stories, empathizing with their pain and sadness was intense. Time was needed after each interview to debrief, reflect and make note of the impact that this disaster had on these individuals.

It was obvious that although time had passed, the cumulative impact of their 9/11 work, and their own stresses regarding the terrorist attack, heightened their feelings. The

passage of time had not dulled them. Their sadness, grief, but also pride in what they had accomplished was evident. The interviews may have served as a time that they could finally express themselves, having to contain their emotions while engaged in practice.

Now was the time for **their** voices to be heard.

Chapter VI

Prior Trauma History and the Development of PTS Symptoms

A goal of this study was to explore the perceived mediating or intensifying effects of a history of prior trauma among those indirectly exposed. Research has indicated that prior trauma may play a role as either a risk factor or a resilience factor in whether or not an individual develops PTS symptoms following a disaster (Dyregrov, 1996; Briere et al, 2000;).

Prior trauma questions were developed that encompassed prior exposure to disaster-type trauma, such as war, natural disasters, industrial or transportation disasters; and to interpersonal types trauma, such as family violence, the unexpected death of a loved one, or child abuse. The respondents were asked whether or not they perceived their experiences of past trauma as impacting their reactions to the events of 9/11.

The Etiology of Post Traumatic Stress Disorder model used for this study would suggest that these events, “independent causes” of PTS symptoms, have the ability to put the respondents more at risk for developing PTS symptoms if these prior traumatic experiences had not been successfully resolved. This is because the effects of prior trauma and stress are additive in nature. Conversely, if the respondent had experienced prior trauma and had sufficient support systems available to successfully recover from the prior trauma, the effects of 9/11 may not be heightened. This model may help us understand why some respondents felt more at risk and developed PTS symptoms, while some did not.

One individual compared his living through an earthquake with living through 9/11. In Richter scale terms “9/11 was off the scale”. In terms of his recovery, “the

earthquake subsided, - 9/11 has not subsided". The fact that 9/11 was human-inflicted savagery, "man is wolf to man" caused him tremendous distress.

"I was in a mild tremor once when I was in California. so it was a mild earthquake. You know, more like a sound of a truck passing.

MLP: The stress reactions that you experienced after the earthquake though, were any of those similar the same as what you experienced on 9/11?

E: Yeah, anxiety sort of, nervousness, a sense of hyper vigilance, but 9/11 is so far off of the scale, I mean they went away after the earthquake, after a few days, like whatever, they weren't lasting, I just remember that I was more nervous at that time about movement. But it subsided. 9/11 has not subsided.

E: It's still living with me. And that's the difference and it's human inflicted and I think I fear you know, man is wolf to man, you know, I fear human beings and their own savagery much more than I fear nature. Nature, I respect, but it comes and it goes, you know?"(18.14)

Twenty-five of the respondents interviewed shared experiences of their prior trauma history. One respondent stated that the only trauma that she had experienced was 9/11. Ten of the respondents reported that they had experienced natural disasters or transportation disasters. Two respondents shared their stories about surviving war-related traumas. The remainder shared stories about personal traumas that they had survived such as homelessness as a child, the suicide death of a sibling or domestic violence. Almost half of those reporting had multiple instances of prior trauma in their lives.

Prior trauma and Natural and Transportation Disasters

Several of the respondents had lived through natural disasters such as floods, earthquakes, fires and hurricanes. Most felt that these events did not cause the same types of stress reactions as 9/11. This is in keeping with most of the disaster literature, which indicates that while natural disaster exposure can account for PTSD symptoms, far more symptomatology was accounted for by prior exposure to interpersonal violence (Briere, 2000).

Perception of the level of personal danger encountered in these natural disasters seemed to make a significant difference in whether or not the event produced PTS symptoms. This would in turn, impact how it influenced the PTS symptom development following the attacks of 9/11.

For most respondents that had encountered natural disasters and did not fear their personal loss of life, these events produced a milder reaction and their recall was more relaxed.

One respondent experienced a flood following a hurricane. In comparison to living through 9/11 she stated that the hurricane “was a joke”.

A: “Yes, when I was in New Orleans, in school, I was in a horrible, horrible flood when a hurricane hit us, but nothing compared to 9/11.

MLP: Were your stress reactions different?

A: Yes, very different. I mean to us New Yorkers, it like it was a joke. We were like yeah whatever, we get to stay home for a week, like it really wasn’t an issue for us.” (5.10)

Living through a tornado, where a local child was terribly injured was recalled by another respondent.

“The tornado in 1952 or 53, I was like nine years old, the tornado in Wooster Massachusetts...and that was very connected to our family. We didn’t get hurt, but my father’s boss’s house was hit, not destroyed, but hit. They lost a lot of their stuff. There was a little girl who was my age; her legs were cut off by a refrigerator door. I really identified with this kid. She was my age. This was a big thing; we didn’t have tornadoes. My reality was that I was a young kid and nothing like this had ever happened.

MLP: Did you feel any similar stress reactions then that you felt on or after 9/11?

S: I think that they were very different. I felt safe then.” (7.23)

Again, the fact that 9/11 was destruction “caused by human hands” made it much more threatening to one respondent.

W: “There was a hurricane here many years ago, probably 1980 or early 80’s, but I had no fear of then, that was a regular, natural disaster. 9/11 I felt threatened in a sense that it’s not, it’s not natural but it’s something that was caused by human

hands. For example, in a hurricane attack, you are forewarned. That a hurricane is coming our way, and get ready,

MLP: right.

W: we go out and buy canned goods, we get water, you set your windows down, you prepare for it. On 9/11, we were going about our daily lives.” (9.13)

One respondent that experienced a natural disaster did report a change in her stress level and life perspective. In contrast to those stories listed above, this respondent felt that her life and that of her family was threatened in this disaster. She survived with “nothing but the clothes on her back”. She reported that after that incident, she did not long “for material things” as they could disappear in a heartbeat.

K: “Yes, on the islands, we had a lot of tropical storms and bad weather in certain time of the year. Our home was close to a river and at that time we had rains for two weeks straight, and the two rivers connected and our home was in the middle. So, I remember all of the water rushing into our home. My grandmother was paralyzed. I remember screaming because everyone was tending to the animals trying to get the animals out to safety, but they didn’t realize that the water was already getting into the home. So I was screaming for them to come back, because I couldn’t lift my grandmother from her chair.

MLP: How old were you?

K: I was about nine or ten.

MLP: What type of stress reactions do you remember experiencing?

K: It was disbelief. I was surrounded by water, and I remember thinking that this isn’t real, this isn’t happening. I went on automatic pilot, what do I need to do, what do I need to get out of the way. I cannot afford to panic. So, I remember people trying to get us out of the home, because we were trapped. People finally were able to come in and help us to get out, but we lost everything, our furniture, we had nothing but the clothes on our back.

MLP; How has that experience stayed with you?

K: In some ways it changed me, as a child, there were a lot of things that I wanted. And sometimes you tend to put this emphasis on material things. And after that I felt like, that really didn’t matter anymore for it could all disappear in a second. So I think it changed my perception.”(14.12)

Two respondents reported that they had experienced prior traumas due to transportation accidents. One respondent, who had survived a subway train accident, felt that similar stress reactions occurred after 9/11 when she was on the trains. This prior trauma served as a risk factor for her, additive in nature, as similar stress symptoms,

nervousness and hyper-vigilance, reoccurred when she was on the subways following 9/11.

“A few years back it must have been 1997, after I started working for the NYPD, I was in a subway accident. On an R train and it got rear ended by a D train. We were all thrown to the ground, all of the lights went off, smoke, we thought it was a bomb. We had been hit by another train - but we didn’t know. We all got taken to the hospital. I turned out to be okay, but I remember after 9/11 riding on the subway - those feelings, because when that happened, the accident, we were all very scared. For the first week or two after 9/11, I remember feeling nervous riding on the train; any lurch would make me really scared. It lasted about a month. After 9/11 I remember having those same feelings again, they resurfaced a bit for me.” (1.19)

The other respondent recalled a prior traumatic event from the blackout of 1999. She was trapped in the chaos in the subway, due to the fact that she had just had surgery on her foot and was unable to flee. Her feelings of being trapped and in great danger produced stress. Not being injured on 9/11, she did not feel that similar stress reactions return when she was in the trains.

“The blackout of 1999, I think it was. I had just had surgery on my foot and I was on the train when everything went black... that was really pretty terrifying.

MLP: Did you have stress reactions to that event? What were they like?

A: The blackout yes, absolutely. Because I was very afraid of getting hit by a car, because I couldn’t run across the street, I had just had surgery the day before so, I was afraid of people stepping on me, I was afraid of getting stuck down in the subway. I was underground, not being able to breathe the air, it was scary.

MLP: Now, when 9/11 happened, did you feel any of the same stress symptoms?

A: No.

MLP: Do you think that the subway experience had any impact on how you experienced 9/11?

A: Yes, because 9/11, I guess I had more control over what I could do. I could run if I needed to run. I could go where I needed to go, wherever. But during the blackout when I had surgery, I mean just physically there was not much I could do. I mean if I needed to run, I couldn’t run. So I guess not having control of the situation during the blackout caused me more stress than 9/11.” (10.9)

A respondent, who had worked for the American Red Cross in natural disaster relief, offered insight regarding the scope of the damage created by 9/11. Even though the

media reports made it seem atrocious, she knew that seen in person the devastation would be even worse. Now that she had family responsibilities, she would not join the volunteer effort, as she perceived it as too risky.

MLP: "Did the sights and sounds of 9/11 remind you of anything that you have experienced before?"

D: Not really, I mean I did some disaster relief for the Red Cross and that was for natural disasters.

MLP: Tell me about that.

D: "we see it on TV, we see one image, but - we don't see it, we don't smell it, we can't hear it, ah, we don't see the breadth of it like you do when you are actually at a disaster site. So I didn't need to see 9/11, I knew that it was FAR more than what the television images was giving. I think a number of years ago; I could have gone down there to volunteer. That would have been me. But, a number of years ago. Not since I've married and am a parent, I haven't done any disaster relief in probably about 10 years."(22.7)

It was also interesting that during this portion of the interview, two respondents recalled prior events that continue to bring them distress that were media representations of disasters. One was a film about an earthquake. The other was a film that discussed how citizens should prepare for safety if a nuclear bomb dropped during the war. In keeping with the theoretical framework of the study, for both of these respondents, these former events served as "independent causes" of stress. Although there was no significant interaction between these movies and 9/11, distress was increased in an additive manner due to their memory of the experience. The power of the media to increase PTS symptoms should not be underestimated.

M: "Now on 9/11, I do remember images of people covered in white. I remember the images of the billowing smoke. And I guess what that triggers for me was when I was about four and a half, my grandmother used to take me to the movies. And there was a movie about an earthquake. And I can still remember the visuals. There was something so terrifying, that that would happen, and there was nothing that you could do about it, it was totally unpredictable. And seeing that billowing smoke on 9/11, because people could have been trapped in it. It came back to me that same feeling." (23.13)

MLP: "Did the experiences of 9/11 remind you of anything you experienced before?"

M: "Not in real life. But when we were smaller, they used to show us, this television program about them dropping the bomb. That's when in school we used to have to duck under our desks.

But for some reason, that movie, I didn't really like it as a child, and it stayed with me. I don't remember the name of the movie, but it was during this whole Cold War thing and they showed what would happen. And how when you dropped the bomb the fire is going to spread out. People were in their cars and the cars just all stopped and then that's when you saw the bomb in the distance and then the fire rushing and burning everything up.

MLP: The fire you survived and this movie that you describe, do you think that your stress reactions to these events were similar to what you experienced on 9/11?

M: Only the movie, which wasn't real. I always took it to be real. The power of media. I just took that movie to be so real, because I felt like it was something that will happen or could happen." (19.16)

Prior Trauma and War

This study's theoretical approach emphasizes that there is a need to explore variables beyond the specific aspects of the traumatic agent of 9/11 in order to more accurately characterize the variability in post-trauma sequelae. The impact of prior trauma due to war and prior personal trauma encountered by the clinicians reinforced this concept.

Two of the respondents recalled prior traumas of war that they survived as children. Their statements about how this experience stayed with them were very different. For one surviving a civil war in her country acted as a resiliency factor. For the other surviving such horror contributed to her intense reaction to 9/11, including flashbacks of the war, hyper-vigilance and sense of a foreshortened future.

The first respondent framed the similarities of her prior trauma and 9/11 in a political context. During a period of civil unrest in her country, a band of marauding thugs threatened to kill her father, as she watched terrified. They thought that her father

did not support their political regime. She compared it to 9/11, as people are ready to destroy each other over political differences, with no regard for humanity.

M: "When I was a child there was a band went around terrorizing young men, especially if they were in school, for if you were an intellectual, you were a hothead and a hothead translated to anti-government and anti-government translated traitor and anything else that they wanted to label you. So they also wanted to raid the homes, under the premise that they were looking for somebody and just to check if you were against them and they would check around to see what you read, and stuff like that and so, there was a particular day, or a period where every single day a young person got killed.

MLP: Oh my.

M: Every day. There was this guy, I don't remember his name, but I remember his face, I was only five. He went out to buy a sandwich, at 7:30pm and didn't come home. He got killed and he was a student and they thought that he did not agree with the government. That was a very sad thing because I always thought that he was so gentle and so sweet. He was always reading and so full of life, and then all of a sudden, he was gone.

And one day, they came to my house and my father was home. By then my mother lived in the United States and my father lived there with the four children; he took care of us. The band came; they were wearing masks. They went up to my father with a shotgun, but one of them said, "Look, he's here with four children, what are you doing? He has four kids to look after, leave him alone." And they left. I was terrified.

So, I've seen abusive things and repression of people.

MLP: And then when 9/11 happened, did memories of that come back at all?

M: No, it didn't, but what it brought to me though was a more universal question about the state of humanity and how people are ready to destroy at the drop of a dime over craziness like land and borders and mountains. To me it makes no sense. You worship the wall and I worship the sea, so now we have to fight each other. And we are going to kill each other and then how sometimes that fear of foster, or ignore it all depending on what the economic ties are and I think that it made me sad that it happened at all and it made me very supportive and nationalistic, but also very reflective of how U.S. foreign policy has not been perceived as fair to so many people." (4.6)

The other respondent reported on how the horrors of war that she witnessed as a child stayed with her and put her at risk for PTS symptoms. She had witnessed people being killed, left to die and saw the decomposing bodies of people that were murdered left on the streets in her town. She felt that these prior traumas stayed with her and

impacted her stress reactions on 9/11. When the planes hit the towers on 9/11 and people fled for their lives, she had flashbacks of being in the civil war in her country.

“I was about ten or nine, and I saw people being killed, so it brought back to me. The civil war that I experienced, the killing, the bullets, people crying and begging for them not to get killed. I started crying a lot on 9/11. I started crying and remembering. I had memories and flashbacks of what I had witnessed back in my country. I was right in the middle of everything.

I remember not being able to sleep or to eat at all even though we had food. I mean to see those things... I couldn't sleep and we would cry most of the time, and when I say “we” I'm including my siblings, there were three, no four of us. And the only coping mechanism was to listen to my father and mother used to tell us, “Get under the bed, hide. Don't say anything. Keep quiet.” I guess we kept everything inside of us, we really didn't have time to like, get everything out, how we really felt.

MLP: Did those feelings come back on 9/11?

R: Yes, they did. I felt anxious, I cried, I couldn't sleep, I couldn't get on the subway. It affected me in a way, where I felt, “Well this is it. This is the end of the world.” (15.3)

Prior Personal Trauma History

About half of the respondents shared prior trauma experiences of a personal nature, such as the unexpected death of a loved one, a painful divorce, child abuse or being victimized by an attacker. The respondents' reports indicate that they are evenly divided on whether these prior personal trauma experiences served as risk or resiliency factors to their developing stress symptoms after 9/11.

For some, these prior episodes impacted their stress reactions to 9/11, enhancing their vulnerability or risk for PTS symptoms. The prior trauma history of these respondents could have made them more susceptible or vulnerable to having stress reactions similar to those individuals who were directly exposed to the attacks. Other respondents felt that their prior trauma experiences made them stronger, more resilient and better able to endure the stresses of 9/11.

During the interviews, they shared many different examples of personal traumas from their past. They are presented in this section, grouped either by the type of event they endured, or by the types of emotions and stress reactions that they reported after the trauma occurred.

Two of the respondents reported that they realized that their “lack of control” over upsetting life events caused them distress. They reported that their prior trauma experiences left them more vulnerability to stress reactions on 9/11.

L: “When I was six, I was home alone with, I had a seven month-old brother and I was left home alone for a little while, and he died of SIDS. Yeah, well that was like my first taste of like well bad things do happen and you really can’t do anything about it. Then my parents went through a really, really, traumatic divorce, infidelity and a lot of abuse. My brother and I witnessed a lot of that, so that felt more traumatic than 9/11.

MLP: And when 9/11 happened, did you experience a resurgence of those types of feelings again?

L: Yes, absolutely, they made me feel more vulnerable and they made me feel more out of control and hyper vigilant. Out of control in the sense that I had worked so hard to try to predict when bad things could happen and I didn’t predict this.” (2.12)

The other respondent related the horror she experienced when she witnessed her sister hit by a car. Similar feelings of “not having control” over events affecting her life came back very strongly with the terrorist attacks, leaving her feeling very vulnerable to stress reactions.

M: “I guess I really relate it to 9/11, on 9/11 my heart was pounding, I was really scared. My sister, I saw her get hit by a car and that was very traumatic, and seeing the news on 9/11 and I see people jumping, out of these buildings, to me it was like, that’s like a person, literally that skin, to me a person just died, a person was just hurt. And it was very similar, my sister being hit by a car, was one of the worst things I’ve seen.

MLP: When did that happen?

M: I was 15. We were outside in front of my building. A car went to show off and do a 360 and he lost control of his car, it hit a parked car, which hit my sister.

MLP: Oh my.

M: It jumped the curb and hit my sister, so that was really traumatic, I was a couple of days away from my sweet 16 and we couldn't have it, cause my sister was not doing very well so a lot of things were cancelled, a lot of things were stopped and I was pissed off. I was really mad that that happened and that my life wasn't the same after my sister got hit by the car.

MLP: mm hm. Did any of the memories of what happened to your sister come back, or those feelings, on 9/11?

M: Being really pissed off. That I don't have control came back, those feelings came back. I didn't have control and I was afraid of losing myself, literally, I was afraid of dying. I was afraid on 9/11, the fact that I don't have control was the big thing, that I don't have control of my own self and I was really mad too. Besides being scared and all that, I was so mad, so upset, so mad. It just had me really pissed off that I would go home and cry all of the time about 9/11. I was just so mad, I was like, "Why can't it just be normal?" (12.7)

Two respondents shared painful recollections of their brothers' suicides. In both cases they felt that these experiences impacted their reactions to 9/11. They also both stated that the suicides were the worst experience that they had lived through.

For one, 9/11 served as a haunting reminder of how she felt that she wasn't paying close enough attention to the needs of her clients – similar to how she wasn't paying close attention to the needs of her deceased brother. It was more remorse-filled and guilt laden. She reported that she experienced a high level of PTS symptoms on 9/11. She reported that she was filled with anxiety and panic. Working in upper Manhattan with an immigrant population, she regularly encouraged and "pushed" clients to go downtown to the WTC area for work opportunities.

"I was home, I had called in sick. It was a Tuesday...about 2'oclock in the afternoon and the phone rang. And it was the police. And they asked me my name and I said, "Yes". And he asked me if I was the sister of J. and I said, "Yes." And I said, "What happened, is he in jail?" And he said, "No, we found your brother dead in the apartment. ..." (Crying).... My brother lived in the first floor apartment and my cousin owned the house and she lived in the second floor. I remember going up to her house and pounding on the door and crying and crying. And my cousin wouldn't let me go. For when my cousin found out that he killed himself - he went over there and they were taking away my brother's body. And that was the saddest day of my life.

MLP: I am so sorry. (Silence) Do you want to continue?

S: Yes.

MLP: Can you tell me if you experienced similar or different feelings after the terrorist attacks as you did then?

S: Yeah, similar. It was a feeling like letting people down.

MLP: What do you mean, letting people down?

S: It's like so many times when we work with families, we dismiss things very quickly, very similar to what I did with my brother "oh you're okay, get over it" And many times though when we are working with families, we encourage them to go, expand, look at your community, grow, develop, go downtown. I was like, "who did I send downtown today?"

MLP: Mm hm.

S: Who did I dismiss so fast?" (10.9)

The other respondent felt that her response to 9/11 was similar in that it evoked the same type of "what's really important in life" perspective as her brother's death did years ago. The rush of emotions for both events was similar as was the push for her to reevaluate her life perspective. She felt that this reevaluation made her more resilient and better able to cope with the stress of 9/11.

P: "The worse thing that happened to me (personally) was when my brother committed suicide. But 9/11, visually, was the worse thing that I have ever seen, being there in the rubble. Yes, for sure.

MLP: Do you think that your brother's death impacted how you reacted to 9/11?

P: Some, because you got rushed, you got such a flood of emotions. Right then and there, you start getting perspective on what's real and what's not. What's worth going through changes for and what's not. Me not getting my ex to do something, compared to this shit that I'm seeing at the WTC site - is like me yelling at my daughter for something stupid or benign is so not important to just know that she was alive and she was alive. It really, really put things in perspective. You know, I used to suffer from road rage. Like now, I'm like oh, so what, he cut me off, well, you're okay, I'm okay. (Laughs) it just gives you a form of what's real and how good we have it here, cause 9/11 is someone else's reality in another country all the time. You know like in Israel or the Middle East, every day, any given day, they don't know if they are going to walk out from a public place with the suicide bombing. So, it kind of just put things in perspective and balanced out the scale. That no matter what goes on here, I'd rather be on this side." (20.5)

For another respondent, the death of her mother was cited as the most traumatic event that she ever experienced. This prior loss impacted her stress reactions to 9/11. She

felt viscerally connected to mothers who lost their children and to children who lost their parents, it produced anguish in her. In her mind, her sons could have easily chosen careers as firemen and lost their lives that day. This “it could have been them” produced agony and increased her stress reactions to 9/11.

“The death of my mother was the worst thing that ever happened to me. That has always been my sadness. (teary).

MLP: Are you okay talking about it?

S: Yes, I’ve lived with it and I’ve sat with it. I’ve come to a place of peace with it. And then that’s gone, and I’m not peaceful, but that’s what it is, and it’s very much who I am, that loss was devastating. The absolute worse.

S: So, I guess my feelings about 9/11 were very much caught up in issues around parents and children, and that’s where it’s connected for me. Mothers with those pictures of their beautiful fireman sons. And having seen them, “I last heard that he was in Tower one” Then I thought of myself with my young son, and they were in their twenties when this happened. They could have just as easily have become firemen, you know, Irish Catholic kids, growing up in Brooklyn, it could have been where they went and that kind of loss the “could have been” loss, the potential, really stayed with me, very powerful. (7.20)

Two respondents shared prior traumas regarding the issue of child sexual abuse.

One experienced physical and sexual abuse as a child. The other respondent was accused by her ex-husband of sexually abusing her daughter. Although very different in nature, they both reported that these experiences stayed with them. They both felt that their stress reactions to 9/11 were not as strong as their reactions to the issues of prior trauma related to issues of sexual abuse. Having survived these horrific episodes seemed to steel them from internalizing the 9/11 disaster in a stressful manner.

One respondent who was sexually and physically abused as a child reported that she blocked out the abusive incidents by “escaping” in her mind. 9/11 did not produce the same type of stress reactions.

MLP: “Did the sights and the things you experienced on 9/11, did you ever experience anything like that before?”

K: Well I come from a difficult childhood, a dysfunctional family, I think that through the years that has helped me with this automatic pilot mode, because as a child, I remember I had to do that to be able to continue. I experienced physical abuse and sexual abuse; there was also emotional abuse. Domestic violence, alcoholism - that was all in my family.

MLP: How did you cope with that?

K: Basically, I just went into my own little world, I was in Puerto Rico, we lived in the country and I used to love climbing trees, so I would go climb on a beautiful tree that we had behind the house and I would sit there for hours. Um, and when I finally began to read, that was like my oasis. I would take a book up the tree and I would sit there and read and I would ignore, ah, as best as I could what was going on.

MLP: When you look back the things that happened in the past, when 9/11 came did you have any similar stress reactions?

K: No, I could not say that. No.” (14.6)

For another respondent, although 9/11 produced some feelings of stress, the 9/11 stress paled in comparison to watching her daughter receive a physical exam to rule out sexual abuse after her estranged husband accused her of molestation.

MLP: “Did 9/11 bring back other memories of traumas that you’ve experienced in the past? Or feelings?

D: Uh, I don’t think it brought back specific memories, but it did feelings, some of the feelings that I experienced on 9/11 were familiar. And yeah, like it did remind me of being traumatized. I have to say this, cause then I’ll think you’ll understand. That her father (ex-husband) called ACS and accused me of sexual abuse of my own daughter. So, when that happened, Oh my God, I can’t explain what I went through, with detectives, ACS at my house, I had to watch my daughter go through a pelvic exam, it was the most horrific thing I could ever imagine. So, my stress experience of 9/11 was more removed.” (21.9)

In contrast, a third respondent reported that although he experienced prior trauma of physical abuse as a child, the stress symptoms that he experienced from 9/11 were more significant. The fact that 9/11 was caused by terrorists, intentionally acting to kill, overshadowed his past episodes of child abuse by his parents, who he deemed incompetent, not life threatening.

E: “I mean my family life was not great growing up. I still think that 9/11 still pushes, well, even child abuse - my parents were not the best parents. I give them a “D”. But regarding 9/11, they are not of the same magnitude, with child trauma,

there comes a point, I think, if you are self-aware, when you say, you've got to move on, because you are not going to have any quality of life if you don't. You can't do that with 9/11. I am trying to compare it to everything in my life, stuff I've seen personally, my parents and their physical abuse, other traumas, but it's still off of the chart, because it's intentional. It's not nature, it's not an act of God, it's not part of the natural order, 9/11 it's still off of the scale. For stress, it's just off the scale. (18.8)

Two respondents stated that their stress reactions to prior traumatic events were similar to 9/11, in that the way they processed information prior to acting was the same. Going into "solution mode" first, before "feeling mode". Pushing away their feelings of sadness, anxiety and stress in the moment of crisis served them well. This type of problem-solving coping allowed them to keep their stress at bay until they felt able to process their anxiety and stress.

One woman, who was almost killed by a suicide jumper, reported that her stress reactions to that traumatic event were similar to how she handled 9/11 stress. She blocked out her emotions, took immediate action and then allowed the processing of emotions at a later time.

J: "I once saw someone jump from the Williamsburg Savings Bank. At that time the tallest bank in downtown Brooklyn and I was 21 and she landed several feet in front of me. I could have been killed. She was a very large woman, probably killed herself, she jumped out of a window, but the body, she fell and splashed a couple of yards in front of me. I would say that was a pretty traumatic experience. And, I did act very rationally, by telling a Spanish grandmother, who was walking with her young grandchild, in Spanish, to cross the street and not to continue walking on that side. Protect the child.

MLP: Did you think that any of your stress reactions from that trauma were the same as your reactions to 9/11, or were they different?

J: "Similar in that I understand my own cognitive style, which is to gather information, I tend to be more deliberate than emotionally reactive right away. I tend not to be hysterical. I tend to be calm in crisis. The difference was that the suicide, that I witnessed, was one shot, immediate and ended and didn't have impact on my future." (17.6)

Another woman processed 9/11 in a similar way as she had responded to the death of her grandmother: action first - emotions later. This pattern of dealing with the onslaught of stress reactions helped her tolerate her stress when the terrorists struck the City.

M: "I think the way that I responded on 9/11, I did go into a solution mode, and maybe later a delayed stress response. I started looking for answers. What could I do to make it better now, I can worry about how much it hurts later, and I think that's how I responded throughout that period after 9/11. The one time I lost someone to death was my grandmother, I was sad for the first two weeks, but, I was like "How do I solve this?" It was like okay, what's first, first plan the funeral then bury her. Then, is everybody else okay? And then two weeks later, then I cried. So it was like a delayed response. I don't know if that came from just being a kid who grew up in a island where children are allowed or encouraged to have responsibility early, or if it's just part of my nature, but first, I act and then I cried. MLP: and how did you respond to 9/11?

M: The same way, the same way." (4.8)

A third respondent felt that her stress reactions to a prior battle with breast cancer were very different than 9/11 - 9/11 being more stressful. However, in both instances she found ways of keeping herself in a constant state of "doing" or "solution mode" as a way of blocking out her stress reactions and as a means of regaining some type of control. This in turn made her more resilient when the trauma of 9/11 struck.

MLP: "Did what you saw, smell and heard on 9/11 remind you of anything else that you ever lived through?

M: Nothing. The only trauma, my personal trauma was my own surgery for cancer.

And that was just what I would call a loss of innocence. But to me that was so much less. And 9/11 was a loss of innocence of our entire world structure. What it means to be American.

MLP: Did any of the stress feelings that you had when you went through the surgery, compare to the types of feelings or emotions that you experienced on 9/11? Or were they very different?

M: For me it was very different. I think my coping was the same. I mean my coping on 9/11 was always about "what is doable, what can I do that is going to give me a sense of having some control". I mean if in the past I could do six things in a day, now I was doing 12. That gives me a sense of having less stress

and some control over my life, except it gave me high blood pressure (we both laugh....)

M: Cause in my surgery, I couldn't be frenzied, cause I was sooo exhausted. It took me a year, to get over what I call the **big** surgery. The only thing that might have been similar on a tiny scale ah, was that even when I was in the hospital, I started knitting. And I made an afghan. So I just think it was similar that I felt that I **had** to do something. I guess for me it was to feel useful and I don't know if it's because crisis throws me into a rescue mode. I feel other people's needs more. I guess what happened was that 9/11 opened me up to feeling other people's needs more than I usually do. (24.5)

Three respondents expressed that their prior experience of personal trauma left them more resilient and better able to handle the stress reactions of 9/11.

After surviving a violent attack by a stranger, one respondent worked through her anxiety and stress about her fear of being victimized. This reserve of resiliency motivated her to help other victims of the 9/11 attacks.

A: "In January of that year, (2001) I was attacked by a man and my response to that was the feeling that I don't ever want to leave my house again. But working through it and leaving that door every morning, so that when September 11th happened, the gut was you've got to get out there, you've got to help these people to want to get out of bed every morning or meet what was ahead of them. So I do have the feeling of knowing that you are a victim of something and that something happened to you that you had absolutely no control over. And you know how to press through it". (5.5)

One respondent's prior trauma history included the loss of her father and her brother. She felt that these experiences made her more resilient to the stress reactions caused by 9/11. She credited her successful recovery process as the reason she was able to help others recover from the 9/11 attacks.

J: "My brother died of AIDS, 18 years ago, my older brother.

MLP: Oh, I am sorry.

J: Who I loved very deeply and my father died when he was 49 of leukemia. So, in both of those experiences, but my brother more, I had an experience first as an adolescent and then as an adult, of caring for people that I loved deeply who were in prolonged medical crisis.

MLP: How do you think your caring for your brother and father, impacted your stress reaction to 9/11?

J: Oh, my stress reaction. I would say it acted as a resiliency. I think that over the years, the losing, the loss has really been woven into who I am on many different levels. And I think it's really over the years, allowed me to really live my life. My sister and I have a little joke we share, "what a gorgeous morning and we are not going to Sloan Kettering." You know it's a kind of a real awareness of **life**, of being alive.

One respondent shared painful memories of childhood traumas of abandonment, homelessness and depression. She reported that her ability to survive these traumas enabled her to tolerate 9/11. She had developed a resiliency and a belief in her ability to survive the worst of situations. When 9/11 occurred she relied on these same reservoir of "survivor" skills to adapt to the new stressors.

A: "When I was 12, my father moved us into a big house in a new town and stayed with us for a little while and then took off. Over the course of months, my father is gone and there was no income, and so over a period of time, things happen. The telephone gets shut off, and then the heat gets shut off. Then we came home to locks on the doors and we had no place to go. And that was probably the most personal traumatic thing that happened to me in my life. That feeling that your whole world, the floor comes out from under you. Having no place to go and being in a car, living in a car.

MLP: What was that like for you?

A: It was extremely frightening and incredibly depressing, incredibly depressing. To be abandoned like that. And my mother was in a severe depression. We were quite desperate, very, very desperate.

MLP: Do you think that experience impacted your stress reactions to 9/11?

A: Actually, I think it's what helped me to tolerate 9/11.

MLP: Tell me about that.

A: Well when your whole life changes so much and everything that you know is gone, you're left with yourself, which is a whole lot, actually. And you suddenly recognize that things, all of those other things, don't really matter a whole lot. I mean they are really nice to have, but you survive anyway. Man has always survived without things, through the years. I mean how did we do it? I shouldn't even say through the years, now. All over the world, people survive without having things, so I think it's a mindset and I just remember feeling that I was going to be okay. I had myself, I had my health, and my older brother who was just my connection to the world, and my family, my mother in whatever way she could function, she didn't abandon us or give up on us and that was a great strength, and there is just something about that that makes you say oh, okay, I got through that, now what?

MLP: mm hm

A: You really can't do a whole lot to me. I learned that money comes and goes, so don't be too attached to it. I learned that you can lose your things but that doesn't mean that you lose your right arm or even if you lost your right arm, you still have your Self. So, I think that made me stronger, very much so. I am truly a survivor and you learn to adapt. You learn to have this mindset that you can adapt regardless of what happens." (24.15).

The theoretical framework utilized for this study (Foy, 1992) suggests that prior trauma could serve as a mediating variable for the 9/11 attacks, and act as either a risk or a resiliency factor. Prior trauma is a mediating factor that can produce stress independently. In this type of relationship, distress is additive, without any interaction between the two occurrences. The events of 9/11 could increase PTS symptoms if the prior trauma had occurred recently or if the prior trauma was not effectively resolved. If it had been resolved and the individual had sufficient "protective" or resiliency factors in place, I.E. support systems, therapeutic support, etc., the prior trauma could act as more of a resilience to combat the PTS effects of 9/11. This model may help us understand why some clinicians felt more at risk and developed PTS symptoms, while some did not.

Chapter VII

Secondary Traumatic Stress

There is a cost to caring. Professionals who listen to clients' stories of fear, pain and suffering may feel similar fear, pain and suffering because they care. Those who have a large capacity for feeling and expressing empathy tend to be more at risk of secondary traumatic stress (STS) (Figley, 1995). Secondary traumatic stress is the natural, consequent behaviors and emotions resulting from *knowledge about* a traumatizing event experienced by a significant other. It is also the stress resulting *from helping or wanting to help* a traumatized or suffering person (Figley, 1999). The symptoms of STS mirror the symptoms of PTSD. Due to exposure through work with the traumatized person the clinician can experience intrusive, hyper-arousal and avoidance symptoms (Stamm, 1999; Figley, 1999).

A goal of this study was to explore the experiences of “indirectly exposed” mental health caregivers who provided clinical services to those directly affected by 9/11 in comparison to caregivers who did not serve clients with 9/11 related issues. This researcher wanted to determine if this “relational” exposure, through 9/11 client contact, heightened PTS and STS symptoms that the clinicians experienced. A better understanding of the experience of the mental health caregivers and how this type of indirect exposure impacted their personal stress levels was explored.

Working with 9/11 Clients

Working with clients that had 9/11-related issues was complex and challenging. This section will report on the types of problems that the clinicians encountered and the challenges they faced in helping these clients. The impact that this work had on their

stress levels was impressive. In keeping with the theoretical framework of this study, exposure to their clients' stories could act as a "potentiating" variable, thus increasing the clinicians' risk for STS reactivity. The impact of hearing the clients' stories interacts with the clinicians own stress level and concerns about the terrorist attacks, heightening the resultant STS reaction beyond the simple additive effects of the two factors taken alone.

Disaster mental health workers encounter many stressors. First, the response must be immediate. The therapist may have little or no control over the situation, as it is often an outreach environment. In addition, therapists may have little time to prepare and limited time for interventions. They may experience lack of space and unfamiliar, sometimes dangerous surroundings (Talbot, et al 1995). Also, there may be a tremendous number of people requiring attention, or numerous crises to be dealt with (Miller, 2000). Raphael (1986) states that when helpers are working supportively with victims of a disaster, they may empathically share, through identification, the painful emotional burdens the disaster has brought. These problems were encountered by the clinicians in this study.

For the majority of those interviewed that worked with 9/11-clients, the types of problems encountered with clients were "new" territory. Many clinicians were not trained in disaster mental health counseling and did not have prior experience handling the horrific types of problems their clients brought to sessions. The clinicians' experiences also differed based on the type of 9/11-client. Some clinicians were dealing directly with family members who had lost loved ones, other dealt with people who fled the burning towers, others worked with individuals considered "indirectly" exposed, but were still fearful and symptomatic.

The clinicians' experiences varied by the degree of intensity of exposure to the 9/11 attacks that they encountered in their work. Their physical proximity to the disaster site and the types of client problems that they dealt with on a regular basis, created various levels of stress. Helping families through the ordeal of body part identification, procuring DNA samples, planning memorials or funerals without the family members remains, and mass bereavement were some of the issues that faced the clinicians. These issues were outside the realm of their prior clinical experience. The clinicians interviewed for this study provided counseling to clients through several different venues. Some were stationed at Ground Zero and the Armory. Some provided counseling to clients through office settings for Project Liberty and mental health agencies. Others were in private practice. The types of problems that they faced with these clients were different based on these locations.

Client Needs at Ground Zero and the Armory

A: "We were down there continuously. We were working with families who had to get stuff out of Battery Park City, so that they could be relocated to hotels. We helped them assess the damage in the apartment, helping them get back down there. We were also doing the boat rides to the pit for the families.

MLP: What does that mean?

A: From the pier, they were putting the families on ferries and taking them down to see Ground Zero, so that the families could have a place to see where their loved ones had been lost. So I continuously did that.

MLP: What was that like for you?

A: It depended on the family. I had some families who were like very positive about it and said, "even if I never get anything to take home at least I know where they are." Other families were absolutely distraught and falling apart. It depended on who the family was. But I just functioned like just being there for them to see what they needed, no matter where they were psychologically. It was tough, it was hard. It was really hard." (5.14)

Secondary effects of trauma have been noted among clinicians that have increased and continuous exposure to clients with PTSD. Continuous contact with disaster victims was also noted to have increased the avoidance and intrusion scores on the IES scales for

clinicians, and that these effects were distinct from burnout (Munroe, 1991; Kassam-Addams, 1999).

For the clinicians that were stationed at Ground Zero and the Armory the experiences were quite intense and the problems they encountered extremely serious and stressful. They had intense physical and emotional exposure in an indirect or secondary manner serving in this capacity. Most of these clinicians stayed in this role for over 12 months. Several remained involved with these clients for over two years.

Clinicians helped families when they had to identify the remains of their family members. This task was extremely stressful for the clinicians. They dealt with “the body list”, identifying significant markings, such as scars or tattoos. They helped process DNA and legal paperwork for missing persons and wills.

A: “We were at the Armory. I had jobs like going through the body list and the names on the death list, helping families look for things. If there was a torso with a tattoo on it, did your loved one have a tattoo? What did it look like? To helping families fill out papers and missing persons reports to filling out papers for lawyers to start the process with the wills, if that’s what it was going to be - to working with kids on the ground with toys to help them, while there parents were doing a hundred other things. Once the Pier opened, we really focused more on the children and adolescents, playing cards with them, doing drawings, talking about who they were missing. We helped them with the DNA testing.”(5.21)

One clinician, who worked in the morgue supporting victims’ family members after the identification process, described the gory details that these families and he encountered.

E: “I had to try to support people after the remains were identified or if they needed to identify the body. There were clumps of, there looked liked clumps of brown and green mud. Then you would see the doctor break them open, and you realize that it was a body part when it cracked open, or you’d see it. You did see a body without a head; the poor guy still had his waiter suit on. Hands and feet and **well**, it certainly was.. There aren’t words for it. I didn’t get nauseous, and maybe cause I’d worked in hospitals, so physical body parts, I’m not squeamish. The thought of war made me nauseous, but seeing the actual physical stuff didn’t. It

just made me go, "Oh my God" The problem is that the images in the media are so sentimentalized, so romanticized, when you actually see it - you know."
(18.30)

This clinician described how drained she felt after she offered support to another clinician bringing a family to the disaster site so they could see where their loved one had perished. Her support to her colleague was needed, as the clinician was overcome with emotion and sadness of the magnitude of the task. It seemed as if this job was simply emotionally too intense for one clinician to handle.

A: "I felt like we were invading this kind of sacred area. I went with a staff member and a family member up on to the family platform. I remember it was one of the most profound experiences of my career. This family member was having great difficulty with the fact that her daughter was gone. And was having the family search all of the hospitals, all of the time. And the staff member had finally convinced her to come down to the site. And it was highly emotional; she brought about 20 family members with her and was still very shaky, this staff member was very close to the family. She had been working with her intensely. A: I was trying not to be intrusive, to be there as a support. The staff member was standing next to her and talking to her and crying and coming back to me and saying, "I can't do this." I'd say, "Alright, I am going to give you my energy. You have to go back there. You brought her down here. Now you have to go back there and give her your energy. And this exchange, this flow, it went on for quite a while and it was incredibly draining."(24.22)

Client Needs at Project Liberty, Mental Health Agencies or Private Practice

Other clinicians provided therapy to 9/11 clients but were not located at the physical site of the attacks or at the Armory. These interactions also provided an intense level of secondary exposure. Many of these clinicians were under contract with Project Liberty or worked for an agency that provided crisis and long-term mental health services. Some worked in their own private practice. They worked with clients that were involved in the recovery effort as first responders, with clients that had lost loved ones, clients that fled the WTC area that day, and with clients that were indirectly exposed but had debilitating PTS symptoms.

Several clinicians dealt with clients who received family members body parts long after 9/11 had passed. They expressed their own shock and amazement of having to help a client deal with these heartbreaking, sometimes grotesque situations, usually after the client had come to terms with the tragedy and was trying to move on with their lives.

S: "And then, we are working with a family, a 9/11 family whose husband died, in the tragedy, she goes to the Dominican Republic, she goes through the entire ritual of letting go her husband, moving on with her life, she was pregnant when her husband died, she had a toddler, she was moving on, she went through the entire ritual and **then**, a year and a half later, they call her to pick up her husband's body, the medical examiner. (11.26)

One clinician's described her worst memory. Her client received word that they had identified a part of her husbands' foot and arm. This distressing news was received 18 months after 9/11, causing tremendous anguish to the client and her children. They had already held memorial services to bring a sense of closure. Their wounds were reopened.

J: "The families, you know, um, at that point I had one woman who had started to receive some body parts. and that was just horrific. I think that was one of the most horrific experiences for me.

MLP: Can you tell me about that?

J: I treated this particular family; this was a family that unfortunately I knew before the Trade Center. I had worked with their child a year and a half before, so I knew this father who had died. I had a real knowledge of him, a real physical presence of him in my office. So I knew the clinical issues around that family in particular. I met with the mother and she said that somebody had come to her door with no warning and she was told that a part of her husband's foot and a part of his arm, and she had a daughter, in the house.

MLP: oh boy....

J: And these families were being asked to decide what they wanted to do with it. Now they had all had their memorial services. They had all done what they were going to do. And I had nothing to do with this, but there was a minister in the next town, who somehow, an amazing guy, set up with a funeral parlor, um, to hold these body parts until everything was found. It was that part to me, was absolutely mind blowing. Sitting there knowing, sitting in my office, picturing this great big husband of hers, and her at the door, hearing this information. The other families, they found nothing. But that was a hard one for me." (26.19)

Others had to deal with the difficulties experienced by undocumented clients, who were trying to gain information and support about how to handle the death of their family member. Some clinicians expressed their frustration and stated that they felt at a loss due to their inability to handle the immigration barriers that frightened these clients.

“Some of the people here worked for Project Liberty. There was this particular lady - she lost her only son, the only son that she had, and she’s undocumented. She didn’t know where to turn, she didn’t know what to do and she was afraid of seeking help. She didn’t know if they were going to find out that she was also undocumented and she was going to be deported. So, I just listened to her, tried to connect her with all the resources within (agency), like the mental health clinic so that she could get some counseling. She wasn’t able to get any help, the type of help that she was looking for. She went back to her country cause she was the only one here in the United States. She couldn’t recover the body, so she just gave up and went back.” (15.4)

Others provided support to clients that had endured multiple losses. One client’s fiancé lost several family members, as they were all working at the same financial firm located in the WTC towers.

M: “One of my clients, his fiancé, not only did her brother die, but her two brother-in-laws they all work in the same firm, they all died, so there were three. So, he had to deal with his girlfriend’s grief and the grief of his girlfriend’s family.” (13.18)

Clinicians reported that they worked with clients that had fled the WTC towers or the financial district on 9/11. Many of these clients were experiencing flashbacks, survivor guilt or were tremendously fearful of returning to their jobs in the area.

W: “A client evacuated the towers building on 9/11. He was relocated in Long Island since then, he said, “I don’t want to go back there”. The company has sort of relocated back to the City and I said how about if you try to go back there and see how you are with it and he said, “no, no, no” Very resistant. So I said, “Well is it possible that you may want to switch careers or find another job”. He couldn’t because of his age, when you’re at that age. The company did eventually go back to Manhattan. It was very difficult for him that day. In fact, he resorted to drinking. When he went back on the day they relocated, he said that he could still hear the people and hear their screaming.”(9.19)

A common complaint among clients was their fear of being trapped in the subway system. One client, having been trapped on 9/11, claustrophobic symptoms intensified at the thought of returning to the underground trains.

M: One client was afraid of riding subways. She was in a building about two blocks from the WTC, so she was, I guess you could say that she was directly impacted, she wasn't in the WTC, but she ran out of the building and there was smoke and she ran into this church and apparently there was suffocating smoke and she felt claustrophobic and she if it wasn't for somebody there who led her out, she thought she would have died. I think she was panicking and having a full fledged panic attack. She was frightened about whether to go back to work and to ride the subways." (13.18)

Another clinician provided support to a woman that fled the towers leaving her lover behind. The client's lover perished on 9/11. Soon after she found out she was pregnant with his child.

J: "I did about five or six sessions with a female banker, a research analyst who fled. She told me horror stories, including that her extramarital lover, motioned that he was just finishing up a business call, as they fled down the stairs. He didn't survive that day. So we don't know - was it greed, finishing the deal, that long distance phone call - scary to think that people make that choice. She walked down the 80 flights and lost her boyfriend. He was never heard from. Plus she found out that she was pregnant right after 9/11, so she went and had an abortion, she didn't want the baby." (17.16)

Other clinicians dealt with issues of "survivor guilt" among those that fled the towers but survived on 9/11.

M: "I had patients who worked in the financial area. And one who was saying that he went to his gym and out of 14 lockers, he looked around and thought that eight of these people are gone... And I had some crisis calls, that just because of people who refer to me, so they were referring other people to me. That there were people who were suicidal. I bumped one of my cancer patients who was literally in a dying mode, from advanced lung cancer, to fit in a young woman, who was down in the financial area and was saying that she just couldn't take it and that she was going to kill herself.

There was a lot of putting themselves in other people's shoes. And so how dare I be concerned that my colleague has \$10million in the bank and I only have \$2 million and I can't retire on it. Because now it's like some of those colleagues are dead." (23.25)

One clinician reported on a client who almost died in the WTC on 9/11, but had left to get a cup of coffee. He had tremendous struggles returning to the workplace, as he refused to be in any enclosed place where he did not feel like he had complete control.

W: "This fellow was a courier who worked with Chase. And he was sent to building two of the WTC that day, to pick up the package. I think he went to the 68th floor, but the package was not ready and the individual said to him " go back and get some coffee and come back in 30 minutes to get the package. So he went down stairs to the lower level to get breakfast and while he was there the first plane hit. He had no idea he said about what happened. And he went upstairs and realized all the mayhem and he began to run. I was working with him for quite a while. He refused to be in any vehicle that he is not physically driving. He would not get back on a boat; he would not get on a bus. He wanted to monitor his surroundings, if he was not in control, he would not go. I remember the last time we talked; he was very fearful, very fearful. He wouldn't fly on planes. He was a courier and he would drive, but he was afraid of tunnels. If he could get on a bridge, he would, but not tunnels. Anything enclosed he does not want to be a part of. What he explained to me was that if he was on a bus that was driven by someone else, and if he was in danger, he wanted to get out right away, not for someone to stop and let him out. He felt trapped when he was downstairs at the WTC and he said that if he had stayed for that package, he wouldn't have been alive at this point. So where there are crowded areas or in vehicles driven by someone else, he won't be a part of it, because he has not control. Going through tunnels, reminds him of 9/11 again he can be trapped, and he wants no part of that." (9.28)

Other clinicians were one more degree removed from the intensity of the 9/11 attacks as they provided counseling to those who were more indirectly exposed, but still suffering due to the attacks. These clinicians were primarily provided counseling in mental health agencies or private practice.

B: "They were all highly anxious and um they were scared, very, very, scared. I had in my practice, a woman who became pulled into the tragedy of 9/11 because someone that she worked with lost her husband in 9/11. The woman was pregnant at the time and so she needed to go down and do the identifying, well she didn't need to but she was asked to. And so she went down to where she had to register and um fill out all of the information for people who had lost somebody or whose mate had died down there and she was traumatized by this, extremely. For months we did work on her post traumatic stress." (3.17)

One clinician described her work with a client who refused to leave the house after 9/11 due to safety fears.

L: "We did have a client afterwards, who wouldn't leave the house because of 9/11. We had to work with her. This mom didn't want to leave the house. The worker visited her and sat with her and convinced her. She didn't want her kids to go to school. This was way after 9/11, but she still wouldn't send her kids to school. So, we worked with her, supported her, sent her to therapy and walked with her and her kids to school, just making her feel safer. She didn't have any direct exposure either, no one died." (6.23)

Another clinician, who provided group therapy to adult survivors of sexual abuse, described clients' fears of safety regarding public transportation. She also poignantly expressed how after 9/11, the clients incorporated their current feelings about safety issues into the group sessions, drawing parallels to their feelings of fear they encountered in prior abusive situations.

M: "Tremendous number of issues. First of all, coming to sessions, safety issues. You know "can I take the subway, I'm not sure about it?" "Can I have a phone session instead?" These safety questions would come and go depending on high alert, low alert. One of my groups, a long- standing trauma group, very sophisticated group members, they would talk so eloquently about how they grew up with this feeling of impending doom. Child abuse, sexual abuse issues, and every footstep meant something, the way the door slammed, meant something, you know the way an expression looked, meant something. Every minute was being on the edge of my seat "was I going to be raped again?" Now I feel like it's happening in the world, drawing parallels, now I walk into the subway, I look at the faces and every one is anxious, suddenly, my trauma is shared in the subway. I'm frightened that there will be something happening in the subway and so is everyone else. What validation. So a lot of comparisons you know, very sophisticated and very thoughtful discussion about that for them. The existential issues of who we are, the shared trauma that we went through together, the issues of boundaries, the issues of a closer experience, that feeling of shared experience, so so many dimensions. Existential dimensions became much more a part of the discussion, meaning, life, hope." (16.23)

One clinician pointed out a unique problem that she encountered working in this particular disaster that she had never encountered in prior trauma work. Clients that had lost loved ones on 9/11 over-identified with the deceased to the point of "taking on their

personalities". It was not the typical type of grief symptoms that she had handled throughout her career.

A: "What I perceived as a serious clinical problem for the families that I did talk to was an over identification with the incident. For some of them, I thought 9/11 took over their personalities.

MLP: Tell me about that.

A: I had families who identified themselves not as "hi, I'm so and so"; but "hi, I'm a sibling, I'm a mom, or I'm the dad of"...somebody that died on 9/11. And taking over their things, their apartments, their jobs, becoming disabled because they had a family member who died and they can't function anymore. Not any of the typical - if there is such a thing, grief. I used to work in a hospital on a cancer unit. It was a 40 bed unit I worked on and half the people would come in for chemo and go home and the other half were there as part of their last stage of life, to die there, so I got to be very involved with the grieving process, the dying process, the grieving process, the family grieving process, and I had not ever seen what I saw after 9/11 before.

This was very different to me, this is people who are identifying this, this **thing** that happened was so big, that I think people were assimilating their personality in with this thing and just not able to get past any of it." (24.36)

Providing services during the aftermath of 9/11 was a challenge to say the least.

For the majority of these clinicians, these types of problems were new. The needs of the clients were significant and complicated. The stress of providing services to those impacted by the disaster, while they themselves were dealing with their own reactions, should not be underestimated. It was heroic and difficult work.

The Impact on the Clinician

During the course of the interviews, clinicians reported that as they continued to help clients with 9/11-related issues, their stories became more painful to hear. This work seemed to create a growing mound of tension within them. It appeared as if the cumulative effect of repeatedly listening to their clients' stories pushed some of them across the threshold to higher STS levels. Most of the clinicians worked with clients from all of the spectrums noted above, but all of them had serious and pressing issues.

M: "Vicarious trauma without a question. I think vicarious trauma is inevitable and people have various ways of conceptualizing it. I think it's inevitable if you do trauma work as a clinician. So, I am aware that my sense of safety has changed because of the exposure in my everyday pre-9/11 trauma work, from the accumulated stories and affect and dynamic of all my clients and working through all of their layers of trauma. On top of that, from my direct exposure, my indirect exposure, my vicarious exposure to my clients 9/11 materials, all of that put together. Yes, more questions about safety, security and predictability without question. For a long time, everybody was talking about, myself included, when will the other shoe drop? I remember the expression, till this day, I wonder." (16.15)

Clinicians described how difficult it was to listen to clients describing their fear and trauma, when they were "not much further down that road" themselves. They were trying to come to terms with their own 9/11 trauma, while remaining available to their clients.

B: "I had never had any trauma training and I was dealing with my own 9/11 trauma. I'm the kind of therapist that - my clients needs become the most important things that I have to deal with so I kind of push my own anxieties away. Yes, they were touched upon in a session, but I never ever diverted what a client needed to say from whatever my own anxieties were. After the session, I would be a wreck. I was shaken. Shaken. Kind of like a generalized anxiety, stressed, maybe headaches at times, but I get internal shakiness and tightness, that are very telling of my stress level.

MLP: And you experienced that?

B: Oh yes, I was very shaken."(3.19)

The challenges and the clinical work of 9/11 did take its toll on these clinicians, emotionally, physically and psychologically. This relational exposure, another proposed dimension of indirect exposure, contributed to increased STS levels. During the interviews clinicians shared many of the symptoms of STS that they experienced due to this work.

Some had trouble distancing themselves from the scenarios that the client was reporting. Some had similar thoughts and fears themselves about the terrorist attacks. One clinician shared the following story.

S: "One of my clients, a young man, wanted to pack up his family and leave the city and move to Canada. Now, really, on one hand I was thinking, this is avoidance, an overreaction. But on the other hand, I was thinking "who am I to tell him it's an overreaction? What about the Jews who fled when they heard of what Hitler was going to do? If they hadn't fled, they'd be dead. So, who am I to tell him that it's an over-reaction? He may in fact be the smart one." (25.2)

Clinicians reported feeling overwhelmed with emotion during their sessions.

Others felt simply unprepared to handle problems due to their lack of training and experience with terrorism. The clinicians often used phrases like, "I wasn't much further along than my clients" or " My sessions caused me to think about it, when I did not want to" or " Who am I to reassure them? I needed to be reassured myself".

Many clinicians appeared to experience intense and painful emotional reactions, symptoms of STS, when learning of their clients' problems and when trying to provide intervention. Some reported feeling angry and irritable both during and after the sessions. Others found processing the events of 9/11 extremely distressing and often cried. In keeping with the theoretical framework of this study, exposure to their clients' stories could act as a "potentiating" variable, thus increasing the clinicians' risk for STS reactivity. The impact of hearing the clients' stories interacts with the clinicians own stress level and concerns about the terrorist attacks, heightening the resultant STS reaction beyond the simple additive effects of the two variables taken alone.

The emotional distress was evident as portrayed in the following vignettes. Their voices were filled with emotion and pain as they recalled their work. Handling children's distress seemed exceptionally provocative causing anguish for clinicians. One clinician recalled how a child asked her to call a superhero to rescue his mother from the rubble of the smoldering towers.

P: "Some aspects of the work I'd like to forget cause it was really, really emotionally draining. Detaching myself, detaching myself, and staying focused and hearing their stories, so that I could figure out exactly what is the first step to take - which I did by hearing the story. Like that little seven year-old boy, I couldn't detach anymore. I was walking with him through the picture gallery and he showed me a picture of Superman. And I said "tell me about your picture". And he said told me that he wants me to call Superman to go to fly to the building and pull his Mom out. **Oh my God.** I couldn't detach any longer. **That killed me.** He was around seven years old - that killed me. I asked to be removed from there. That night I couldn't do any more interviews. This, and the Chinese mom who was just pulling on my clothes, "Bring back my son!!" I said what can I do for you? She said, "there's nothing you can do, you can't bring back my son." And then she lost it." (20.23)

Clinicians described how they internalized the pain and suffering of their clients who had lost loved ones in the attack. They also felt as if they could not do enough for their clients. They also expressed anxiety about how they felt like they were "failing" them when the services they could provide did not meet their clients' needs.

Undocumented clients presented with additional difficult challenges for clinicians.

R: "I used to go home carrying all of the details and all of their sorrow and all of their pain with me to home. I couldn't detach from the pain. This particular lady who lost her son, her only son, and she didn't have anybody here (in the United States). So I took like the whole history that she gave me on my mind with me. Like I was a failure for not being able to help her or give her the appropriate referrals. She was undocumented and she felt afraid of looking for services. So it was a lot of just listening to her, give her some of the referrals that we had available and **knowing** that she wasn't going to follow through. She was afraid. So I took all of that home. I remember even though we had the services, cause there were services for the people who were legally here; she wasn't able to for being afraid of being deported. So to me, I took that home. I wanted to do something more, but I couldn't. Devastated. I felt very bad. Very bad, physically, I went home and I went to bed." (15.18)

Several of the clinicians expressed how sad they felt doing this type of work, many cried after seeing clients, some cried with the clients.

S: Now I remember my first home visit, it was September 13th at 7 o'clock at night. I went to 187th Street and there was two young teens involved, and I didn't know what I did on that home visit. I think we just all sat. We all just sat there and cried. I cried, and let the kids cry." (11.28)

MLP: "Tell me about how you felt when one of the families would break down.
A: "It was more like I would cry with them, I think that you wanted to share the tears with them and be like well; we are all going through this in some way on some level and be there for them." (5.14)

One clinician shared how she re-experienced her clients' pain and loss following sessions. Her social life also suffered, as she felt just too drained and exhausted to do social events that she usually enjoyed.

M: "I cried a lot over and over again. I think for me, this is kind of what I do with patients when I work with patients anyway. I kind of take what happened to them, like when somebody died, and I imagine what that must feel like, and then it just makes me so sad. It was very draining, again, very sad, draining. I think for that time period, I did not want to do anything socially. There was just too much, I was just too fatigued. I didn't have any energy." (1.35)

Some clinicians reported that they felt as if they were reexperiencing the trauma of 9/11 when their clients discussed their own stories. These encounters appeared to provoke intrusive STS symptoms in the clinicians.

J: "Dealing with their pain. My being close to another human being who had experienced the worst. I found the images that my clients shared with me reverberating with me. That was pretty upsetting. The concrete gory details, reading about it in the paper was different from having an individual who was actually there telling you. This is what happened to me. And I found it very painful and hard to assimilate. At the time my clients shared it, I was calm, open to their experience, professional and warm. But, it had an impact; it was painful, very painful." (17.17)

B: "Because you know in this business, I had to relive it, many, many times with my clients, when I wasn't ready to do that. So, it took like a kind of superhuman effort, to pull myself together to do this, for my clients. Going in and dealing with their issues while I was dealing with my own issues. You know, we all travel that same road; I wasn't much further along that road than they were. But I could never say, "Don't talk or enough, stop!" I wanted to though, I definitely wanted to." (3.18)

M: "After 9/11, my client wouldn't ride the subway anymore. He was taking a carpool van, downtown, and he bought one of those masks, and dealing with him around those issues, I did a lot of CBT around anxiety reduction, coping with his symptoms. He was a Wall St. person, and he had a lot of information, you know

they get so much news constantly, that he kept telling me stuff that I didn't know. And he was so anxious, that I started to think, "Gosh should I get one of those masks?" Then I had to say to myself, "**Relax.**" But it kept taking me back. I do remember feeling physically and noticeably anxious during the sessions because he was bringing in so much and I was having to contain so much of it for him." (1.24)

Research has also shown that the clinicians' own trauma history and whether or not these prior issues were successfully resolved, will influence the nature of response to clients' trauma material. These clinicians may still experience the clients' intrusive imagery or re-experience their own imagery, which is reawakened by the client's material. Regardless of a clinician's personal prior trauma, reports of sounds, smells and experiences that clients report in a vivid or highly distressed manner can stay with them (Rosenblum et al 1999; Pearlman, 1999).

All but one of the respondents interviewed for this study reported a history of prior trauma. In addition, they had also all experienced 9/11. Many of those interviewed considered 9/11 one of the worst events that they had ever lived through. This factor may have played a role in compounding some of the STS reactions experienced by the caregivers.

S: "The 9/11 work, I think that it was harder than I expected, I think that the symptoms came back to me more than I expected. You know when you are with people that have experienced loss and trauma and you are helping them, it's harder than a trauma that **you** didn't experience at all. Or if you experienced it, it's a sense of someone talking about 9/11 and their feelings about danger and loss and concern, and you don't really feel like them, but you have the same fears. It's different. I think I felt more depleted from it, than I did from other clinical work. I think it affected my energy level the most, I think that it, you know when you feel emotionally depleted by something, it makes you, it can affect you physically, maybe a little more hyper vigilant than I expected too." (8.18)

W: "I felt comfortable handling the people when they came to me, but I think that afterwards when they had left and thinking about what they said, I think then I felt hurt or felt pain, when I went over in my own mind what they have said. When

they explained, I felt like I was actually there with them, when they told me their stories.”(9.30)

S “I tried my best to be open to let all of my clients express their fears, without raising my own fear level during the session, so that I did not block them off. But, after sessions, I was exhausted, and anxious, often my own fears were raised again.” (25.2)

Several respondents reported physical and mental exhaustion as the days stretched to months. A bone-aching tiredness permeated their systems. Just summoning the strength to drive home from work after draining days was difficult.

E: “Tired, always tired, even if I got enough sleep, hungry, always wanting to sort of fill up, not that I really could eat anything. Tired all of the time, you always had that feeling. It went from your knees to your shoulders of just being in this space it was always oppressive. Everyone did their duty and no one complained. You just always felt it.” (18.21)

K: “I wished sometimes that I had a magic wand that I could wave and say, “You’re healed”.

MLP: How did you feel emotionally after working with the clients?

K: Drained. Totally drained. Just about had enough energy to drive home, literally. I would get in my car, and say, oh please God, just let me get home, because I was exhausted.” (14.26)

One clinician experienced high blood pressure for the first time in her life. Having practiced and taught self-hypnosis for stress for many years, she was shocked at the toll that her 9/11 work took on her body.

M: “What happened was that I remember in October when I went to my gynecologist, my blood pressure was high for the first time in my life! I think it was February 2002. My regular doctor put me on blood pressure medication. Now, I have to tell you, I am someone who monitors her body. I have used self-hypnosis, to handle bleeding, blood pressure, heart rate, headaches - I mean you name it. I think I went into a mode of “overdo” and my patient schedule went off the charts.” (23.6)

Several respondents described feeling like they were in a constant state of arousal, another symptom of STS. They described it as “rescue mode” - the need to keep doing and doing for clients, but at their own expense.

M: "I don't know if it's because crisis throws me into a rescue mode that I feel other people's needs more. And I already usually do too much. So, the more I feel someone else's needs, the more I respond to them. I was scheduling patients at 7pm at night, which I never do. I guess I was really vulnerable. I was **exhausted**, I was **drained**, I was a **wreck**. And I can remember thinking to myself, all that I can do is work, and get food on the table at home. That was it." (23.26)

Others felt increased stress from "not being able to do it all". They found that they had to shortchange their normal penchant for expert work in order to meet the demand. This made them stressed and uncomfortable.

M: "I had 50 messages from clients, cause I'd been doing training, I had a committee on disaster and trauma, and I was getting calls to come and talk to this group, and that group and finding that I wasn't able to get back to people. It was terribly painful for me not to be able to do what I would typically do - return a call as soon as I could, or call someone back because they had sounded upset in the last call. Everything was sort of short versioned, the rush version, which I didn't like. But that's the way it was for me." (16.12)

Others reported feeling irritable and angry because they felt that even though they had the time to devote to their clients, what they could do for them just wasn't enough. They had trouble detaching from their clients, feeling that only they could provide the care that they needed.

P: "I just felt like, I was **angry**, like there is nothing we can do for these people, nothing. The father of the little boy was catatonic. I had him hospitalized. It was a brother and the grandmother that I was left to deal with, and the child. They lived in Jersey. And all of a sudden, I felt the need to hold on to him. I didn't want to let him go. I didn't want anybody else to become involved; I didn't want him to go through so many people. I just felt like **enough!** Enough. So I walked through the linkages with them connecting them to Jersey. So, I held on to them for a little while. **But, it was hard**, it was very hard." (20.23)

One clinician who was stationed at Ground Zero, spoke both of the intensity of the experience and the sense of commitment - bordering on addiction - to the job at hand. Interestingly, it seemed as if she also experienced additional stress due to the perceived resentment of her colleagues left behind in the office setting.

“At the office, there were some people who were resentful of our absences. Some people that felt like “why do **you** have to do it all the time?” They didn’t understand that once you got down there, you were **hooked** and you **couldn’t** give it up. Just like the police said they don’t want to be pulled from there. There was a need you felt you had to be there and I think the need was to see it through. You know, you couldn’t pull out. A lot of our co-workers were like “why are you sacrificing yourself? Don’t forget you have a daughter.” I didn’t forget. I put in place a plan to take care of her, but I couldn’t remove myself.”(20.13)

Clinicians that worked with 9/11 clients long-term (18-30 months) reported that their emotions and symptoms were held in check until most of their disaster relief work was completed. They “didn’t allow themselves to feel” until one or two years had passed. At that time they reported experiencing STS symptoms.

A: “I think that when we hit the point of when the Project Liberty contract was running out and the professional aspect of the way that I was going to relate to it was going to disappear, that I had more reactions than I thought I was going to have.

MLP: Tell me about that.

A: I think at that point, it was almost disbelief that so much time had gone by. That how far you have come since then, the economic impact that 9/11 has had on this City and on our kids, I think then I had more of the grieving process and the sadness (after December 31, 2003). I don’t think I ever cried when it happened and then all of a sudden when it was like closing a chapter. It was like I had to deal with all of these feelings to close it with the chapter. I don’t think I meant not to deal with them before. I think it was more like your professional self took over your personal self in the midst of the events.”(5.11)

Many reported experiencing numbness and detachment as the 9/11 work continued. Some spoke of the need to keep their emotions “in check” thus enabling them to empathize and provide counseling for their clients.

A: “I still am a little numb in one way, because I still fell like I went from that outpatient job where we worked with a lot of community members to the New York disaster response program. I still felt like I had to keep my emotions in check all of the time. So, I think that what happened was that first of all, almost three years later, I’m just starting to allow myself to feel. And do my grieving, my own grieving for what went on even though I don’t know anybody who died.” (24.9)

P “You know, I was emotionally detached. I didn’t feel, I didn’t allow myself to feel. I did what I had to do. But as soon as it was over, then I felt it and I changed jobs. My friend, the two of us, it gave us such perspective. She immediately went and got pregnant afterwards, cause it changed her whole world. And I changed jobs.” (20.13)

The toll on one clinician was that she experienced flashbacks of 9/11 after working with clients for over a year. She struggled to stay strong during sessions, but at times felt as if she re-experienced their trauma as they described it to her.

W: “Well after doing that for over a year, a lot of what I was taking in, I tried to be strong so that I could do a good job working with my clients. I didn’t take any time out for myself. I found that what was happening to me, I was having flashbacks, I was taking on a lot of what my clients were saying, the ones I just mentioned to you, for me it was actually seeing what they were talking about, actually feeling like I was there, when really I wasn’t.” (9.29)

In contrast to those noted above, two clinicians offered thoughtful reflection on how they felt in the long run, the secondary stress that they encountered, made them better therapists.

MLP: “And personally, how were you impacted?”

J: “Oh my heavens Mary, how do you even begin to spell that out? I don’t know I think I have always found this clinical work very humbling. And the fact that some stranger walks into your office and sits down and from some sense inside of themselves is able to share themselves in an effort to grow. To heal. So, I feel in particular with these 9/11 women who I have identified as not the therapy type, that the process has opened them up to themselves. Um, I don’t want to sound to corny about this, but in some ways it’s been an enormous privilege to be a piece of their healing.” (26.31)

M: “One, it was very interesting, made me very anxious. I mean it was somewhat paradoxical. I would feel, for especially the first few weeks after, as I said, sometimes I would feel okay. Sometimes, I would feel anxious, etcetera, and I remember feeling pretty good. When I’m working I try to put my professional face on, and I don’t allow my anxieties to hopefully interfere. But, I think in some ways, doing this work, it was helpful. Because by helping them to see the reality and how best to cope with it, I was able to realistically help myself and deal with it. So I think in some ways, it may have been therapeutic and helpful to me to be able to work with them and to be able to. I think when you are in a helping situation, you know you can’t always afford to be panicked or anxious and you have to in some ways be a role model. And obviously you can put on an act in

therapy, but by going through this with them, I think it was helpful to me as well.”(13.20)

Clinician Comfort Level with their Skills for Handling 9/11 issues

K: “No. This was a whole new set of issues. What do you say to someone that says to you “I was on the 50th floor” and was able to escape? How do you even begin to say, “I understand?” (14.25)

In seeking to minimize the impact of secondary exposure on clinicians, suggestions on self-care include increased supervision and training for more seasoned practitioners and a high level of support for beginning therapists (Chrestman, 1999). Less experienced therapists are often at higher risk to suffer the greater effects of STS.

Munroe (1991) found that age did not act as a buffer for secondary exposure effects, but that the influence of education level may have been somewhat protective. Other variables that seemed to have a mediating effect on STS levels were increased training, increased professional experience, having more varied clinical activities and increased support from the agency or peer group (Chrestman 1999).

The majority of those interviewed stated that they had not dealt with the type of problems they encountered in 9/11 clients before this disaster. However the clinicians appeared to be evenly divided regarding their ability to draw upon their clinical expertise and training to provide counseling for these clients. Some were comfortable providing services to clients with 9/11-related issues. They drew upon their past experience and clinical training.

M: “I was aware of my counter-transferential feelings, cause I knew that I was anxious. Fortunately, I was able to deal with it, even when my patients were talking about the small pox and anthrax - that did raise my anxiety. I remember my anxiety being raised and consciously saying to myself, okay, just relax and your job is to help them to cope with his anxiety. So, I was aware of my feelings and I think that allowed me to be able to deal with it fairly effectively, with my clients.”(13.19)

M: "They **are** my conditions, you know so I almost feel like I've been "in them". I try to use those concepts in teaching and clinical discussions, so I'm comfortable in those discussions. I'm sure in part it's important for me as well to be joining again of course in my role, my professional role, but to be in that conversation with them. But I don't mean speaking my thoughts about it, but bearing witness, sharing and hearing their testimony, that trauma narrative. All of them, it's very much a personal experience."(16.24)

E: "It was hard, I certainly wasn't afraid to walk up to people and encounter them, but, I guess I had to get used to the platform of service delivery, I have never worked in a disaster before - part of it was getting used to a new environment. Luckily I was trained well, so I knew how to counsel. You work as good as you train so it came easily for me on some level. Sometimes, you just need to stand there and be present. That was enough."(18.30)

J: "Very comfortable. They felt very clinical - they felt very knowable. I went into this with an understanding that a good number of these situations, these were people who would not have come to therapy." (26.28)

Other clinicians felt that they were not well prepared clinically with their experience or training for the challenges that were presented to them. They reported feeling under more pressure than usual and reported increased stress during these sessions. It was "sink or swim" time, they were determined to make it, but produced even more pressure.

MLP: "Were you comfortable with your capabilities and training to handle these types of issues?"

S: No, no, not at all, it was like "sink or swim" and I was determined to swim."(Laughs) (11.29)

K: "I was really unsure; I was mostly listening, trying to provide some comfort. Um, it was really all that I could do was to say, "I'm so sorry, I'm with you. Or to try to identify resources, for them, but basically I felt powerless." (14.24)

A: No! I mean like I said I was straight out of my Masters!! (5.23)

Support and Training for the Clinicians to Alleviate STS

In the aftermath of 9/11, respondents dealt with their own personal stress and that of their clients, family and friends. In concert with this study's theoretical framework,

these aspects of secondary traumatic stress appeared to be exacerbated or alleviated, based on the types of support that they received, in this instance, clinical support and supervision. As reported earlier, the problems encountered by the clinicians were new to them. Many felt that they needed additional support and supervision during this time to help them provide services.

One clinician was upset with her agency's stance that mental health providers should be strong enough not to need additional support.

K: "Everybody was talking about people who lost someone and what are we going to do as major health providers. And we need to get this country running again, and deal with all of this trauma. But no one was saying, "How are we going to help the clinicians process this traumatic event, and have someone to talk to, so that they can go out there and be effective." So it was like we, as clinicians, didn't matter, because this is what we do. So, why do we need anyone to talk to, it was just, go out there and do what you do". That's how I felt. And basically that was what was said to us. "You are mental health providers you are not supposed to fall apart". You should know better, this is your job" Which I thought was ridiculous, but..."(14.25)

The interventions that can be used to ameliorate the effects of PTS and STS can be grouped into three main categories, personal, professional and organizational. It is ideal to have the specific intervention tailored to the needs and preferences of the particular clinician (Figley, 1992).

The respondents reported on the differing levels of support services available to them, ranging from "none" to workshops, seminars and weekly debriefing sessions. In several instances, when organized support was not available, clinicians sought out support from colleagues or informal networks. Some clinicians did receive support and training through their agencies, and it appeared to be utilized and appreciated.

Inadequate clinical support systems

MLP: "What supports were available to you through your job for handling 9/11 stress?"

L: None." (2.11)

S: "Can you call it a support, when you are not allowed to talk about it? I know that there were people in their jobs who were so worried, really couldn't function, they couldn't work but the party line was "Business as usual, we have children to care for." (7.31)

Clinicians reported an increase in their stress levels due to what they perceived as a "lack of support" from both their agencies, networks or profession in general.

One clinician that worked in a hospital's mental health program was told that 9/11 shouldn't be discussed. When asked about formal supports for her 9/11 work, she sarcastically described how the administrator in charge "shut down" of the topic.

M: "At **my** agency? - I don't think so!

M: "I don't think that the (agency name) per se, was too keen on talking about it so much. I think it was more like, don't talk about it! Keep working! That was the position taken by the Medical Director." (4.22).

A; "No, there were no formal structured supports that helped me through the workplace. I think we were woefully inadequate in addressing the stress response of the staff in general - although we talked about supervision and compassion fatigue, and types of things that would be helpful." (24.42)

B: "Not much, there was not much out there because everyone was scrambling. There wasn't anything, for me. I **wished** there had been something, somewhere that I could have gone to. And distressed, but those people were so busy working with other people that it wasn't available." (3.18)

Available but unutilized clinical support systems

As opposed to agencies that did not offer any support services to clinicians, others did. Some clinicians knew that there were services available, but chose not to participate in them. It is interesting to note that e-mails went unopened; flyers went unread. Crisis numbers were posted, but not utilized. It appeared that the support was ineffectual at

best. The administrative and organizational structure didn't meet the clinicians' needs by these methods.

M: "They did offer support services for staff, I did not participate and um, ah, I guess I didn't feel that I needed to, but the (agency) did, each director asked their staff whether or not they wanted to talk about it. I mean the issue was that for some people that type of support group could be very helpful. For other people it could raise their anxiety more, talking about it, so we wanted to give people a choice. But we wanted to have it available if people wanted it. So there were some groups that were given, the (agency) has offices throughout the City. So we decentralized, rather than in a central place so it was offered in some programs, it wasn't offered in others, and uh, dependent upon the director and their staff if they wanted to have them." (13.21)

M: "Well I didn't use any of them.

MLP: What was available?

M: I don't know, cause I didn't open up any of the e-mails. H.R. through my boss, she was very good, she made sure that our H.R. person sent us numbers of crisis help and stuff like that. And also they encouraged us to use our E.A.P. They did send us e-mails, but for me I didn't pay any of that any attention. At that time I felt like I had to just deal with it myself. I didn't want to talk to nobody anyway." (19.31)

Interestingly, one clinician felt that her participation in a support group would add to her stress level.

M: "I'm not one of those people who runs around voicing fears; I find it just gets me. I would not go to a support group. Cause then I wouldn't have to deal with just **my** fears, **but everybody else's!** (Laughs) Spare me! I don't need to hear that other people have fears to feel like I'm not losing my mind." (23.27)

Available and Helpful Clinical Support

Supportive counseling, debriefing sessions, and training were available to several of those interviewed. Debriefings, supervision, training and peer support have been shown to be effective methods to ameliorate stress symptoms from traumatic events and hasten recovery (Bell, 1995). Those that were able to receive these services, reported that they were a benefit and that they appeared to help them by reducing their STS levels due to the 9/11 work.

A: "Well we had the debriefings. Basically at the end of the day, we would all get together and talk about our experiences of the day and how it affected us, what our goal plan was for tomorrow, what we were going to do for ourselves, a lot of that type of work, which was very helpful. Also, at Christmas, they gave us two weeks off for Christmas and New Years and paid all of us. Yeah, but all of us went to the Pier anyway, but they gave us the time, which made a big difference also; it was a very supportive environment." (5.27)

W: "I was working out of Staten Island mental health offices. We had a wonderful supervisor, a dynamic women named N. who I could go to and talk about things with her. So yes, and we also shared among ourselves. So we got support yes, and to be there for each other, that helped very much so." (9.33)

P: "Oh, they took care of us. We had a weekly debriefing. My immediate supervisor who was down there with me a lot, and my friend C., we just became alcoholics and we drank, you know (laughs) I'm kidding! We took care of each other really; we had a very good emotional support system." (20.26)

The ability to have an employer or agency that was accommodating to a new set of clinician work needs was also mentioned. Several clinicians reported that "flexibility" helped them continue to provide services when stress was at its height. Many clinicians worked much longer hours and on weekends and had to juggle family needs as well. They expressed gratitude that their agencies gave them leeway to meet their daily needs.

S: "Flexibility, if I needed to run across the bridge and go home and see the kids and come back, that was fine. And we did a lot, because we participated in so many community events, that was also healing for us. We did a lot of vigils. (11.37).

Another spoke of the ability to send people home from work, when she felt that they and had enough pressure for one day.

A: "I had support in that I could do what I wanted to do. There would be times when I would look at a staff member and say "okay, go home" "you're gone for today, we're not getting anything out of you and you're really getting burned, and we talked about maybe doing a tour of the City or a movie, but we never did that but we would fantasize about doing it." (24.42)

Several of the clinicians went outside of their agencies to get support. They sought out the support of other colleagues and professional peers to help them handle the

STS brought on by working with 9/11 clients. Having a strong support group with which to share stories, tragedies and success is an absolute necessity (Williams and Sommer, 1999). Professional peers can be supportive by providing resources, help the therapist clarify his/her insights, provide support by listening to the clinician that's been traumatized by STS and correcting distortions in the therapists assessment of his or her behavior and by providing empathy to the clinician traumatized by STS (Catherall, 1999)

S: "Mainly the support of colleagues, colleagues, support groups were offered, but mainly the support of colleagues. There were some trainings offered, but I don't think I learned anything differently from the trainings than from my readings, or from the work itself." (8.19)

M: "Well there were some friends who were all colleagues, who had done disaster work together they became, we all sought each other out. We came together because we all felt a certain level of responsibility on our shoulders, a heavy responsibility. And we would meet, to this day, and we hadn't been in a kind of supportive context before, together, but there was something we just knew, we were sharing something very important together. That was very important, even if we just occasionally just checked in with each other.

MLP: mm hm

M: Once every seven weeks had a dinner together, oh, it just meant something. We all confirmed that with each other. These were the important connections, friends and colleagues, long-term friends that were also colleagues, that was a very important level of support." (16.27)

J: "We had set up in the town a support group for therapists.

MLP: Tell me about that.

J: They would meet down at the town office on Saturday mornings. These were the therapists who were working with the adults and the high school kids. My support really came much more from some school personnel that I had known for years and years and years. They were kind of in the front lines working in the schools everyday. My conversations with them were very, very helpful for me personally. You know certainly a couple of my friends/colleagues wanted to talk about it all the time. And this one friend, C., who had children in the school and was also a professional in town and also involved in the work, she was enormously helpful to me." (26.31)

Personal Coping Strategies That Helped Clinicians with 9/11 Stress

People tend to employ both emotion and problem-focused coping in managing stressful events. This would appear to be functional for it allows for both the regulation of emotion and management of the stressor. So, trying different strategies in different combinations may be a better way to manage stress. To ensure personal coping efficacy, it is best to incorporate relevant problem-solving skills (I.E. decision-making) combined with emotion-focused (I.E. relaxation) (Ziedner, 1996).

The comfort of friends, family, religion, exercise, food and drink were common themes raised by clinicians in the interviews, with regards to “what strategies helped the most for coping to handle the stresses of 9/11?” Many used a combination of several strategies to help them alleviate the stresses brought on by the terrorist attacks of 9/11 and the stresses of dealing with clients with 9/11-related issues. These coping strategies appeared to mitigate some of the stress that they encountered due to 9/11. Talking and sharing fears and stresses with friends, family and colleagues were helpful.

Support from family, friends and colleagues

Social support can be a major factor in influencing reactions to stress. The importance of friends and family in providing social and emotional support and buffering individuals against stress has been extensively described in the literature (Heller et al, 1996). Pearlman (1999) states that trauma therapists have found that personal activities that have balanced trauma work and helped them cope effectively with stress include: spending time with family and friends, socializing, exercising, developing a spiritual life and taking a vacation with friends.

MW: "I did a lot of just talking and processing my feelings with people, my husband, my mom, my friends, just a lot of social support, What's typical for me is also eating, to self sooth, nice carb food." (1.28)

B: "I'm kind of a stoic in a way, I feel you know, you have to deal, then you have to deal. Okay, I can be anxious. I talk to myself a lot. And I talk to my husband, and my daughter and my sister, we would communicate a lot by phone. "We would talk about how scared we were, oh my God, blah blah blah, what are we going to do, how are we going to meet, blah blah blah, so they really were a big support for me." (3.21)

J: "Talking, talking, talking, talking, talking, talking. Um, the bodywork I mentioned to you, really taking a lot of planned time for myself. I'm very comfortable working hard and I'm very comfortable taking time. You know, I don't burn out. I don't go until I collapse. My husband tends to do that more. My body is my barometer. When I start to hurt, I go "hold it kiddo" time to lay outside in the garden, to do the weeds, to find other ways, to find a friend to go for a walk. I need it, I need it and I can't do without it, so I don't do without it." (26.32)

Interestingly, only two of the respondents mentioned drinking alcohol to relax, when they were describing their strategies for coping.

L: "And I take care of myself too. I try to, I go to a spa, (laughs) and if I can afford it. I get facials and massages and stuff. And I have good friends where you can sit around and have dinner and dialogue and have drinks and hang out and support each other. So, I think those things are important." (6.24)

D: "Being around, talking about it. Being around friends in the community and we have a lot of friends from our church. So we get together and we got together prior to that so, I think what we did was pick up the pace. We did a lot more informal stuff, less formal stuff, recognizing that it's just important to be together. Probably all of us coped with ah, drinking - more than we needed to drink. I guess that we didn't hesitate to pull out the bottle of wine or something or say, "Let's sit down and have a glass." (22.21)

Spirituality- Religion and Faith in One's Self

Researchers have consistently found that religious and spiritual coping strategies are positively correlated to positive outcomes. In particular, going to church, praying and talking to a minister were found helpful (Schwarzer et al, 1996).

The comfort brought through religion and faith were recurring themes among the clinicians, when coping strategies were discussed. Religion, be it organized worship services or personal daily prayer was helpful for some of the clinicians. For others, their faith in themselves and “self-talk” helped them cope and relieve their stress.

D: “Well I think a lot of prayer, a lot of pulling out of the Bible. A lot of doing my, I do my morning devotions anyway, and they certainly helped a lot then. Folks here, that are of very strong faith, we relied on them a lot. We would pull out a Bible and read something, or close our eyes, or put on some Christian music and just you know, zone out that way.” (22.12)

Several respondents found regular participation in their church services and their faith in the “higher power” of comfort.

S: “Church, church. People don’t see it but I’m a very religious person. I don’t know if I’m spiritual, I don’t think I’ve gotten there, but I’m a very religious person, not that I know anything about the bible, I just go to church every Sunday and they would just have their doors open, so any time I had to go to a home visit or during lunch if I felt like it was too much, I would just go to church. And just sit there. Church, that was safe. That was safe. In my mind, I felt like “who would attack a church” that does not seem possible, even though that does happen in Jerusalem, and Israel and the Middle East in the synagogues and everything. That’s what I used to cope with my problems. If I can’t solve them who can? Nobody else can do it for me, I got to figure it out, I have to let somebody, a much higher power figure it out. If he could or she could help me with that, then she could help me with anything.” (11.38)

For others, hope, their belief in God and the ultimate resurrection brought comfort.

E: “The support of my colleagues and the faith experience. The belief in God, the belief that life ultimately has meaning, that I am part of a larger, community of faith that extends before me and will live on after me. That’s it’s not all about me and my needs, that I’m part of something, and despite the moments of terror and pain, that ultimately there is resurrection. Ultimately, there is hope, that was a big part of it for me. And all of the people who manifested that around me.” (18.33)

K: “Prayer. For me, that’s it. When I know that no human answer will satisfy me.” (14.28)

Faith in One's Self

Others described a different type of faith, faith in themselves, and their ability to survive and manage whatever crisis comes their way. Some cited that their family values instilled a sense of “you’ll be okay, you’ll make it” which gave them strength when dealing with 9/11 stress.

S: “Well I want to say faith, but I don’t mean religious faith, faith in my own ability to deal with whatever comes along. I am a survivor. And although I may not like it, I can always put one foot in front of the other and do what I have to do and I can do it well. I think the family in which I was raised really taught us that we are strong, we are strong, you have to be strong, and you have to do the right thing and everything will be okay. Whatever - it is it will be okay.” (7.36)

One clinician reported that hope and belief in herself and ability to contribute to the good of the world gave her comfort.

M: “For me, it sounds so crazy, but it’s just being hopeful. Hoping that things will get better. I think about it, things are going to get better. You know, it’s just the work I do, you know it’s like, I think a lot and I say, “I can do this, I can help people, I **own** this!” If I can help people, then I’m helping myself, then I learn more about something in particular, then that means that I’m helping myself and helping whether it be this community or so forth, so just helping people for me is my coping mechanism.” (12.31)

For others, it was “one day at a time” and positive self-talk. She was reflective as she described how important it was to be kind to people, to take the time to say things that are important, because you never know what the future holds and you may not have the chance to say them again.

P: “I didn’t have any set plan for coping. I really took it one day at a time. I really really took it one day at a time. I think that I’m going to end up with Alzheimer’s because I think a lot; I really use the little cells that I have left. I always had some self-talk, always having a lot of self talk, you know, putting it in perspective. You can’t do anything about what happened, but you can do about how you react to people, how you treat people, your quality of life. It didn’t become a global thing for me, coping, it became a personal thing. So for me, it just made me more aware of a quality of life more than anything else. To be kinder to people. You know, cause you just don’t know. Cause it could be like **boom**, I turn around and

something happens to you and you are on the floor, and I could be like “**damn**, I meant to tell her she was nice” (we laugh) You know, it’s to treat one another with decency.” (20.27)

Therapy

Interestingly, only a handful of those interviewed reported that they sought therapy to deal with their stress.

S: “Therapy, my own therapy. (8.18)

E: “Project Liberty, I took advantage of the therapy because it was there. Free therapy? Yeah! Sure plus it doesn’t cost anything, so there was Project Liberty.” (18.32)

D: “Denial.... (Laughs). I tried to take good care of myself, the things that I do on a regular basis is that I try to eat well and exercise, reach out to friends and make sure that my support network is there. And you know I’m in therapy so I find a way, I don’t know how, to go.” (21.22)

Coping through Action

The clinicians also utilized problem-focused coping. Active coping provides a sense of mastery, diverts the person’s attention from the problem and is highly effective in stress reduction. Task-oriented behavior helps the person manage stress by discharging energy (Ziedner, 1996).

Another recurring theme that came up while discussing coping strategies, was the clinician’s “need to keep busy” to block out 9/11 stress. The action of “doing, working, going”, being in constant action, seemed to help block out stress symptoms. For some, it seemed to come easily or “automatically” as they moved into “survivor mode”. For others, it was more of a struggle to keep going, but the constant familiar routine of “work, home, school, etc.” also brought comfort to carry them through this time.

MLP: “Can you help me understand a little more what you mean when you say survivor mode?”

L: Yes, how can I explain it? I think we need to get things done, we need to live our lives and we need to survive so we are going to do what we need to do then and not think about anything that might come in the way of that. You block it out.”(2.18)

K: “I just did what I needed to do to cope. I go on automatic pilot and I go. It just keeps me grounded.” (14.28)

R: “To cope, I just kept going another day, another day, another day to deal and let’s face another day.

MLP: So did you just try to keep busy?

R: Yes. That’s what I did, and do more and do more and do more, like just to stay away from whatever the 9/11 issues are or too much thinking, of whatever worries would come into my mind. So I’m the type of person that keeps busy so not to have to deal with any issues. It did help, it did help, yes. So that may not be the healthiest way, but I cope with problems and a lot of things like that.” (15.19)

M: “Coping - I literally felt like everything was one long day, one long day, I had to write chapters on this stuff, and in school and writing papers and teaching. I was probably doing more than at other times I could do maybe and in a way, on some level, that was self-care, because I felt that I was making an impact. I wasn’t sitting alone in a room writing, I was also teaching, training, doing this work, and that’s what is my self-care, the doing. And I was also doing creative work, it wasn’t only putting research together, I was designing five week trainings that were incredible, you know September 28th, that was only a few weeks later onward, and put the curriculum together fast.” (16.27)

M: “By staying home and working with clients. I stayed home; I worked. I always feel anchored when I feel like I am helping other people and that was my coping. That’s how I coped.” (23.32)

The respondents’ accounts about coping and support needs may be critically important for the mental health field to acknowledge and take action on, if an adequate and healthy mental health system is going to be in place to deal with future terrorist attacks. Important insight was gained into how the clinicians’ support and supervisory needs were met, or not met, by their agencies and the mental health field. A better understanding about the personal coping skills that they subsequently utilized to deal with

their stress levels was also valuable knowledge.

Chapter VIII

Summary, Implications for Practice, Limitations and Future Research

The vast majority of the research on exposure to terrorist trauma and disaster research in general, focuses on those individuals that were directly exposed to the event. The terrorist attacks of 9/11 clearly caused trauma and PTS symptoms in individuals interviewed in this study, who were geographically distant from the attack site. Of critical note is that those interviewed for this study did feel that they were directly exposed to the terrorist attacks, even though they were not physically located at the WTC disaster site. They exhibited many of the psychological, emotional and physical symptoms commonly associated with “directly” exposed disaster victims. Therefore, it is important that the concept of “exposure” be redefined. The purpose of this present study was to explore the experiences of individuals “indirectly” exposed, and subsequently generate ideas for a new conceptualization of exposure in relation to terrorist attacks. This study also offers support for the Etiological Hypothesis Model proposed by Foy et al (1992). Its findings indicate that indirect exposure to a terrorist disaster is particularly relevant and related to PTS symptoms in this sample.

Summary and Discussion of the Goals of this Study

There were five goals in this study. Each one will be summarized in this section.

Expanding the Concept of Exposure Level

Characterizing the concept of indirect exposure to a terrorist disaster was the major goal of this study. The results of this study indicate that even though the individual may not have been in close physical proximity to the events of 9/11, they still felt as if they encountered the 9/11 attacks “close-up” and had vivid images of it in their minds.

Indirect exposure through the senses

This study found that the sensory modalities of the respondents were inexplicably intertwined with event processing. When a terrorist disaster occurs, what a person experiences through their visual, olfactory and hearing senses can significantly impact their emotional and psychological processing of the event.

Visually, the sights of the attacks caused distress among many, both through in-person experiences and through the media. The unfamiliarity of the images contributed to their distress. For example, the respondents reported that seeing the “pulverized particles of the WTC building floating like snow” in their neighborhoods, the “enormous black cloud of smoke from the WTC site grow against the blue sky”, and the unimaginable image of the towers imploding caused panic, horror and distress to them. In keeping with the disaster literature (North, 2002; Norris 2002), the terrorist origin of the attacks exacerbated their distress. Most of those interviewed reported that they could not initially comprehend that these images were the result of a man-made decision or plot.

Media exposure to the attacks is another facet of the concept of indirect exposure, as it produced distress among many of those interviewed that were in New York City on that day. In particular, the image of “bodies falling from the WTC towers”, “the planes crashing into the building” and “the towers imploding”, were ingrained in the respondents’ minds and caused the most level of upset. This is in keeping with the disaster literature (Schuster et al, 2002; Schuster et al 2001). Another factor that was striking regarding media watching was the level and intensity of the viewing. Most of those interviewed watched the replays of the horrific scenes repeatedly, not censoring their viewing time. In retrospect, most realized that this was not in their best interest, as it

exacerbated or prolonged their upset and PTS symptoms. Media, capable of producing stress itself, a potentiating variable, interacted with the traumatic event, the terrorist attacks, to heighten the resultant PTSD reaction beyond the simple additive effects of the two variables. The media representation of 9/11 was both an independent cause of stress and was interactive with the stress caused by the actual attacks, heightening the clinicians' reaction. Foy's (1992) theory offers support for this outcome.

Striking was the level of olfactory distress among those interviewed. Another dimension of indirect exposure should include exposure to the smells associated with the disaster. Similar to what the respondents experienced with the sense of sight, the foreign nature of the horrible smells and the association with burned bodies of the deceased caused a high level of upset and distress. Many of the respondents felt repulsed and nauseated by the smells. Some made associations between the smells and the concentration camps of Auschwitz. Others associated the smells with health risks, and were frightened that they would get cancer or lung ailments. This is a very important finding, as this researcher could not find any mention of the impact of smell on those indirectly exposed in the disaster literature.

Another physical sense, that of hearing, also played a role in the exposure of the respondents. Although upsetting, most sounds recalled about that day, did not cause the same level of distress among respondents as the sights and smells of the terrorist attacks. One exception reported by the respondents was the sound of "bodies hitting the ground" falling from the WTC. This sound caused extreme levels of distress, since the sounds of the bodies hitting the ground had a distinct link to the horrible death of a person, therefore creating more internal distress to those listening. These sounds also produced

anger and upset as respondents “couldn’t believe their ears”, that the media allowed these sounds to be broadcast to the public.

With the exception of the sound of “bodies hitting the ground”, one possible reason that the majority of the other sounds were not as disturbing, was that many of the sounds i.e. rescue crews, sirens, helicopters and people crying, were not as uncommon as the unfamiliar and distressing sights and smells of 9/11. Familiarity with the sounds may have offset the impact of causing distress.

Those indirectly exposed also exhibited physical symptoms of distress from the attacks. Headaches, rapid heartbeat, trouble breathing, stomachaches and dizziness were some of the symptoms reported by the clinicians. Their reactions ranged from feeling nauseous and fatigued to having adrenalin-charged strength. This “flight or fight” physical response is commonly associated with directly exposed disaster victims (North, 2002). Many of those indirectly exposed experienced physical similar reactions as reported in the literature for directly exposed victims. Therefore, the presence of physical reactions should be integrated into the exposure continuum.

Current PTS Symptom Levels

The IES-R and the clinicians self report were used to determine current PTS symptom levels. Although two and a half years had passed since the 9/11 attacks, the level of current PTS symptomatology among those interviewed was quite striking. Over half of those interviewed still reported experiencing PTS symptoms related to the 9/11 attacks at a moderate or high level. Several still experienced almost daily, troubling symptoms. This finding also lends support for the need to expand of the concept of exposure to terrorist disasters. This is a significant departure from the disaster literature

that indicates that most symptoms and distress among indirectly exposed individuals usually lessens substantively after a few months (Norris, 2002; North, et al 2002, Galea, 2003). However, as noted in the literature review, this phenomenon was rarely explored among indirectly exposed samples.

Regarding the PTS symptom clusters, the avoidant symptoms that the respondents reported most often were denial or still feeling “numb” about the event. Respondents often stated that they still could not believe that the attacks occurred. Hyper-arousal symptoms seemed to occur most often in relation to transportation and safety issues. In particular, traveling on the subway system, over bridges or on planes, still caused levels of distress. Intrusive symptoms varied, from olfactory disturbances bringing back thoughts of 9/11, to blue skies causing an eerie feeling as if “something is going to happen.”

As mentioned above, the IES-R scores indicated that about half of the respondents still experienced PTS symptoms related to the attacks in moderate to extreme levels. The other half currently experienced little or no symptoms. Scores on the IES-R were also compared with the amount of contact that clinicians had with 9/11 clients. There did not seem to be a strong association between the amount of 9/11-related client contact and current PTS symptoms. The IES-R scores were relatively similar (a range between “none” to “extreme”) between those clinicians with no 9/11-related contact and those with 9/11-related client contact.

Scores on the IES-R were also compared with the respondents’ history of prior trauma. There were a slightly higher number of respondents with “moderate to extreme” IES-R scores that also reported more than one prior trauma experience. One

interpretation of this could mean that prior trauma acted as a risk factor for the development of PTS symptoms among some of the respondents.

Prior Trauma History – Risk or Resiliency in PTS symptoms

The incidence of prior trauma among those interviewed was extensive. Twenty-five of the twenty-six respondents interviewed for this study had experienced either a natural disaster, prior trauma due to living through a war, or personal trauma, such as the suicide of a sibling, childhood physical or sexual abuse or homelessness. About half of those interviewed reported more than one instance of prior trauma.

Their views on how their prior trauma impacted the development of PTS symptoms following 9/11 lends support to the need to include this factor among the items used to identify those most at risk among the “indirectly” exposed. Some of the respondents reported that their prior trauma history left them feeling more vulnerable on 9/11. Others reported that having survived prior trauma, their inner resources were strengthened and they had the ability to better handle 9/11 stress.

The Etiology of Post Traumatic Stress Disorder model used for this study would suggest that these events, “independent causes” of PTS symptoms, have the ability to put the respondents more at risk for developing PTS symptoms if these prior traumatic experiences had not been successfully resolved. This is because the effects of prior trauma and stress are additive in nature. Conversely, if the respondent had experienced prior trauma and had sufficient support systems available to successfully recover from the prior trauma, the effects of 9/11 may not be heightened. This model may help us understand why some clinicians felt more at risk and developed PTS symptoms, while some did not.

The natural disasters that the respondents survived generally produced lower levels of trauma. The majority of the respondents that had lived through natural disasters felt that exposure to these disasters did not cause the same types of stress reactions as they experienced as 9/11. Many interviewed reported that these were “blips on the screen” compared to 9/11, or to the interpersonal trauma that they experienced. It was interesting in that most of those interviewed reported low PTS symptom levels in regards to these events. This is in keeping with most of the disaster literature, which indicates that while natural disaster exposure can account for PTSD symptoms, far more symptomatology was accounted for by prior exposure to trauma of a personal nature (Briere, 2000, Norris, 2002).

Perception of the level of personal danger encountered in these natural disasters seemed to make a significant difference in whether or not the trauma impacted 9/11 reactions. The majority of those who lived through hurricanes, floods, fires or transportation accidents and did not feel that their lives were in danger during these events, indicated that the events did not have a measurable impact on their 9/11 stress levels. However, for a respondent who almost perished in a flood as a child, this event did cause significant distress and a change in her worldview. She reported feeling at higher risk for stress on 9/11.

Prior trauma due to exposure to war did cause distress, particularly if the exposure included witnessing death, carnage and fear for one's life. For one respondent, it served as a risk factor when 9/11 struck, as the terrorist attacks generated flashbacks of the war. For the other, having survived the war strengthened her ability to handle 9/11 stress.

However, one must be careful regarding drawing conclusions regarding this issue as only two respondents reported living through a war situation.

Prior personal trauma was cited as causing extreme distress among those interviewed. These respondents had survived many types of personal prior traumas including: childhood physical and sexual abuse, homelessness, suicide deaths of siblings, death of siblings to AIDS and SIDS, having cancer, having children diagnosed with cancer, and being violently attacked by a stranger.

Some of the respondents reported that their prior trauma history acted as a risk factor, heightening their stress on 9/11. They viewed their trauma experiences as additive in a nature. They reported that their prior trauma history seemed to leave them more vulnerable to the effects of the terrorist attacks, impacting them almost as if they had been more directly exposed. These individuals often reported that they had not fully recovered from their past grief. There was a significant difference between this group and the respondents who felt that their prior trauma had been successfully resolved. They reported having taken action to help them recover and had good coping mechanisms or support systems in place. For these respondents, prior trauma acted more as a resiliency than a risk factor. One person stated, "Surviving these horrors was the reason that I could tolerate 9/11." That is not to say that these respondents did not develop PTS symptoms following 9/11, but they reported that their surviving prior traumas helped them better handle 9/11 stress.

Secondary Traumatic Stress among Clinicians Working with 9/11 Clients

Clinicians that worked with clients with 9/11-related issues did experience significant Secondary Traumatic Stress (STS) reactions. There are several factors

specific to the 9/11 disaster that may help to explain the level of STS demonstrated by the clinicians. Most important, and unique to this disaster, is the fact that both the client and the clinician had shared the experience of 9/11. Many clinicians reported that their exposure to their clients' problems and fears heightened their own stress and anxiety. "I was not much further along the road to recovery about 9/11 than my client", was a common theme expressed by the clinicians. Many reported sharing the same fears and anxieties as their clients and struggled with containing their own stress during the session so that they could be empathically and clinically available to the client.

The clinicians interviewed for this study expressed their surprise at the intensity of their STS reactions following work with 9/11 clients. The repeatedly stated "I had many more reactions than I expected." They were drained emotionally, physically and psychologically after these sessions. Clinicians reported crying after sessions and feeling more anxious and distressed after sessions with 9/11 clients. Many reported having trouble detaching from their clients' pain and suffering. For many, these interviews served as the first time that they had discussed their 9/11 work and the stresses they encountered doing this work. This factor alone speaks volumes for the lack of support that they encountered while providing such intense clinical support.

There were many other factors that contributed to STS reactions. The effects of 9/11 were felt nation-wide and there was exceptional potential for client traumatization. The event was unpredictable, sudden and uncontrollable. There was enormous damage and destruction in New York City. Further, the disaster was intentionally caused by humans.

Another complicating factor was that many of the 9/11 clients' presenting problems were potentially more traumatic than the regular types of problems handled by these clinicians. Clients described seeing body parts of victims, receiving their loved ones body parts, fleeing from the burning WTC towers, their extreme fear of returning to the area, flashbacks of the event. Some of the clinicians themselves were directly involved in the initial recovery effort at Ground Zero and the Armory, heightening their exposure. This type of "relational" exposure - exposure through work with clients, should also be included as a facet along the continuum for exposure level.

Coping Strategies and Supports Available to the Clinicians

The respondent accounts about coping and support needs yield critically important information to prepare the mental health system to deal with future terrorist attacks. Important insight was gained into how the clinicians' support and supervisory needs were met, or not met, by their agencies and the mental health field. A better understanding about the coping skills that they subsequently utilized to deal with their stress levels was also valuable knowledge.

Debriefings, supervision, training and peer support have been shown to be effective methods to ameliorate stress symptoms from traumatic events and hasten recovery (Bell, 1995). The results of this study indicate that there was a very uneven pattern of organizational and professional support available to both those involved in 9/11- related work, and to those clinicians that were not working with 9/11 clients but were struggling with their own stress levels due to 9/11. Some clinicians reported receiving no support from their agency. Other clinicians reported that their organizations did make an attempt to provide counseling, debriefing sessions, and training, but they

were either ambivalent about accepting this type of support, or showed outright disdain about the services being offered and did not elect to utilize them. Other clinicians received these services and reported that they were a benefit and appeared to help them by reducing their stress levels.

Surprisingly, for a field that prides itself and stresses the importance of supervision, individual clinical supervision availability was described as “weak” among those interviewed. Several clinicians sought out their own professional support systems. They found it very helpful to meet with peers and colleagues to discuss case situations and to help them recognize and deal with the PTS/STS symptoms that they experienced.

Finally, the interviews also gave this researcher the opportunity to explore personal coping skills employed by the respondents’ to help them deal with both their PTS and STS symptom levels. Consistent with the literature (Figley, 1995a; Catherall, 1996), the interventions utilized most commonly were in the realm of social support. Spending quality time with family and friends and being able to share their concerns, thoughts and fears about 9/11 was cited as helpful to many. Practicing their religion provided relief for others. Some of the respondents cited a “belief in themselves” to survive this trauma and “positive self-talk” as the main method they used to cope with their stress.

Very few of those interviewed utilized counseling or psychotropic medication to handle their stress, although some stated that it would have probably been helpful. Several mentioned that they were given hot-line numbers or Employee Assistance Plan (EAP) information but did not avail themselves of these resources.

Interestingly, some of the respondents reported that their non-stop activity in the area of work helped them cope. This group was in constant motion, providing more clinical services than usual, scheduling more activities into their day, taking on extra work. This on-the-go activity, may have also blocked out some of the more painful feelings that they may have been experiencing until a time when they felt more ready to deal with their stress issues, or until their role as a provider of 9/11 services ended.

So, where do we go from here?

In summary, the results of this study yield insight into the factors that should be integrated into the conceptualization of exposure to terrorist disasters and incorporated into the assessment to determine whether an individual is at risk for developing PTS symptoms. High levels of PTS symptoms lends support to the wisdom of viewing exposure as a continuum with multiple dimensions. Exposure is simply not “high or none”, “all or nothing”. Defining and operationalizing exposure more broadly in future studies of PTS symptoms could provide more useful data. This would allow for the recognition and treatment of affected individuals.

Implications for Practice

The results of this study indicated that individuals that were “indirectly” exposed did develop PTS symptoms related to the 9/11 attacks. The long-lasting, psychological impact of the attacks was impressive. This finding is not consistent with the few articles in the literature that report on indirectly exposed individuals that were presented in Chapter Two (Wilson, 2004; Galea, 2003; Schelenger, 2002). It must also be noted that little research to date has focused on the impact of those individuals “indirectly” exposed.

New methods of assessing risk for PTS among those more removed from a terrorist attack site are needed.

The definition of what constitutes “exposure” to terrorist disasters needs to be expanded to appropriately capture and identify those at risk for PTSD or PTS symptoms. Exposure should be treated as a continuous, multi-faceted variable, composed of graduated levels, so that individuals who have been exposed to a terrorist event can be identified and targeted for appropriate intervention. The field needs to include factors besides physical and relational (family) proximity to the disaster, when defining exposure.

When working with clients following a disaster, obtaining a solid understanding of the types of sights, sounds and smells that the individual experienced, the amount and type of media watched would be beneficial. Obtaining a history of prior trauma is also important. Often, in disasters, the focus is on the present. Prior trauma has the potential to serve as a risk or resiliency factor for PTS symptoms. Additive in nature, if prior traumas were not successfully resolved, the current disaster facing the victim may impact the victim at a greater level.

A quantitative assessment tool could be developed for utilization as a screening mechanism, to determine where along a continuum of “high to low” exposure an individual geographically distant from the actual disaster site would fall. This might give the mental health field a greater understanding of their risk for PTS symptoms. The results of this study indicate that the types of sights, sounds and smells that the individual experienced, the amount and type of media watched and the individuals’ history of prior trauma should be integrated into the assessment of risk for PTS symptoms.

The answers to these questions would be scored and rated on a continuum of low to high exposure. Consequently, those at the higher level could be targeted and included in disaster counseling and support. The following chart (Table #4) offers preliminary suggestions for inclusion in an initial assessment following a disaster.

Table 4

Assessment Tool for Determining Exposure Levels to Terrorist Disaster

Visual Exposure

Were they able to personally see the disaster?
 What did they see?
 Did the sights cause them emotional distress?
 When was the last time that they thought about them?

Olfactory Exposure

Did they experience smells related to the disaster?
 What did they smell?
 Did these smells cause them distress?
 How long did they experience these smells?

Hearing Exposure

Did they hear any sounds related to the disaster?
 What did they hear?
 Did these sounds cause them distress?
 Do they experience the same distress if they hear similar sounds now?

Media Exposure

Did they watch media coverage of the disaster?
 How much time was spent watching disaster coverage?
 What did they see?
 Did these images cause them distress?
 When was the last time that they thought about these images?

Prior Trauma History

Have they ever experienced a disaster before?
 Natural disaster?
 Industrial or Transportation disaster?
 Interpersonal Trauma?
 How many of these experiences have they survived in their life in total?

Did they receive counseling following these episodes?

If yes, was it helpful?

Did their prior trauma negatively impact their stress reaction to the current disaster?

Working with Disaster Clients – Secondary Traumatic Stress Risk Assessment

Were/are you involved in the disaster relief effort?

If yes, where were you stationed?

If at the actual disaster site, for how long?

Are you familiar/skilled with the types of problems facing the client (disaster survivor)?

How long will you be involved with these clients?

Do you have adequate clinical support for your work?

Is your stress level higher after your sessions with clients?

Can you name some ways that you can relax/cope with stress following these sessions?

PTS Symptoms (utilize a standardized checklist with the respondent)

Hyper-arousal	What types of symptoms did they experience? Frequency?

Intrusive	What types of symptoms did they experience? Frequency?

Avoidant	What types of symptoms did you experience? Frequency?

How long have they had these symptoms?

How would they rate the impact on their daily living situation (low, medium, high)?

Clinicians providing therapy to clients during a disaster period, should take note of the fact that individuals that were not directly exposed to the attacks may exhibit PTS symptoms due to their internalization of the sights, smells and sounds of the disaster. Proximity to the disaster site is not necessarily needed to produce distress. The “ripple effect” can occur. Individuals outside of the disaster site may still experience reactions due to their geographical proximity. It is also expected that these indirectly exposed individuals may have physical reactions to the disaster, i.e. headaches, nausea, rapid heartbeat, lethargy, insomnia, etc. Clinicians should be aware of these reactions and explore them with clients presenting with PTS symptoms. A medical exam may be warranted if they are severe or long lasting.

It was apparent that the amount and type of media watched following the attacks caused added distress to the respondents. This is consistent with some of the literature regarding the psychological symptoms after terrorist attacks (Pfefferbaum et al, 1999b; Schuster et al 2001; Schlenger et al 2002). Galea (2002) found added distress primarily among those with direct exposure to 9/11. One recommendation is that advisory warnings should be issued to the mental health field regarding the negative implications of prolonged viewing of media coverage of terrorist attacks for themselves and their clients. The unexpected and disturbing images of 9/11 that were shown without prior warning also caused distress. Clinicians that encounter people affected by the disaster may recommend a reduction in exposure to viewing media coverage of the event. The general public may also benefit from knowing that intensive exposure to such an intense disaster situation can elevate PTS symptoms. If people feel that they must view the disaster news reports, watching them at a time when children are not present, or when they are not stressed may be helpful.

The current study suggests that the effects of some disasters, in particular terrorist attacks, may last for two years or more. This has important clinical implications. Most disaster counseling is short-term and focuses on the more immediate sequelae of the disaster experience. Some disaster effects may be more chronic and may require more treatment long after the acute phase of recovery is over. Clinicians that worked with clients impacted by 9/11 expressed anxiety about what would happen to their clients once the free, confidential mental health services funded through Project Liberty under a FEMA grant were no longer available. Clinicians reported that many of those impacted still needed support to recover from their PTS symptoms. The costs of mental health care

were prohibitive for many of the clients, even with the insurance coverage offered by some of their places of employment.

In addition, the clinicians voiced that the break in their continuity of care, or working with a clinician that did not have disaster training might discourage those that needed additional treatment to continue with services. Hence, those impacted by terrorist disasters would benefit from long-term mental health services, similar to those set up in Oklahoma City following the bombing (North, 2002). A resource like Project Liberty should be structured to provide both crisis services at the time of the disaster, and for longevity for those that need long-term clinical care, preferably by the same provider. Studies from Oklahoma City found that survivors and first responders still benefited from therapy three to five years following the event (Pfefferbaum, 1999; North 2002). The mental health field should expect to see lingering effects of 9/11 impact clients and take needed steps to help them access care. Care should be used to gather all pertinent data, and question the client about their experience of 9/11.

The lack of mental health services for children exposed to trauma was also of concern to those interviewed. Their needs may often go unrecognized as the focus is often on the adult population. In particular, the children of adults that were impacted by 9/11 are at higher risk if their parents were adversely affected as the weakening of the support system could leave the child at higher risk to develop PTS symptoms. If working with the adult survivors, clinicians should make sure that assessments for PTS symptoms also cover children in the household. Clinicians that work with children should be educated as to the signs and symptoms of trauma and PTS in children, so that they can more readily identify and support them.

Recognition that those who were indirectly exposed can be at risk for PTS symptoms, needs to be acknowledged by those agencies and entities in charge of providing funding, resources and clinical intervention. This researcher's experience following 9/11 was that funding sources targeted "directly exposed" individuals and excluded "indirectly exposed" individuals. Often, this was due to the manner in which the funding was solicited from donors. For example, several NYC foundations that raised millions of dollars to provide 9/11 recovery had solicited contributions with the caveat that they be used for those "who fled the towers". Consequently, there was more than sufficient funding for this population, leaving insufficient funds for those less directly exposed. Therefore, guidelines utilized in this area should be carefully examined so that inclusion of all relevant clients is possible.

One recommendation is to convene a group of administrators and mental health professionals well versed in disaster trauma recovery that could develop new guidelines for determining parameters for disaster mental health relief efforts. Ideally, representatives from the professional societies, The National Association of Social Workers, International Society for Traumatic Stress, American Psychological Association would be included. This group should work in concert with the established funding entities, i.e., the NYC Community Trust, the American Red Cross, FEMA and the like, to ensure that practical guidelines are enacted. The final report on the impact of Project Liberty may also provide substance for tailoring future recovery efforts.

Another set of recommendations is offered for clinicians providing disaster mental health services, especially those exposed simultaneously to the disaster. The impact of Secondary Traumatic Stress on the respondents in this study was extremely

striking. Consistent with the literature, many clinicians reported increased STS levels during their work with 9/11 victims and after they terminated with the clients. The majority of those interviewed did not believe that they received the support, training or supervision that they needed while carrying out their 9/11 clinical work. Although the agencies that they worked for made attempts at support via EAP plans, e-mailed referral sources, and occasional groups, they were deemed woefully inadequate among most of those interviewed for this study. Responding to a terrorist attack was new for both the providers and many of the agencies involved; lessons from the 9/11 attacks must be taken into consideration to strengthen the mental health field's response.

First, it is important for mental health professionals and those involved in their training to recognize the impact that this work has on individuals. Organizational, professional and personal measures to prevent and alleviate STS should be developed by the mental health field as soon as possible. Adequate supervision and support systems must be implemented for clinicians in disaster mental health. Debriefings, supervision, training and peer support have been shown to be effective methods to ameliorate stress symptoms from traumatic events and hasten recovery (Bell, 1995). Those clinicians that were able to receive these services, reported that they were a benefit, and that they appeared to help them reduce their stress levels. Clinicians reported that they desired individual "checking-in" by a supervisor, group sessions, debriefings and trainings on dealing with the complex aspects of providing mental health care after a terrorist attack.

Secondly, the clinicians in this study expressed a desire for a central repository of training information that they could readily access for response to future disasters. This should include information on dealing with client reactions, therapeutic interventions and

referral sources. Clinicians expressed a desire for more seminars, training sessions and workshops dealing specifically with outcomes related to terrorist trauma. It should also include information for clinicians to prevent and manage STS reactions.

Third, a varied caseload and monitoring the time that a clinician spends at the disaster site, or working with disaster victims may also be helpful to offset STS reactions. Perhaps if supervisors or agency heads had a greater recognition of, and understanding of, the impact of indirect exposure, and the resultant PTS symptoms and STS risks involved in treating traumatized clients, there would be a more supportive and encouraging milieu for clinicians to utilize therapeutic support for themselves. Administrators should attend training on managing and preventing STS and take appropriate organizational action to boost support for their clinical staff.

Fourth, also of importance is that close to 100 percent of the sample of clinicians cited instances of prior trauma in their lives. Addressing this factor seems especially important. Some activities may help the clinicians ameliorate the secondary effects that are related to their trauma histories, i.e. personal therapy. Being aware of personal “red flags” and even structuring the caseload to avoid certain types of clients or situations may be helpful for both therapists and clients.

Fifth, follow-up care for disaster mental health workers once the crisis counseling program ends, must be considered a priority. These clinicians may have continued PTS and STS responses associated with their own prior trauma history, the disaster that they just encountered and the cumulative impact of their client work. It must be noted that many clinicians reported they began to experience STS reactions 30 months following the attacks. Unfortunately, this was the time when their contracts to provide services ended.

Unemployed, they were left to deal with their reactions on their own, without any organizational or professional support. For example, such was the case for many Project Liberty providers, who were released from their agencies as soon as the contracts ended. Follow-up programs and activities targeted for these workers at regular monthly intervals following the end of the program should be integrated into the overall framework of terrorist disaster recovery plans. Clinicians need a forum to come together to both express the emotions that they are experiencing at present and to be recognized for their heroic efforts in helping with the mental health recovery effort. This programming should include: an overview of the symptoms of STS; why disaster recovery clinicians experience STS; examples of 9/11 STS reactions; the differences between STS and “Burnout”; a self report measure for STS, Burnout and work satisfaction; and a closing section on the various types of interventions that can be put in place to prevent and manage STS, an unavoidable, but manageable, aspect of disaster trauma recovery work.

Limitations of the Study

There are several aspects of the study that may limit the applicability of its findings. The most obvious of these is the sampling strategy, does not produce a representative cross-section of the mental health clinician population considered “indirectly exposed” to the terrorist attacks of 9/11. The sample is considered small, consisting of 26 respondents. Another factor limiting its generalizability is that it was primarily female, with 24 of the participant being women, and two being male. However, this also may be reflective of the much larger percentage of females in the social work and mental health field in general. The results have limited generalizability; instead, consistent with the exploratory purpose, they will yield questions and frameworks for

future testing. The findings, particularly those regarding STS issues, may be more relevant to the mental health field than to non-clinicians.

Individuals may have reported heightened symptoms partially due to the fact that many stated that they had never discussed their 9/11 experiences with anyone. The interview may have served as a “therapeutic” disclosure session, increasing the emotionality of their response. All of the respondents described having PTS symptoms after the attacks, and almost half of them were still experiencing “moderate to strong” symptoms at the time of the interview. Some of those interviewed could have self-selected to be included due to this need to be heard.

In addition to this issue, the lack of pre-attack measures of PTS symptoms also limits the ability to ensure that the respondents were not symptomatic prior to the events of 9/11. This lack of pre-disaster data has been cited as a concern in the disaster literature (Norris, 2002, Pesci, 1999; Morland, 1998).

The study was conducted after the second anniversary of the terrorist attacks of 2001, making the use of retrospection necessary for the interview segment of the study. Other events have occurred since that time that may impact their recollection and add to, or lessen their symptomatology. The anthrax scares, the “black-out” of 2003, the war in Iraq, are examples of such incidents.

The use of a self-report, retrospective assessment instrument, the IES- Rev., also introduces the possibility for distortion of the responses. Participants may respond in a manner that either exaggerates or minimizes their actual experiences. This was kept in mind during the analysis and in the preparation of the final report. In two instances the IES-R scores did not seem to match the respondents’ presentation. Since data sources

were triangulated, there was an opportunity to compare the interview data and the IES-R for each participant to determine if there are differences in the levels of symptoms reported. Different kinds of data may capture different items. The investigator attempted to understand and report on reasons for the differences. Overall patterns in any discrepancy were noted.

This study holds particular relevance to the mental health field, specifically for mental health professionals that will provide disaster mental health recovery services. Its implications should be considered for future research studies.

However, despite these limitations, this study lends support to the need to expand the concept of exposure levels to terrorist disasters. Future research can aid the fielding ensuring those affected will be identified and receive appropriate support for trauma recovery.

Future Research

Based on the results of this study, suggestions for further research include the following ideas.

First, based on the findings of this study and drawing upon the chart provided in Table #4, a quantitative screening tool for PTS risk among those indirectly exposed to the disaster could be developed. This quantitative scale would measure risk for PTS symptoms, by including visual, media, olfactory and auditory variables, prior trauma history and current PTS symptomatology. It could be constructed in a question and answer format or checklist format.

In light of the serious impact that the 9/11 clinical issues had on the respondents in this study, a subscale of questions addressing STS issues affecting clinicians could be

developed as well. This type of tool might aid the field in expeditiously identifying and offering appropriate mental health services and other resources to those negatively impacted outside of the immediate disaster site. A scale should be constructed and piloted as soon as possible.

Future post-disaster research should also focus on the potential role that viewing media images of a disaster event of such magnitude play in the development of PTS symptoms. Of particular interest, is the impact of media viewing among those individuals that were “indirectly exposed” but were in close geographical proximity to the event. More research is needed to inform the field on the possible detrimental effects of viewing terrorist disasters so that proper precautions can be taken.

This study examined only a small group of clinicians from the New York City area that were indirectly exposed to the terrorist attacks of 9/11. The comparison of different samples of clinicians working in different types of disaster relief efforts would add to the knowledge base of indirect exposure. Since the sample was predominantly female, adding more males to the sample would be interesting for comparison purposes as well.

Finally, the ways in which non-profit mental health agencies and government agencies differ in the treatment of their clinicians that are involved in disaster recovery efforts would be interesting to explore (i.e. types of assignments, length and duration of tours of duty, debriefing frequency, emphasis on preventing STS). Along these lines, the clinician’s utilization rates and rating of the types of support services offered to clinicians doing disaster recovery work would also be a beneficial avenue for exploration. An

assessment of the most effective measures would prepare the field to better support clinicians in the future.

Summary

The results of this current study provide support for Foy's theory of development of PTS symptoms following a terrorist disaster. It also points to the urgent need for the trauma mental health field to develop a new continuum for exposure levels that would be utilized to determine which individuals are at high risk to develop PTS symptoms following future terrorist attacks. The current conceptualization of exposure does not work well, particularly in regards to terrorism. The powerful portraits of those interviewed attest to this fact. The ripple effect of the attacks resonated deep within their psyche.

This study highlighted the multi-faceted nature of exposure. The physical, psychological, relational realms, prior trauma history, secondary exposure through work with clients, and the presence of effective coping skills and support systems, all play a role in the outcome of whether one does, or does not, develop PTS symptoms following a terrorist attack.

Results call for a new conceptualization of exposure level to terrorist trauma, in order to ensure that those at high risk for PTS symptoms are identified and receive trauma recovery support. A model with questions for an initial assessment to determine exposure risk following a disaster was suggested.

Implications of the findings are included for social work clinical practice, disaster mental health administration, funding sources and policy. Recommendations for future

research were identified. They are needed, as the trauma of 9/11 has not subsided in many.

It is important that the disaster trauma recovery field consider the suggestions put forth in this study, to ensure that all individuals at risk for PTS symptoms following a terrorist attack receive the support they need to recover.

APPENDICES

Appendix A

Date/Code _____ The New York Society for the Prevention of Cruelty to Children (NYSPCC)
Strength of Our Society - Talking About 911

Thank you for participating in our trauma recovery workshop today. In addition to wanting your feedback on this session, The NYSPCC is gathering information on trauma symptoms that were experienced following the terrorist attacks on September 11th. This will allow us to design workshops to meet the needs of New Yorkers. Please take a few minutes to complete the following information and checklist (other side of form). If you find any of these questions disturbing, you may stop at any time. Please skip any questions that you do not want to answer. If your upset persists, please remember to refer to the list of resources provided for additional assistance. These forms will be used by the NYSPCC to develop programs, reports, publications and doctoral dissertations, about the experiences of people in our city since 9/11. Your participation is completely voluntary. We hope you will choose to participate. Respondents will not be individually identified. If you have any questions regarding this survey, please contact the Executive Director of the NYSPCC,

Mary L. Pulido, MAT, CSW at 212.233.5500 ext. 225. Thank you.

Sex: Female _____ Male _____
 Age: 15-20 _____ 21-30 _____ 31-40 _____ 41-50 _____ 51-60 _____ 61-70 _____ 71-80 _____

Employment: Corporation _____ Small Business _____ Law Firm _____ School _____ Social Service Agency _____
 Self-employed _____ Unemployed _____ Full-time parent _____ Full-time Foster parent _____
 Hospital/HealthCare _____ Restaurant/Food Service _____ Arts/Entertainment _____ NYPD _____
 NYC Employee _____ Other _____

City of Employment: Bronx _____ Brooklyn _____ Manhattan _____ Queens _____ Staten Island _____
 Westchester _____ New Jersey _____ Connecticut _____ Other _____

City of Residence: Bronx _____ Brooklyn _____ Manhattan _____ Queens _____ Staten Island _____
 Westchester _____ New Jersey _____ Connecticut _____ Other _____

Marital Status: Single _____ Widowed _____ Divorced _____ Married _____ Living with Partner _____

Number of Children: _____

Ethnicity: Caucasian _____ African-American _____ Caribbean _____ Latino _____ Asian _____
 Arabian _____ Indian _____ Other (please indicate) _____

Veteran: Yes _____ No _____

Were you directly exposed to the disaster of September 11th? That is were you in the vicinity of the WTC at the time of the attack? (below 14th St.) Yes _____ No _____

Were you injured physically in any way? That is were you burned, or harmed by debris, or was your ability to breathe, see or hear impaired? Yes _____ No _____

Was your spouse, partner or any member of your family or a close friend directly exposed to the disaster of September 11th? Yes _____ No _____

Were they physically injured in any way? Yes _____ No _____

Have you experienced other traumatic events prior to 9/11? Yes _____ No _____
 (For example, car accidents, natural disasters, violent attacks, child abuse, domestic violence, health injuries, unexpected death of a loved one, etc.)

How often did you view the attacks on TV/CNN? Never _____ Occasionally _____ Frequently _____

Please fill out the checklist on the other side before the start of the seminar. Thank you.

We are interested in assessing the types of stress symptoms experienced by you following the attacks on the World Trade Center. Please indicate if you have experienced an increase in any of the following symptoms since the terrorist attacks:

	No Increase	Occasionally	Frequently	A Great Increase
Depression				
Feelings of detachment or estrangement from others				
Inability to recall certain aspects of the attacks				
Tiredness				
Sense of foreshortened future				
Difficulty concentrating or focusing at home				
Difficulty concentrating or focusing at work				
Increased irritability				
Panic attacks				
Headaches				
Nausea				
Muscle tension				
Nightmares				
Fear of Flying/Airplanes				
Fears about bioterrorism/anthrax				
Fears about riding subway/mass transit				
Fears about air quality/safety				
Recurring flashbacks of the event				
Exaggerated startle response				
Difficulty falling or staying asleep				
Avoiding places, people or activities that bring recollection of the event				
Sense of hopelessness				
Sense of helplessness				
Loss of Appetite				
Overeating				

Appendix B

Preliminary Data Analysis of the NYSPCC Trauma Recovery Program

Respondent demographics

The majority of the respondents were female (82%), 18% were male. Thirty one percent were between the ages of 21 to 30; 25% were between the ages of 31 to 40; 25 % were between the ages of 41 to 50; 14 % were between the ages of 51 to 60; and the remainder were 61 years of age or older. The majority of the respondents were single (41%). Thirty-six percent were married; 3% were widowed; 13% were divorced; and 7% were living with a partner.

Regarding ethnicity, 35% were African American, 27% were Caucasian, 22% were Latino, 6% were Asian, 5% were Caribbean and 5% listed themselves in the “other” category.

Regarding place of employment, 24% worked for a social service agency, 19% worked in the school system; 19% worked for the NYC Administration for Children’s Services, 14% were either full-time parents or foster parents, 4% were unemployed, 8% worked for small businesses in the

WTC area; 3 % worked in hospitals, 1% worked for the NYPD. The remainder indicated “other.

Exposure levels

Sixty-seven percent (428) were not directly exposed to the terrorist attacks. Thirty-three percent (214) were directly exposed to the attacks, of those, 25% (57) reported being physically injured. Ninety-one percent were not injured. Forty-four percent (280) reported that a family member, spouse or partner was directly exposed to

the attacks. Fourteen percent of the respondents (84) reported that a spouse, partner or family member had been injured.

Depression, PTS Symptoms and Fears

The majority of the respondents reported an increase in depression (60%), tiredness (57%), sense of a foreshortened future (56%), fear of flying (60%), fear of bioterrorism (63%), fear of riding mass transit (64%), fears about air quality/safety (68%), recurring flashbacks (51%).

Other PTS symptoms were reported in a substantial number of respondents as follows: feelings of detachment (40%), Inability to recall certain aspects of the attacks (25%), difficulty concentrating at home (47%), difficulty concentrating at work (44%) increased irritability (49%), panic attacks (33%), headaches (31%), nausea (21%), muscle tension (42%), nightmares (32%), exaggerated startle response (35%), difficulty falling or staying asleep (43%) avoiding places, people or activities that remind you of 9/11 (40%), sense of hopelessness (35%), sense of helplessness (39%), loss of appetite (21%), overeating (24%).

Correlation between exposure levels and symptoms

Correlations (one-tailed) were conducted utilizing many of the variables in the database. Of particular interest to this study were the findings regarding “direct” and “indirect” exposure levels and the presence of PTS symptoms.

The results indicated that the PTS symptoms do not appear to have a strong/high correlation with exposure level. (Correlation coefficients range between -1.0 (perfect negative) at one extreme to $+1.0$ (perfect positive) at the other extreme, with 0.0 (no linear correlations) at the mid-point (Weinbach et al, 2001)). The correlation results

were as follows: depression (.11), feelings of detachment (.10), inability to recall certain aspects of the attacks (.04), tiredness (.15), sense of foreshortened future (.05), difficulty concentrating at home (.08) difficulty concentrating at work (.12), increased irritability (.15), panic attacks (.06), headaches, (.03), nausea (.03), muscle tension (.07), nightmares (.09), fear of flying (.03), fears about bioterrorism (-.02), fears about riding the subways (.06), fears about air quality, (.11), recurring flashbacks (.11), exaggerated startle response (.09), difficulty falling or staying asleep (.15), avoidant behaviors (.06), sense of hopelessness (.06), sense of helplessness (.11), loss of appetite (.03) and overeating (.06).

Media Exposure

In response to the question “How often did you view the attacks on TV/CNN?”, 3% (12) indicated that they “never” viewed the attacks, 31% (138) indicated that they occasionally watched the attacks and 66% indicated that they frequently watched TV/CNN news coverage regarding the attacks. Note: The media exposure question was added three months after the initiation of the program, therefore the total number of responses is lower. (Respondents = 443).

Prior trauma history

In response to the question “Have you experienced other traumatic events prior to 9/11? For example, car accidents, natural disasters, violent attacks, child abuse, domestic violence, health injuries, unexpected death of a loved one, etc.)”; 43% (231) of the respondents indicated that they had experienced other traumatic events prior to 9/11. Fifty-seven percent (313) indicated that they had not experienced other traumatic events. Five percent of the respondents identified themselves as veterans, which may mean that

they experienced prior trauma. Note: the question regarding prior trauma was added two months following the initiation of the program, therefore the total numbers are lower.

Respondents = 544.

Implications - Need for Characterization of Dimensions of Indirect Exposure Levels

The findings regarding the low correlation between exposure levels and PTS symptoms were of interest, as it is assumed that direct exposure would be highly correlated with PTS symptoms. This furthered my desire to explore and then define the dimensions of “indirect” exposure. Also of interest is that the majority of the respondents (66%) viewed CNN/TV coverage of the attacks on a frequent basis; this finding requires further exploration. Media exposure may constitute one of the facets of the psychological realm of indirect exposure.

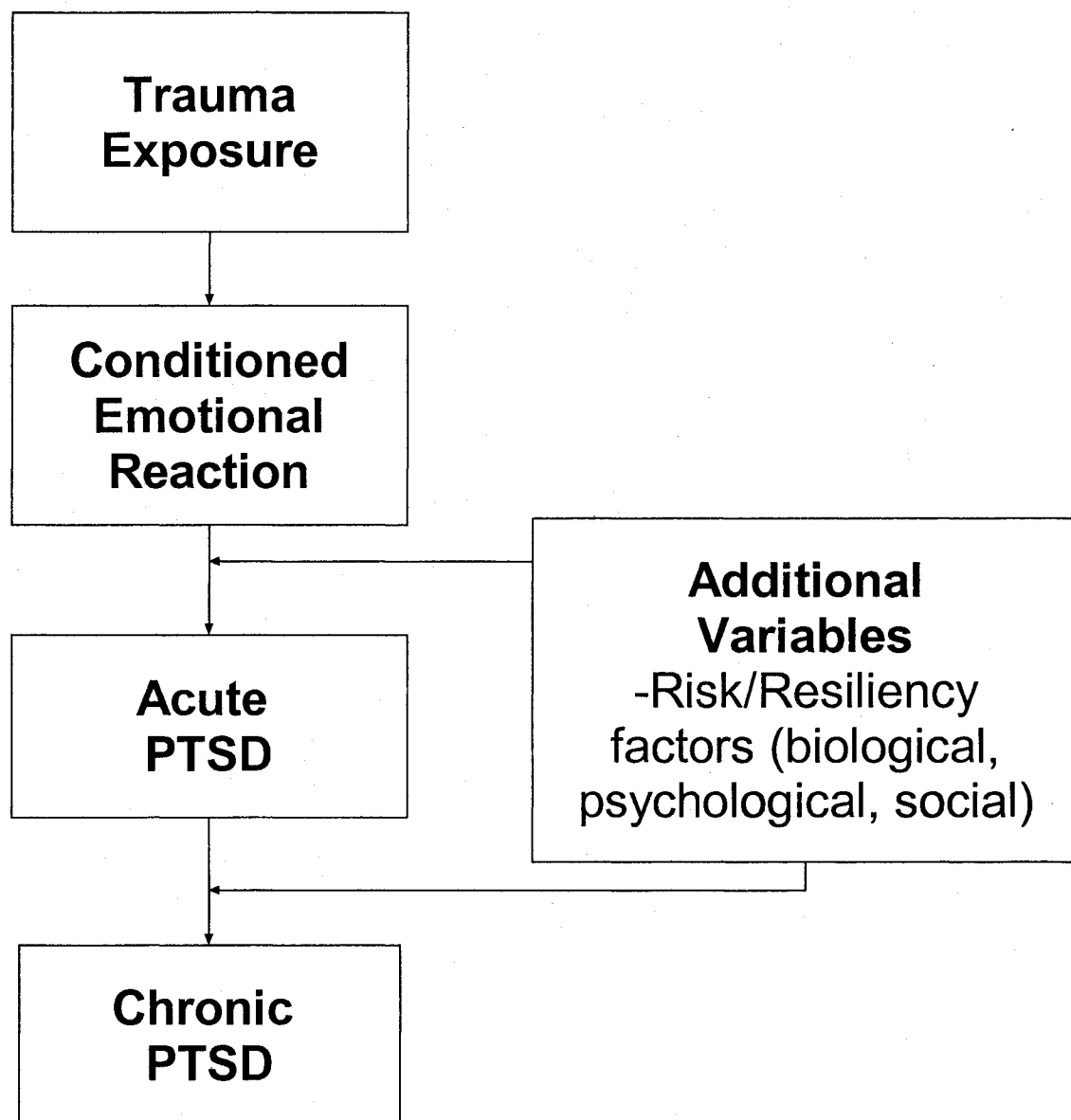
The respondents were pretty equally divided regarding prior trauma history, 43% having experienced prior trauma and 57% having no prior trauma history. This variable could have a mediating or a potentiating relationship to the level of PTS symptoms experienced by the respondent. Therefore, it will be explored in further depth to add to the knowledge base of risk/resiliency factors.

Although the limitations of the sample must be kept in mind, as the majority of the individuals self-selected to be included in the study, the preliminary data analysis indicates a need for further in-depth research.

Appendix C

Etiology of Posttraumatic Stress Disorder

(Foy Model)



Appendix D

Table # 1 – Review of Literature on Trauma due to Disasters

Study Type	Hypothesis Literature Review	Sample Representativeness	Type of instrument	Validity & Reliability Addressed	Descript. Statistics.	Variable Def.	Data Analysis & Conclusion
PTSD among Mexican Victims of Disaster Hurricanes/gas Explosions Norris, Et al (2001)	H – Yes L – Yes Exposure levels, Culture, PTSD	Small (n=24) Convenience for Qualitative Research Adults	Unstructured interviews Three broad questions	Moderate reliability and Validity	Adequate Display of results	Yes	Appropriately drawn Limitations addressed.
Coping, Self-Efficacy Perceptions as a Mediator Between Acute and Long-term Stress following Natural Disaster Benight, Et al (2002)	H – yes L – yes Exposure Levels, Gender, PTSD	(n = 46) Convenience Adults	SASRQ NDCSE BSI IES Demographic Assessment	Commercially produced and tested with high V, R, O.	Adequate display of data and results	Yes	Appropriately drawn based on data. Limitations addressed.
Natural Disaster Exposure in the General Population Briere, et al (2000)	H-yes L – yes Exposure Levels, Prior Trauma, PTSD	(n=935) Random sample Adults	TES TSI	Commercially produced and tested with high V, R. O.	Adequate Display of data and results	Yes	Appropriately drawn based on data. Limitations addressed
Sex Differences in Symptoms of PTSD: Does Culture Play a Role – Hurricane Study Norris, et al (2001)	H – Yes L – Yes Gender, Culture, PTSD Exposure levels	(n = 470) purposive	Rev. Civilian Mississippi Scale	High VRO	Adequate Display of data and results	Yes	Appropriately drawn. Limitations addressed.
Effect of Relocation After a Natural Disaster (Armenia Earthquake) Najarian, et al (2001)	H – Yes L – Yes Direct Exposure, PTSD, gender, Media	(N=50)	SCL – 90 – R Hamilton Depression Scale PTSD scale	Commercially produced and tested, high V,R, O.	Adequate display of data and results	Yes	Appropriately drawn. Limitations addressed.
Traumatic Stress	H – Yes	(n=1,000)	Screening	Good V,R, O.	Adequate	Yes	Appropriately

In Earthquake Survivors in Turkey Basoglu, et al. (2002)	L – Yes Gender, Exposure, Prior Trauma, PTSD	purposive	Instrument for Traumatic Stress in Earthquake Survivors (SITSES)		Display of data and results		drawn conclusions. Limitations not addressed.
PTS symptoms in Nonexposed, Victims and spontaneous Rescuers after an Avalanche Johnsen, et al. (1997)	H – Yes L – Yes Indirect, PTSD	(n=94) purposive	Study developed tool, IES, PSS –10	Not stated	Data and results adequately displayed.	No	Some lack justification. Limitations addressed.
Mental Health Consequences of the Lockerbie Disaster Brooks, et al (1992)	H – Yes L – Yes PTSD, Direct Exposure	Purposive (n = 66) Adults	GHQ IES Leeds Scales of Anxiety and Depression, clinical interview	High R, V, and O.	Adequate Display of data and results	Yes	Appropriately drawn. Limitations addressed.
Crisis Support following the Herald of Free Enterprise Disaster: A Longitudinal Perspective Dagleish, et al. (1996)	H – Yes L – Yes Exposure Level, social support, PTSD	(n = 37) Survivors of ship sinking	IES Beck Depression Inv. STAI	Comercially produced and tested with high V,R, O	Results adequately displayed, more would have been helpful.	Yes	Conclusions appropriately drawn. Limitations addressed.
Voluntary and Professional Disaster Workers: Similarities and Differences In Reactions – Bus Crash Dyregrov, et al (1996)	H – Not stated L – Yes Exposure levels, PTSD	(n=43) Purposive	Demographic questionnaire Event specific survey IES GHQ	Addressed for some scales, not for others.	Appropriate display of data and results	Yes	Appropriately drawn. Limitations addressed.
Traumatic Stress and Death Anxiety among Residents Exposed to an Aircraft Crash Man Cheung, et al (2000)	H – Yes L – Yes	(n = 82) Convenience sample	IES GHQ DAS	Good VRO	Adequate Display of data and results.	Yes	Appropriately drawn.
Long-term Stress Reactions in Immigrants to Israel exposed to the Chernobyl Accident	H – yes L – Yes Direct and Indirect Exposure, prior trauma, PTSD	(n = 702) exposed – 137 less exposed – 240 comparison – 331	SCL – 90 IES Project Questionnaire	High VRO Very good R on Project scale	Results adequately displayed	Yes	Appropriately drawn. Limitations addressed.

Cwikel, et al (2000)							
Coping with Technological Disaster: the COR model to Exxon Valdez Oil Spill	H-Yes L-Yes Direct	(n=125) mail survey	SCL9-R CR- PTSD, COSTS	HVRO Good reliability	Adequate	Yes	Appropriately drawn. Limitations addressed
Arata, et al (2000)							
Community Patterns of Psychiatric Disorders after the Exxon Valdez Oil Spill	H- yes L- es Direct and Indirect Exposure	(n=599) (437 exposed 162 unexposed)	DIS, PTSD scales CES-d Scale	HighVRO,	Adequate	Yes	Appropriately drawn, Limitations addressed.
Palinkas, et al (1993)							
Terrorist attack Omagh Bombing, PTSD in Health Service Staff	H- No Descriptive Study L- Yes Prior trauma, Exposure levels, PTSD	(n=1,064) Purposive - every staff member near bombing	PTSD Scale By mail.	Yes	Additional tables would have been helpful	Yes	Appropriately drawn. Limitations addressed.
Luce, et al (2002)							
Terrorist Attack Sarin Poisoning on Tokyo Subway	H- No L- No Exposure levels, health, PTSD	(n=641) Purposive patients seen in medical setting	Project developed questionnaire	Not addressed	Additional tables would have been helpful	No	Lack of Justification. Limitations not addressed
Ohbu, et al (1997)							
Outcomes in a Single vs. Multiple Trauma Exposure (all trauma) Green, et al (2000)	H-not stated L- yes Direct Exposure, Gender, Prior Trauma, PTSD	(N=2,507) Convenience sample - college students	Demographic questionnaire SLESQ TSI	Project produced and tested with high V,R, O. Other measure high V,R, O.	Other methods of display would have been more helpful.	No	Some lack justification or are poorly defended Limitations addressed
Terrorist Attack Oklahoma City Bombing	H-Yes L- Yes Indirect Exposure, Media PTSD	(n=2,737) Secondary data analysis Purposive sample students	Bomb exposure Bomb-related television Clinical Need Assess. Quest. IES - R.	Not stated for two measures. One had high V,R,O.	Adequate Display of data and results	Yes	Appropriately drawn based on data. Limitations not addressed
Morland (1999)							
Terrorist Attacks 9/11 Television Images and Psychological Symptoms	H- yes L- No Media exposure, Exposure	(n=1,008) Random digit telephone survey of Manhattan	Demographic s Project produced Questionnaire	Moderate V,R, O.	Adequate display of data and results	Yes	Appropriately drawn based on data. Limitations addressed.

Galea et al. (2002a)	levels, PTSD, Depression	residents	NWS of PTSD				
Psychological Sequelae of the September 11 Terrorist Attacks in NYC Galea, et al (2002b)	H – yes L – No Direct and Indirect Exposure	(N = 1008) Random digit telephone survey of Manhattan residents	Demographic project produced questionnaire, NSW of PTSD	Moderate V,R, O.	Adequate display of data and results	Yes	Appropriately drawn based on data. Limitations addressed.
Psychological Reactions to Terrorist Attacks, a National Study of 9/11. Schlenger, et al (2002)	H – Yes L – Yes Indirect Exposure, Media, gender, PTSD	Stratified Random sample (n = 2273)	PTSD checklist Brief Symptom Inventory	High V,R,O.	Adequate display of data and results	Yes	Appropriately drawn based on data, limitations addressed.
Terrorist Attacks Oklahoma City Bombing Christiansen (1998)	H – Yes L – Yes Indirect Exposure, Gender, PTSD	(n=3,218) Purposive sample of students grades 6-12.	Project designed needs assessment and IES scale	Not stated for needs assessment IES high V, R, O.	Adequate display of data and results.	Yes	Appropriately drawn based on data. Limitations addressed.
Oklahoma City, the relationship among trauma exposure, gender and PTSD Pesci (1999)	H – Yes, L – Yes. Direct Indirect Exposure Levels, Gender	(n=1,316) purposive, students	New scale developed for direct/indirect exposure, CNAI IES – R	Two Commercially produced and tested with high V,R, O.	Adequate display of data and results	Yes	Appropriately drawn conclusions, Limitations addressed.
Terrorist Attack Brooklyn Bridge Trappler(1996)	H – No L – No Exposure, PTSD	(n=11) Purposive sample survivors of attack	PTSD Symptom Scale Beck Dep.Inv. IES – R.	Not stated for one tool Two had high V, R, O.	One graph utilized. Additional displays would have been helpful	Yes	Lack of Justification. Limitations not addressed
Terrorist Attack Oklahoma City Bombing, Geographically Distant from the Explosion Pfefferbaum, et al (2000)	H- Yes L – Yes Indirect Exposure, Media exposure, PTSD	(n=69) Purposive sample of children indirectly exposed	IES-R Project developed tool	High V,R, O.	Adequate display of data and results	Yes	Appropriately drawn Limitations addressed
Terrorist Attack Oklahoma City Bombing North, et al. (1999)	H – Yes L – No Disaster exposure, gender, PTSD	(n=182) Random sample of adults of confidential registry of survivors	DIS Disaster supplement.	Not stated.	Adequate display of data and results.	Yes	Appropriately drawn. Limitations addressed.

Coping, Functioning and Adjustment of Oklahoma City Rescue Workers North, et al. (2002)	H - No L - Yes Exposure Levels, PTSD	(N=181) Voluntary firefighters	DIS Disaster Supplement	Not addressed	Appropriate display of data and results.	Yes	Appropriately drawn. Limitations addressed.
Terrorist Attack Oklahoma City Bombing Pfefferbaum, et al. (1999)	H- No L- Yes Exposure levels, media Exposure, PTSD	(n=3,218) Purposive, voluntary sample of students grades 6-12.	PTSS Scale Project produced scale	Not stated Descriptive report	Adequate display of data and results.	Yes	Appropriately drawn. Limitations addressed.
Avoidance in Trauma, Terrorist Attacks Oklahoma City Bombing Whittlesey, et al. (1999)	H - No L - Yes Exposure Levels, PTSD	(n=5) Case studies of families seeking treatment following the bombing	Individualized psycho social assessments	Not applicable	No data was displayed.	Inadequate	Lack of justification Limitations not addressed.
National Survey of Stress Reactions after Terrorist Attack 9/11 Schuster, et al (2001)	H- Yes L - No Indirect Exposure levels, Media Exposure, PTSD	(n=560) Random digit dialing within the U.S.A.	PTSDC used for adults DIS used for children	Not stated	Adequate display of data and results	Yes	Appropriately drawn. Limitations not addressed.
Child and Parent Response to Terrorist Attack 1993 WTC Bombing Koplewicz, et al. (2002)	H - No L - Yes Exposure levels, PTSD	(n=22/15) Purposive 22 children in WTC during bombing and 15 parents	Child's PTSRI Rev.Fear Survey for Children APSRI and Brief Symptom Inventory	High V, R, O.	Adequate display of data and results	Inadequate	Some lack justification. Limitations addressed.
Psychological Effects of Attack on the WTC: Analysis Before and After	H-Yes L- Yes Exposure Levels, PTSS, Prior Trauma	(N=711) 4 studies using college students in a class.	TSI And Project produced scales	High and Moderate VRO	Some data displayed, more would have been helpful	Yes	Appropriately drawn. Some limitations addressed.
Acute Psychiatric Responses Terrorist Attack 1993 WTC bombing Difede, et al (1997)	H - No L - No Prior Trauma, Exposure levels, PTSD	(n=9) Self-referred Case Series Purposive sample	SCID & structured clinical interview	Not stated	No data was displayed	No	Some lack justification. Limitations Not Addressed.
Psychophysiology	H - No	(n=51)	SCID	Not stated	Appropriate	No	Some lack

gle Assessment of Mental Imagery in Israeli Civilians Gulf War Shalev, et al (1997)	Exploratory study L- Yes Prior Trauma, PTSD	Purposive trauma survivors of War	STAI IES MISS Physiological measures		display of data and results		Justification. Limitations not addressed.
Trauma Exposure -Gulf War Orcutt, et al. (2002)	H - yes L - yes Exposure Levels, PTSD, gender	(n=2,949) Purposive - veterans	Laufer Combat Scale MSCR - PTSD scale TSS scale	Not stated for two measures, one had high V,R, O.	Other methods of display would have been helpful	Yes	Appropriately drawn based on data. Limitations addressed.
War Related Trauma and PTSD among Adult refugees in Kosovar Peterson, et al (2002)	H- Yes L - No Prior trauma, Gender, PTSD,	(n=129) Purposive	Project developed questionnaire CTEI TEIAO scale PTSD Symptom Scale	Not stated.	Appropriate display of data and results	Yes	Appropriately drawn, limitations addressed.
Psychol. Benefits & Liabilities of Trauma Exposure in the War Zone - Vietnam Fontana, et al (1998)	H- Yes L - Yes Exposure direct/indirect, social support, PTSD	(N=1,198) Vietnam Veterans Secondary Data Analysis	NVVRs Combat Exposure Scale, Rev. Combat Scale Marlow-Crowe Social Desirability Scale	Addressed for some scales, not for others	Appropriate, more would have been helpful	Yes	Appropriately drawn. Limitations addressed.
War exposure Among Children from Bosnia-Herzegovina: Psychological Adjustment in a Community sample Smith, et al (2002)	H - Yes L - Yes Direct/Indirect exposure, PTSD	(N= 2,976) Community sample of children	War Trauma Questionnaire IES - R Birtleson Depression self rating Scale Children's Anxiety Rating Scale RCMAS BGI	Addressed for some scales, not for others	Appropriate display of results	Yes	Appropriately drawn. Limitations addressed.
Structural Aspects of Survivor's Thinking of the Holocaust Suedfeld, et al. (1998)	H - Yes L - Yes PTSD symptoms stages of recovery	(n = 30) Purposive	Videotaped testimony review	Inter rater reliability of .85	Appropriate display of data and results	Yes	Appropriately drawn. Limitations not addressed.
Analysis of Violent Behavior in Vietnam Combat Veterans with PTSD, McFall, et al	H - Yes L - Yes Direct Exposure, PTSD	(n=565) 292 Veterans inpatient and 273 veterans in community as comparison	RCES MISS CTS GAF NVVRs	Not stated for some measures	Appropriate display of data and results	Yes	Some lack justification. Limitations addressed.

(1999)							
Relationships Among trauma exposure, Chronic PTSD Symptoms and Self-reported Health in Women: Replication and Extensions Kimerling, et al (2000)	H- Yes L- Yes Exposure Levels, Prior Trauma PTSD, Gender	(N=52) Female Vietnam veterans	Clinician Administered PTSD scale, Women's Wartime Stressor Scale, LSC, Women's Background Questionnaire Women's Medical History Ques.	High VRO on some scales, good VRO on others.	Adequate Display of data and results	Yes	Appropriately drawn. Limitations addressed.
Trauma Exposure and PTSD in International Relief Personnel Eriksson, et al (2001)	H-Yes L- Yes Indirect Exposure, PTSD	(n=113) Purposive	LASC Project developed survey SRS	Not addressed	Appropriate display of data and results	Yes	Appropriately drawn. Limitations addressed.
PTSD/Sexism Berg (2001)	H-Yes L- Yes Gender, PTSD Prior Trauma Exposure	(n=300) Availability sample.	SSE GRS TSI	High V,R,O.	Adequate Display of data and results	Yes	Appropriately drawn. Limitations addressed.
News Media and Psychological Distress McNaughton-Cassell (2000)	H-yes L- Yes Media Exposure, Indirect Exposure	Sample (n=239) Purposive Volunteer college students	Beck LES STAI Life Orientation Test Project developed scale	Adequately addressed	Appropriate display of data and results	Yes	Appropriately drawn Limitations addressed.

Appendix E

List of Assessment Tools Utilized in Studies Cited in the Literature Review.

BDI - Beck Depression Inventory
Beck Anxiety Inventory
Birleson Depression Self-Rating Scale
Bomb exposure Questionnaire
Bomb-related television Questionnaire
BGI – Brief Grief Scale
BSI - Brief Symptom Inventory
CES –D – Center for Epidemiologic Studies Depression Scale
Children’s Anxiety Rating Scale
Children’s PTSD scales Revised
Clinical Needs Assessment Questionnaire
COSTS – Coping Strategies Scale.
CR-PTSD – Crime Related PTSD scales
CSS – Crisis Support Scale
CTEI – Communal Traumatic Events Inventory
CTS – Conflict Tactics Scale
DAS – Death Anxiety Scale
DIS – Diagnostic Interview Schedule
DIS Disaster Supplement – Diagnostic Interview Schedule Disaster Supplement
EPQ-R – Eysenck Personality Questionnaire – Revised
Fear Survey for Children
Fear Survey Schedule
GAF – Global Assessment of Functioning
GHQ – General Health Questionnaire
GRS - Gender-related Stressors Questionnaire
Hamilton Depression Scale
IES – R - Impact of Event Scale – Revised
LASC – Los Angeles Symptom Checklist
Laufer Combat Scale
Leeds Scales of Anxiety and Depression
LES – Life Experiences Survey
LOT - Life Orientation Test
LSC – Life Stressor Checklist
Marlow-Crowe Social Desirability Scale
MISS – Mississippi Scale for Combat – Related PTSD
MSCR – PTSD scale
NDSCE – Natural Disaster Coping Self-Efficacy Scale
NSW of PTSD scales. – National Women’s Study measure of PTSD.
NVVRS Combat Exposure Scale – National Vietnam Veterans Readjustment Study
Combat Exposure Scale
PDQ-R – Personality Diagnostic Questionnaire
PPTSD-R Purdue PTSD Scale -Revised

PTS-RI – Posttraumatic Stress Reaction Index
 PTSS – Measure of Posttraumatic Stress adapted from the IES – R scale.
 PSTD-R checklist
 PTSD Scales
 RCMAS – Revised Children’s Manifest Anxiety Scale
 RFSSC - Revised Fear Survey Schedule for Children
 Revised Civilian Mississippi Scale
 Revised Combat Scale
 SASRQ – Stanford Acute Stress Reaction Questionnaire
 SCID – Structured Clinical Interview for DSM-III-R
 SCL90 – R Symptom Checklist Revised
 SLESQ – Stressful Life Events Screening Questionnaire
 So Scale – Gough Socialization Scale
 SSS- Form V – Zuckerman Sensation Seeking Scale
 SRS – Support Rating Scale
 SSE - Schedule of Sexist Events
 STAI – Spielberger State-Trait Anxiety Inventory
 TEIAO scale – Tangible, Emotional and Informational Assistance from Others Scale
 TEQ – Traumatic Events Questionnaire
 TES – Traumatic Events Scale
 TSI – Trauma Symptom Inventory (Briere)
 TSS scale – Traumatic Stress Schedule
 WTQ - War Trauma Questionnaire
 Women’s Medical History Questionnaire
 Women’s Wartime Stressor Scale

Appendix F – Individual Interview Questionnaire – Field Guide

Opening Statement: Thank you for agreeing to meet to participate in this study on the ways in which you experienced the September 11, 2001 attack on the World Trade Center. I truly appreciate your willingness and taking the time to answer my questions. I'd like to review the Informed Consent and if you agree to be interviewed we will do that today.

Before we begin the interview, I would like to ask you to complete the Impact of Events Scale (Rev.) and a short demographic data form. I am gathering these data for statistical and analytical purposes. You do not need to put your name on these forms.

I am particularly interested in how this disaster affected your stress level and health, both emotionally and physically; and whether or not any past traumatic life experiences contributed to your emotional stability or vulnerability. I am trying to obtain a better understanding of your exposure level to the attacks, including how much 9/11 related media coverage you watched during and following the attacks on the WTC.

I have a number of questions that I have prepared for this interview, but I am very interested in hearing about details of your experience. If you think that other information would be helpful, please share it with me. Please remember that all of the information that you share with me, including my notes and the tape of this meeting, will be kept confidential and will be presented anonymously in this study. Please let me know if you have any questions regarding these issues at any time during this interview or afterwards.

Level of Exposure Questions

1. Think back to the day of September 11th. How did you find out about what happened that day? Where were you when you heard the news? What did you do after hearing the news?
2. What did you see that day? Does any particular image stand out in your mind? What did you see the following days?
3. What do you remember hearing that was unusual? Can you describe it to me?
Prompts: airplanes, sirens.
4. What do you remember smelling that was unusual? Can you describe it to me?
Prompts: the fires, dust, falling ash, etc.
5. How did you feel physically on 9/11? On the following days?
6. Did these sights, sounds and smells remind you of anything that you experienced before?

Prior Trauma Questions

7. Did you ever experience any type of natural or transportation disaster before 9/11? This means a natural disaster like a flood, hurricane or an earthquake, or a transportation disaster like a plane crash or car crash? Can you tell me about it? How has this experience stayed with you?
8. Were you ever involved in a war or anything like one? How were you involved? Can you describe the impact it had on you? Physically?, Emotionally? **Prompts:** flashbacks, nightmares, startle response.
9. How do you think that this past experience(s) impacted your stress reactions to 9/11? What about your emotions/reactions seemed the same? Different? Did it bring back memories of that past event?
10. Some people have experienced crisis or trauma of a more personal and private nature. **Prompts:** family violence, the unexpected death of a loved one, abuse as a child. Can you tell me if you ever experienced a personal trauma? Can you tell me about it? Has it stayed with you?
11. How do you think that this experience impacted how you reacted to 9/11? Can you describe any differences or similarities in your emotional response?

Psychological Exposure

12. Some people felt like they experienced some or many of the difficulties listed on the Impact of Events Form that you filled out at the beginning of this interview. What feelings or stress symptoms did you experience on 9/11? How did these feelings change over the course of the next few weeks, months? What are you feeling now?
13. How did the events of 9/11 change your daily routine, if at all? How did they impact your feelings of safety? How safe do you feel now?
14. Following 9/11, when was the next time that you traveled to the WTC area? **Prompts:** for work, to see the WTC site, to see the memorials. What was that like for you?
15. Do you avoid any areas or activities now that you didn't before 9/11? Why?
16. What are you most worried about at this time?
17. What did you see on TV that day? How often did you watch the news on 9/11? Was this your normal routine?
18. Can you tell me how you felt after watching/reading the news about 9/11? Physically, emotionally?

19. Was there any media/news coverage or pictures that stood out for you? Can you describe them? How long did the images stay with you? When was the last time you thought about them? How did you feel?

Relational Exposure

20. How would you describe the impact of the attacks on your family and friends? Did anyone in particular have a difficult time dealing with 9/11? What happened? What was that like for you?
21. Did you or your family know anyone who was hurt that day? Can you tell me about it?

Relational/Exposure- Secondary Traumatic Stress/Compassion Fatigue

22. As a clinician, what was the extent of your work with clients impacted by 9/11? If yes, How did working with these clients and their issues affect you?
23. What types of coping strategies did you use for yourself after 9/11? What helped the most?
24. What types of supports were available to you through your job for handling 9/11-related stress?
25. What types of services helped your clients the most?

I want to thank you for answering my questions. I realize that this interview may have been difficult for you at times. How are you feeling now? I have a package of materials that I'd like to give you that list stress management techniques, coping strategies and referral sources for mental health experts who can help you if you think you will need them. Thanks again, I appreciate your participation with this study.

Appendix G

The Impact of Event Scale - Revised

Below is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you DURING THE PAST SEVEN DAYS with respect to the terrorist attacks on the World Trade Center on 9/11/01, how much were you distressed or bothered by these difficulties?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Any reminder brought back feelings about it	0	1	2	3	4
I had trouble staying asleep	0	1	2	3	4
Other things kept making me think about it	0	1	2	3	4
I felt irritable and angry	0	1	2	3	4
I avoided letting myself get upset when I thought about it or was reminded of it	0	1	2	3	4
I thought about it when I didn't mean to	0	1	2	3	4
I felt as if it hadn't happened or wasn't real	0	1	2	3	4
I stayed away from reminders about it	0	1	2	3	4
Pictures about it popped into my mind	0	1	2	3	4
I was jumpy and easily startled	0	1	2	3	4
I tried not to think about it	0	1	2	3	4
I was aware that I still had a lot of feelings about it, but I didn't deal with them	0	1	2	3	4
My feelings about it were kind of numb	0	1	2	3	4
I found myself acting or feeling as though I was back at that time	0	1	2	3	4
I had trouble falling asleep	0	1	2	3	4
I had waves of strong feelings about it	0	1	2	3	4
I tried to remove it from my memory	0	1	2	3	4

I had trouble concentrating	0	1	2	3	4
Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart	0	1	2	3	4
I had dreams about it	0	1	2	3	4
I felt watchful or on-guard	0	1	2	3	4
I tried not to talk about it	0	1	2	3	4

Appendix G

Scoring Method for IES-R

The scoring method is as follows: for the Avoidance Subscale: the mean of items 5,7,8,11,12,13,17, 22. For the Intrusions Subscale: the mean of items 1,2,3,6,9,16,20. For the Hyperarousal subscale: Mean of items 4, 10, 14, 15, 18, 19, and 21. The IES-R score is the sum of these three clinical scales. As an example, if an individual's score on Intrusion was 1.89, that would indicate that for intrusion, for this person in the last week their distress from intrusive symptoms was close to, but not quite moderate. Similar statements regarding the other two subscales can be made.

There are no "cut-off" points for the IES-R, nor does Dr. Weiss expect to propose them. The IES-R is intended to give an assessment of symptomatic status over the last seven days with respect to the three domains of PTSD symptoms stemming from exposure to a traumatic stressor. The IES-R may be administered at any interval following the exposure; it may also be used several times over the course of months or years to determine differences in symptomatic status. Neither the IES-R, nor the original IES was intended to be used as a proxy for a diagnosis of PTSD. Weiss and Marmar do not use it that way; they do not recommend using it that way (Weiss, 2003).

Appendix H

Participant Demographic Questionnaire

1. Please indicate your gender: Female _____ Male _____
2. Please indicate your age _____
3. Please indicate your race: _____
4. What country were you born in? _____ If not born in United States, how long have you resided in the United States? _____
5. Please indicate the highest level of education completed:
 - Graduate _____
 - Post-Graduate _____
 - Doctoral _____
 - Other training (please specify) _____
6. Please indicate your own PERSONAL gross annual income (not household income):
 - Less than \$10,000 _____
 - \$10,000 - \$29,999 _____
 - \$30,000 - \$49,999 _____
 - \$50,000 - \$69,999 _____
 - \$70,000 - \$89,999 _____
 - \$90,000 - or more _____
7. Please indicate your TOTAL household income (including all persons you live with):
 - Less than \$30,000 _____
 - \$30,000 - \$49,999 _____
 - \$50,000 - \$69,999 _____
 - \$70,000 - \$89,999 _____
 - \$90,000 - or more _____
8. What is your marital status?
 - Currently married _____
 - Living with a partner _____
 - Divorced _____
 - Single _____
 - Widowed _____
 - Separated _____
9. Including yourself, how many people live in your household ? _____
10. Current parenthood status: (you may check more than one):
 - Living with children under 18 _____ # of children _____

Living with children over 18 _____ # of
 children _____
 Grown children living outside of the home _____
 # _____
 No children _____
 Other (please specify) _____

11. Which of the following best describes your CURRENT employment status?

Employed full time _____
 Employed part-time _____
 Unemployed _____
 Retired _____
 Student - Full time _____ Part time _____
 Other (please specify) _____

12. How long have you been employed as a mental health clinician? _____

13. How would you rate your physical health?

Excellent _____
 Very Good _____
 Fair _____
 Poor _____

14. Please describe your current clinical status:

Neither in therapy nor using psychotropic
 medication _____
 Presently in therapy _____
 Presently using psychotropic
 medication _____
 Both in therapy and using psychotropic
 medication _____

15. Did you participate in any type of sponsored Trauma Recovery support sessions after 9/11? Yes _____ No _____

a. If yes, how frequently?

More than once a week _____
 Once a week _____
 Once or twice a month _____
 Only one session _____

b. If yes, please indicate:

NYSPCC Project Liberty _____
 Project Liberty _____
 Other provider (please describe) _____

16. Do you currently participate in any type of support sessions? Yes _____ No _____

a. If yes, how frequently?

More than once a week _____
 Once a week _____
 Once or twice a month _____
 Only one session _____

Thank you for answering these questions.

Sincerely,

Mary L. Pulido, MAT, CSW

Appendix I

Study Recruitment Letter #1

Dear _____:

I am asking for your assistance in recruiting participants for a dissertation research project designed to provide information about the impact that “indirect exposure” to the terrorist attacks on the World Trade Center on September 11, 2001 had on the mental health of clinicians in NYC. The main goal of the study is to develop a better understanding regarding “indirect” exposure levels and the subsequent development of Post Traumatic Stress Symptoms (PTSS) experienced by mental health clinicians since that time. This study will contain questions regarding physical, psychological and relational exposure to the event, PTSS symptoms, prior trauma history and the amount of clinical work conducted with clients that had 9/11-related issues

The study is being conducted by me, Mary L. Pulido, a student at CUNY/Hunter College School of Social Work, in partial fulfillment for my doctorate in social welfare. (I am also a social worker with two decades of experience as a clinician and administrator.)

I am seeking voluntary participants that meet the following criteria:

- They must be mental health clinicians by profession;
- They were in NYC on the day of the attacks, but not “directly” exposed, meaning they were not physically located below 14th Street in Manhattan.
- They did not have any relatives or close friends physically harmed on 9/11;
- They must be willing to complete two brief assessment forms and participate in a one-on-one interview (approximate duration of 90 minutes which will be audio taped) that I will conduct at their convenience.

All participant information will be kept strictly confidential. However, I am mandated to report to the proper authorities suspected child abuse, and any indication that participants may be at imminent danger of harming themselves or someone else.

I would ask that they contact me directly at 212.233.5500 ext. 225, or at mpulido@nyspcc.org, if they are interested in participating in the study, so that I can explain it in detail. Enclosed are copies of the recruitment letter that you can post at your agency, or leave in staff mailboxes.

This study will help us understand the dimensions of indirect exposure to the terrorist attacks of 9/11 on mental health clinicians and ultimately design better methods of providing mental health services to them.

Thank you.

Appendix J

Study Recruitment Letter #2

Dear Colleague:

I am recruiting participants for a research project designed to provide information about the impact that “indirect exposure” to the terrorist attacks on the World Trade Center on September 11, 2001 had on the mental health of clinicians in NYC. The main goal of the study is to develop a better understanding regarding “indirect” exposure levels and the subsequent development of Post Traumatic Stress Symptoms (PTSS) experienced by mental health clinicians since that time. This study will contain questions regarding physical, psychological and relational exposure to the event, PTSS symptoms, prior trauma history and the amount of clinical work conducted with clients that had 9/11-related issues. All participant information will be kept strictly confidential. However, I am mandated to report to the proper authorities suspected child abuse, and any indications that you may be at imminent danger of harming yourself or someone else.

The study is being conducted by me, Mary L. Pulido, a student at CUNY/Hunter College School of Social Work, in partial fulfillment for my doctorate in social welfare. I am also a social worker with two decades of experience as a clinician and administrator.

As a volunteer participant, you must meet the following criteria:

- You must be mental health clinicians by profession;
- You were in NYC on the day of the attacks, but not “directly” exposed, meaning they were not physically located below 14th Street in Manhattan.
- You did not have any relatives or close friends physically harmed on 9/11;
- You must be willing to complete two brief assessment forms and participate in a one-on-one qualitative interview (approximate duration of 90 minutes) that I will conduct at your convenience.

Please contact me directly at 212.233.5500 ext. 225, or at mpulido@nyspcc.org, if you are interested in participating in the study, so that I can explain it to you in detail.

This study will help us understand the dimensions of indirect exposure to the terrorist attacks of 9/11 and ultimately design better methods of providing mental health services to those that need them.

Thank you for consideration of this request.

Sincerely,

Mary L. Pulido, MAT, CSW

Appendix K

Individual's Informed Consent to Participate in Social Research

Title of Study: The Terrorist Attacks on the World Trade Center on 9/11: The Dimensions of Indirect Exposure Levels in Relation to the Development of Post Traumatic Stress Symptoms - The Ripple Effect

Principal Investigator – Mary L. Pulido, MAT, CSW

Official Address: The New York Society for the Prevention of Cruelty to Children,
161 William Street, 9th Floor, New York, NY 10038

Telephone # Office - 212.233.5500 ext. 225

Protocol # HC- 120313907

Purposes of Research: By signing this form, you have agreed to participate as a subject in the research study referenced above. This study is being conducted as part of the requirements for this researcher's doctoral dissertation in social welfare. You understand that the purposes of this study is to explore the impact of the terrorist attacks of September 11, 2001 on the mental health of New Yorkers who were indirectly exposed. This study seeks to broaden the understanding of the characteristics of indirect exposure levels to terrorist trauma. The results of the study will be used to provide insight to the social work field regarding the impact of the attacks of 9/11. There is intention to publish the study in part or in its entirety for this purpose in professional journals.

You will be one of 25 clinicians interviewed as part of this study. You have been selected to participate in this study because you meet the criteria for inclusion. This means that you are a mental health clinician by profession; that you were in New York City the day of the terrorist attacks, but not physically located below 14th Street in Manhattan; and that you did not have a family member and/or close friend harmed in the attack.

This study involves a completing a personal interview about your exposure levels on 9/11 and two assessment forms. In the interview, you will be asked questions about your exposure level, stress reactions and coping skills. It will take approximately 90 minutes. With your permission, the interview will be audiotaped for recording and analytical purposes only. The next part of the study requires that you complete two forms. The first form is the Impact of Event Scale – Rev. (IES-R) and asks questions about the level of Post Traumatic Stress symptoms that you have experienced during the past week. The second is a survey form that lists demographic information. No personal identifiers will be linked to the data.

Your participation in this study is completely voluntary, and refusal to participate will involve no penalty or loss of benefits to which you are entitled. You do not have to answer any question that makes you uncomfortable. You may also discontinue

participation at any time without penalty or loss of benefits or services to which you are entitled.

Benefits: You will not receive any direct benefit from participating in the study. However, your participation may help others by increasing the knowledge of the impact of the terrorist attacks of 9/11/02 on mental health clinicians in New York City and generate knowledge about their experience with indirect exposure to terrorism. If you would like to receive a summary of the study once it is completed, it will be sent to you. Please complete the post card enclosed and return or mail it to this researcher separately if you would like a summary of the study.

Risks: This study may raise distressing or difficult issues and you may experience stress and upset during your participation. If this occurs, you may skip a question, take a break, stop the interview or withdraw from the study. You may also refer to the list of mental health resources provided for additional assistance. If you need help with contacting a mental health provider, you will receive assistance from this researcher.

Records of this study will be kept confidential to the extent permitted by law. This researcher is mandated to report to the proper authorities suspected child abuse, and any indications that you are in imminent danger of harming yourself or others. If this researcher thinks that you are at imminent risk, action will be taken to help you. These actions could include: stopping the interview, contacting your therapist, calling LIFENET or accompanying you to an emergency room or a doctor's office.

To protect your confidentiality, no one but this researcher will know that you participated in this study. All of the study materials will be secured in a locked file in this researcher's home office to which only this researcher has access. The audio tapes will be transcribed by a professional stenographer. Your name will not be identified on the tape. Only this researcher and the transcriber will listen to the audio tapes. The tapes and the all interview materials will use identifying codes. You will not be identified in any verbal or written reports. Any unique characteristics that might identify you will be masked in the report. Your name will not appear on the transcripts, the IES-R form or the demographic questionnaire or in the research study. The data will be stored at the home office of this researcher for three years. After that, all materials will be destroyed.

If you have questions about this study, you can contact the researcher, Mary L. Pulido at 212.233.5500 ext. 225, or her faculty advisor, Andrea Savage, Ph.D. at 212.452.7026. You should contact the Office of Research Administration at 212.772.4020, if you have questions regarding your rights as a subject or if you feel that you have experienced a research-related injury.

I have read the contents of this consent form and I have been encouraged to ask questions regarding the purposes and procedures of this study. I have received answers to my questions. I have received a list of mental health programs and their telephone numbers. I have been told that I may participate only if I wish and that I may withdraw from the

study at any time. I give my consent to participate in this study I will sign two copies of this form and keep one for my records for future reference.

Signature of the Participant

Date:

Signature of the Researcher

Date:

Appendix L**Hunter College of the City University of New York
Audio Tape Recording Release Consent Form**

Protocol # 120313907

Researcher: Mary L. Pulido, MAT, CSWTitle: The Terrorist Attacks on the World Trade Center on 9/11: The Dimensions of Indirect Exposure Levels in Relation to the Development of Post Traumatic Stress Symptoms – The Ripple Effect

As part of this research study, an audio recording will be made of your answers during the personal qualitative interview. Please indicate below your willingness to consent to this recording. This is completely voluntary and up to you. In any use of the tapes your name will not be identified.

1. The transcribed audiotapes can be studied by this researcher for use in this research project only. You will have the opportunity to listen to the completed tape, if you desire, to decide if you want any portion of the tape, in whole or in part, not utilized for this research project.

initials

You have read the above description and give your consent for the use of the audio tapes as indicated above.

Printed Name: _____

Signature: _____

Date: _____

Appendix M**Copy for Postcard to Receive Summary of Study**

I am interested in receiving a summary of the study: "The Terrorist Attacks on the World Trade Center on 9/11: The Dimensions of Indirect Exposure Levels in Relation to the Development of Post Traumatic Stress Symptoms -The Ripple Effect."

Please send it to me at the location indicated below:

Name: _____

Address: _____

Front of postcard – to be mailed to:

Mary L. Pulido, MAT, CSW

Executive Director

The New York Society for the Prevention of Cruelty to Children

161 William Street 9th Floor

New York, NY 10038

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