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# Prevalence of secondary traumatic stress among disaster relief volunteers

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**PREVALENCE OF SECONDARY TRAUMATIC STRESS AMONG DISASTER  
RELIEF VOLUNTEERS**

By  
Erica Ballard

A Thesis

Submitted to the  
Department of Psychology  
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Thesis Chair: Roberta Dihoff, Ph.D.

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Erica M. Ballard

## **Dedication**

*I would like to dedicate this manuscript to my partner, Brendan Mohan.*

## **Acknowledgments**

I would like to express my appreciation to Dr. Dihoff and Dr. Allen for their instruction through this research, as well as the volunteers who dedicate their time to populations in peril.

## **Abstract**

Erica Ballard

PREVALENCE OF SECONDARY TRAUMATIC STRESS AMONG DISASTER  
RELIEF VOLUNTEERS

2011/12

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Master of Arts in School Psychology

Secondary Traumatic Stress is a stress response brought about by working with or having a close relationship with a person or population affected by a traumatic event. It has been found in doctors, nurses, social workers, psychologists, and aid workers. The purpose of this study was to further understand the prevalence of STS in disaster relief volunteers. Thirty-five former and current volunteers for various disaster relief organizations filled out a survey about their experience, the Secondary Traumatic Stress Scale and the Compassion Fatigue Scale-Revised. Out of 35 participants, 91% were found to have at least one symptom of STS or Compassion Fatigue. 20% met all three criteria for Secondary Traumatic Stress, 11% met the criteria for Burnout on the CFS-R, and 28.5% met the criteria for secondary trauma on the CFS-R.

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## **Chapter 1**

### **Introduction**

Secondary Traumatic Stress Disorder (STSD) is increasingly viewed as an occupational hazard for those in helping and healing professions. Charles Figley, editor in chief of the journal *Traumatology*, referred to it as the “Cost of caring” (Figley, 2002). This study focused on the prevalence of Secondary Traumatic Stress in disaster relief volunteers.

STS goes by many names; Compassion Fatigue, Acute Stress Disorder, Critical Incident Stress, Vicarious Traumatization, Cumulative Stress, Indirect Traumatization, Traumatic Countertransference, and Peacekeeper’s Stress Syndrome. It is nearly identical to Post Traumatic Stress Disorder, differing only in the source of the trauma. It is also very similar to burnout, although STS has a rapid onset and burnout is characterized by a slow onset. Throughout the literature, most of these terms are used interchangeably.

## **Chapter 2**

### **Literature Review**

Peacekeeper's Stress Syndrome, first described in 1979, was the first term used for this disorder and was marked by feelings of rage, delusion, frustration and feelings of impotence (Shigemura, 2002). STS has been documented in mental health professionals, social workers, clergy members, child protection workers, and counselors of victims of sexual assault (Beck, 2011). In short, a traumatic event is typically defined as a situation extreme enough to require extraordinary coping mechanisms (Badger, 2001). When a person works with a victim of trauma or has a close relationship with a victim of trauma, they are at risk for developing Secondary Traumatic Stress Disorder.

Common short term stress responses are denial, shock, fixating on a single detail, immobilization or "freezing up", serenity, acute stress symptoms like increased blood pressure or heart rate, emotional numbness, flashbacks, unwanted recollections, irritability, outbursts, preoccupation, trouble concentrating and sleep disturbances. These symptoms are particularly common in medical professionals and tend to dissipate within 72 hours (Badger, 2001). As this reaction crystallizes into a long-term response, workers have been known to experience negative changes in their self-perception and worldview, a decrease in professional functioning, and decreased senses of security, well being and competency (Shah, 2007). Aid workers in particular have been found to exhibit an increase in risk taking behaviors, a loss of ideals and a sense of failure. (Tassel, 2007).

Burnout doesn't have a specific set of symptoms, but it can lead to a combination of mental, physical and emotional maladies, and when not closely monitored it can

jeopardize the well being of the caretaker and the efficiency of their treatment (Lee, 2010). Stress reactions may be delayed, and emergency workers may feel depressed weeks after leaving their site and become overwhelmed by feelings of guilt and listlessness. Workers also report flashbacks, nightmares and cold sweats (Errington, 1989).

In the long term, common effects of STS are suppressed emotion, reluctance to acknowledge trauma, and distancing behaviors (Badger, 2001). While all of these side effects are common, it is important to note there is no ‘typical’ case of STS. Stress is much like grief; everyone experiences it differently.

Prevalence of STS varies dramatically. In the general population the lifetime prevalence of traumatic exposure ranges from 40% to 81%, with men experiencing slightly more trauma than women (Bride, 2007). The prevalence of PTSD in the general population is 7.8% to 9.2% (Bagley, 2003). After September 11<sup>th</sup>, Secondary Traumatic Stress related to the attacks was found in 4% of the general population living outside of the areas under attack (Zimering, 2006).

Under normal conditions, mental health professionals and social workers are at a high risk for stress disorders. The rate of PSTD due to indirect trauma among social workers is twice the rate of PTSD from all sources in the general population (Bride, 2007). The rate of STSD is much higher than the rate of PTSD. Prevalence of STSD symptoms among social workers have been found to range from 55% to 70%, and social workers feeling the effects of this disorder tend to leave their jobs much sooner than those not suffering from STSD (Kanno, 2012). In Lee’s 2010 study of 132 professional counselors, only 38.6% of the counselors could be categorized as Well Adjusted

Counselors. Thirty-three percent were considered Disconnected Counselors because of their perceived negative work environments, deteriorating personal lives and high rate of devaluing clients. Twenty-eight percent were categorized as Persevering Counselors because they were highly exhausted and had deteriorating personal lives but did not consider themselves to be incompetent and did not devalue clients. It is interesting to note how in this study the Disconnected Counselors had the lowest income, self esteem and job satisfaction of the three types, and the Persevering Counselors had the highest levels of income and experience (Lee, 2010). In another study, 17.7% of Australian mental health professionals had stress levels high enough for a diagnosis of STSD, and 18% were just below the cutoff point for a diagnosable case of STSD. Over a quarter (27%) said they experienced extreme emotional distress during their careers, and 35.1% considered themselves to be extremely emotionally drained (Figley, 2002). Child protection workers in Colorado had a 50% rate of STS (Musa, 2008). When individual symptoms were studied, the most commonly reported symptom among social workers was intrusive thoughts about their clients (40.5%), followed by avoidance of clients (31.6%), and a sense of a foreshortened future (28%). Overall, 55% met at least one criterion for PTSD and 15.2% met all 3 (Bride, 2007).

Medical professionals report similar rates of stress symptoms and disorders under normal conditions. In a study of 67 emergency RNs, 85% met at least one criterion for STS, and 33% met all three criteria for a diagnosis. (Dominguez-Gomez, 2009) In the same study, 46% of the RNs reported intrusive thoughts about their clients, 27% reported psychological distress, 52% reported avoiding their clients, and 43% experienced emotional numbness and a diminished activity level (Dominguez-Gomez, 2009).

These numbers are alarming, and it is important to note these studies were all conducted with a sample during a ‘normal’ period of time. In a time of war or disaster, the numbers do not change much, but the duration of the symptoms tend to lengthen. Among social service workers in New Orleans and Baton Rouge, Louisiana symptoms of STS worsened in the four months following Hurricanes Katrina and Rita. Younger workers had worse initial reactions but recovered faster than their older cohorts (Leitch, 2009). A study of mental health relief workers in the year following September 11<sup>th</sup> indicated stable levels of PTSD six months and twelve months post-9/11, but there was a significant increase in anger, guilt and depressive symptomatology (Daly, 2008). On the subject of September 11<sup>th</sup>, it is fascinating to note in the week following the attacks symptoms of STS spiked to 40% among a sample of firefighters. The firefighters in the sample were not 9/11 responders, but instead all lived in the Pacific Northwestern Region of the United States.

Medical workers also have elevated stress symptoms during times of war or disaster. This first came to the attention of the psychological community when, as a result of their feelings of helplessness while dealing with an overwhelming number of casualties, medical staff who served during the Vietnam War manifested symptoms of PTSD. Those assigned to triage duty were particularly affected (Errington, 1989). After the Oklahoma City bombing, 64.7% of trauma workers were found to have some degree of PTSD (Figley, 2002). Among American Red Cross workers who responded to 9/11, those who had never sought mental health counseling before 9/11 were 50% more likely to seek it in the weeks following the attacks (Elhai, 2006)

Of course, there is no such thing as ‘normal conditions’ for relief workers, and the prevalence of stress disorders varies wildly. Of 109 relief workers who served at Ground Zero during the 9/11 attacks, 4.6% met the criteria for PTSD linked solely to survivor narratives (Zimering, 2006). Among humanitarian aid workers in India, 8% met the criteria for PTSD, and 100% of them had at least one symptom of Secondary Traumatic Stress as a result of their work with traumatized people five months after that population had experienced mass violence (Shah, 2007). Among American UN Peacekeepers, 8% have PTSD, and that number jumps to 15% in Canadian Peacekeepers (Shigemura, 2002). The lifetime prevalence of PTSD among missionaries in South Africa was found to be 24%, and 94% of them were found to have experienced traumatic exposure (Bagley, 2003). Similarly, 25% of aid workers in Darfur were found to have STS (Musa, 2008). Human rights workers in Kosovo had a rate of PTSD similar to that of the general population at 7.1%, but 8.6% were found to have depression and 17.1% were found to have extreme anxiety (Holz, 2002). In a study of 267 earthquake recovery workers in Pakistan, 43% had PTSD, 20% had either anxiety or depression, and 8% were displaying symptoms of burnout.

Some of the behaviors and experiences that cause Secondary Traumatic Stress are the same things that help someone be an excellent care provider. “The very act of being compassionate and empathic extracts a cost under most circumstances. In our effort to view the world from the perspective of the suffering we suffer.” (Figley, 2002, p.1434.) Musa (2008) explained a few reasons why aid workers may develop STS. First, empathizing may lead to internalization of a client’s trauma. Second, listening to the

same story over and over again without any time for recovery between sessions leads to increased stress. Third, many aid workers have experienced trauma in their lives and listening to the stories of another person who experienced trauma may stir up unresolved issues and old feelings. Fourth, mental health workers are expected to serve individually rather than with a team, causing workers to feel isolated and overwhelmed. Put even more simply, the work is intense and the hours are long. “Humanitarian workers are required to work effectively and efficiently for extended and typically ill-specified time periods, usually while lacking the resources necessary to undertake their work” (Tassel, 2007, p.102). Tassel presents the concept of “Obsessive Passion” as a possible cause of burnout. Aid workers (perhaps fueled by a feeling of survivor’s guilt) become obsessed with fixing a crisis, they become consumed with a desire to rescue all the victims and repair all the damage, and they sacrifice their needs for the needs of the population they are serving. Such passion and self-sacrifice is not healthy, at least not in the long term, but it is frequently commended by relief organizations. (Tassel, 2007)

According to Errington (1989), stressors for relief workers can be categorized as such; event stressors, occupational stressors, and organizational stressors. Event stressors include trauma, injury, loss and failure. Occupational stressors include a lack of resources, time constraints, intense workload and hazards created by untrained onlookers trying to assist. Organizational stressors consist of role ambiguity, restructuring of an organization, overburdening, and a tangible lack of respect or prestige.

The discharge or death of a patient could be considered an event stressor, particularly when a care provider has been involved with the patient for a particularly long recovery or resuscitation. Providers are especially vulnerable to this sort of stressor

when they work in burn units, neonatal intensive care or the emergency room (Badger, 2001). Sometimes the culture of an organization itself exposes its worker to an increased risk of developing a stress disorder. Nurses may not speak up about their stress responses because of fear of criticism or isolation (Errington, 1989). The high rates of PTSD and STS among relief workers is likely to be linked to the attitude many relief organizations have towards their workers. “The Red Cross Approach used to be ‘work until the job gets done’ ...giving workers periods of rest to recover their energies makes them better able to serve others.” (Rigoglioso 2005, p45) Unfortunately, it is common for relief organizations to have their workers on the field 6 or 7 days a week, with very few opportunities for rest or vacation.

Certain personal characteristics appear to be correlated with a higher risk of developing STS. Full time workers appear to be more vulnerable than volunteers (Cicognani, 2009). More experienced relief workers show less STS than those with no experience (Soliman, 1998). With these two findings in mind, it’s not surprising that a sense of mastery was associated with lower levels of secondary trauma (Adams, 2008). Meanwhile, education level does not appear to correlate with STS, however those with an educational background in social sciences tended to have less stress symptoms (Soliman, 1998). Other risks include; being female, being between age 40 and 60, being a member of an ethnic minority, having a lower socioeconomic status, having children in the home, and living in a highly disrupted community (Shah, 2007). Lower levels of STS are also correlated with active coping skills, a strong support network, and a sense of belonging to a community (Cicognani, 2009). Alcohol use does not appear to put a person at risk for developing STS, but a sudden change in alcohol consumption can be a sign that one is



developing STS, particularly if they begin to drink very heavily or decide to abstain entirely (Simons, 2005).

With such a high prevalence of stress disorders among people in the helping professions, it is important to mention why some people feel so drawn to this work. Almost all (92.4%) of trauma workers who responded to the Omagh bombing in Northern Ireland considered the camaraderie of their team mates to be a great benefit of their work. 84.7% said they loved helping people, and the same percentage considered being a part of the community they were helping to be an excellent aspect of the job (Collins, 2003). Similarly, people who work with adult survivors of sexual assault said witnessing the growth, resilience and recovery of their clients was intensely rewarding, and they viewed collegial support and a sense of doing important work as great benefits (Salston, 2003).

For being such a prevalent disorder, there is a startling lack of research available on treating STS. The majority of studies indicate that drug treatments are ineffective (Figley, 2009). Rest, relaxation, and proper work-life balance are typically cited as the best treatment for this disorder, and a particular emphasis is placed on proper diet and exercise throughout the literature. For the most part, workers surveyed know what they need, but feel unable to take time for themselves. Israeli emergency room social workers listed three coping strategies they try to employ. First, they expressed a need to restore their own sense of personal security. Next, they wanted to be able to more effectively meet and respond to the pain of the families they were working with. Third, they wanted to learn how to disconnect emotionally so as to not become burned out (Somer, 2004). Relief organizations also have the power to alleviate STS among their workers simply by giving the workers enough autonomy to identify needs and allocate resources with

minimal bureaucracy and to provide workers with clear and flexible delivery procedures (Soliman, 1998). Debriefing the workers is repeatedly offered as a solution to developing STS, but this approach faces criticism. “A trauma patient has to be briefed, *you have experienced a shocking event and these are your symptoms*. In this way, together with the appropriate signifiers, normative models of subjectivity are introduced.” (Vos 2011, p. 110) Vos’ main criticism is that debriefing alone is not sufficient because it simplifies the experience of the workers to the point of patronizing them, and what they need is the same patient and mindful attention that they are providing to the directly traumatized population.

Prevention is frequently cited as the best course of action, and it is within the power of the organization to create such a preventative structure. Some strategies an organization could employ in combating STSD are to promote openness among workers experiencing STSD, provide a safe space for workers to meet and discuss what they are going through, create a support team to handle cases of STS and encourage an atmosphere of respect for their efforts (Rourke, 2007). Despite previously mentioned criticisms, it is beneficial to debrief workers after traumatic events (Stewart, 2009). Individuals are capable of protecting themselves through self-care and maintaining a properly balanced life, but their needs must be recognized by their organization and the culture of silent self sacrifice so prevalent among relief organizations must dissolve in order to properly prevent STS. They are advised to avoid placing blame or venting to coworkers, but to not ignore their problems. In the words of John Duffy, a psychologist who specializes in disaster psychology, “Those who absolutely deny any and all reactions to stress are perhaps worse off. It seems that denial in the face of the obvious

indicates terror. To suggest that these individuals are trained to walk among the carnage, burning tissue, skulls, body parts is ludicrous” (Colen, 1979).

Secondary Traumatic Stress disorder is still not a widely researched topic, and future studies would do well to focus on long term effects of the disorder as well as which organizational factors strongly correlate to the development of stress disorders. There is also very little research on the prevalence of stress disorders among disaster relief volunteers. The purpose of this study was to further understand the prevalence of STS in disaster relief volunteers.

## **Chapter 3**

### **Methods**

#### **3.1 Participants**

Fifty-three people participated in this study, but only 35 completed the survey. Incomplete responses were disregarded. Sixteen of the participants were male, 19 were female. Most of the volunteers (24) were under the age of 30, 9 were between the ages of 31 and 40, and 2 were over the age of 41. Twenty-six were from the United States of America, 3 were from Canada, 2 were from Australia, 2 were from the United Kingdom and one each from Israel and the Philippines. The volunteers worked at several different disaster sites but the majority worked in New Orleans after Hurricane Katrina or Haiti after the earthquake of January 2010. Twelve participants worked in New Orleans and 12 worked in Haiti. Four worked in Tuscaloosa, Alabama. One participant worked at each of the following sites; Phillipines, Kyrgyzstan, Indiana, Ofunato in Japan, Pass Christian in Mississippi, the Susquehanna River Valley, and West Liberty in Kentucky. Twenty-one of the participants served for less than six months. Of the remaining 15, 5 served between 6 and 12 months, 6 served between 12 months and 2 years. Three outliers served 3.5 years, 4 years, and 6 years. All three of these outliers served in New Orleans, two were still serving at the time of this study. Most of the participants were no longer serving as volunteers at the time of this study, of the 35 surveyed only four were still active volunteers; the two in New Orleans, one in Indiana, and one in the Philippines.

### 3.2 Materials

Participants were recruited through the alumni pages for the organizations Emergency Communities, All Hands Disaster Relief, and Lowernine.org. Participants were encouraged to pass the link for the survey on to other former and current relief workers, and as a result some of the participants came from BonaResponds. To ensure anonymity, the participants filled out their surveys online through the website SurveyMonkey.com.

Participants completed a survey in which they reported their age, gender, nationality, work site, dates and length of service, whether or not they were still serving, and the nature of their relief work. They also completed the Secondary Traumatic Stress Scale (Bride, 1999) and the Compassion Fatigue Scale - Revised (Gentry, Baranowsky, & Dunning, 2002)

The Secondary Traumatic Stress Scale is a 17-point survey designed to detect levels of Secondary Traumatic Stress over the past 7 days. Participants rated how frequently they felt each item on a scale from 1-5, 1 being Never/Rarely, 5 being Very Often. Each item on the STSS corresponds with one of the 17 PTSD symptoms outlined in the DSM-IV. The STSS includes three subscales; Intrusion, Avoidance, and Arousal.

The Compassion Fatigue Scale - Revised is a 13-item questionnaire designed to measure secondary trauma and job burnout. Participants rate how often each item on the scale applies to them, with 1 being Never/Rarely and 10 being Very Often.

The wording for both of these surveys was slightly altered to reflect their experiences during their time as a volunteer.

### **3.3 Design**

Participants who reported at least one intrusion symptom, at least two arousal symptoms and at least three symptoms for avoidance on the STSS met the criteria for Secondary Traumatic Stress.

Participants who scored 55% or higher on the secondary trauma subscale of the CFS-R likely experienced secondary trauma. Participants who scored 70% or higher on the burnout subscale likely experienced burnout.

## Chapter 4

### Results

The purpose of this study was to further understand the prevalence of STS in disaster relief volunteers. While 29 participants, or 83%, showed at least one symptom of STS, 13 (37%) did not meet any criteria for STS. Three participants (8.5%) met just one criterion for STS, 12 (34%) met two criteria, and 7 (20%) met all three criteria for Secondary Traumatic Stress. Thirty-two out of thirty five (91%) participants reported at least one symptom of Secondary Traumatic Stress or Compassion Fatigue.

While 22 participants, or 63%, reported at least one symptom of Burnout according to the CFS-R, only 4 participants (11%) met the criteria for Burnout. It is interesting to note that all four of these participants worked in New Orleans after Hurricane Katrina, and three of them worked in New Orleans for two years or more.

Just over half of the participants, 18 or 51%, reported at least one symptom of secondary trauma on the CFS-R, and 28.5% or 10 participants met the criteria for secondary trauma.

CFS-R scores and STSS scores were not correlated with gender, age, or work site. However, higher overall CFS-R scores and higher scores on both the Burnout and Secondary Trauma subscales were positively correlated with a longer term of service. (See Figures 1.1 and 1.2) The Pearson Correlation for overall CFS-R scores and duration of service was  $r(35) = .521, p < 0.001$ . The Pearson Correlation for the CFS-R Burnout subscale was  $r(35) = .587, p < 0.001$ . Finally, the Pearson Correlation for the Secondary Trauma subscale was  $r(35) = .338, p < 0.047$ . Similarly, higher scores on the STSS overall as well as the Avoidance, Arousal and Intrusion subscales were all

positively correlated with a longer term of service. The Pearson Correlation for the overall STSS score and number of months a participant had worked was  $r(35) = .478$ ,  $p < 0.004$ . On the Avoidance subscale it was  $r(35) = .385$ ,  $p < 0.022$ . On the Intrusion subscale it was  $r(35) = .344$ ,  $p < 0.043$ . On the Arousal subscale the Pearson Correlations was  $r(35) = .563$ ,  $p < 0.001$ .

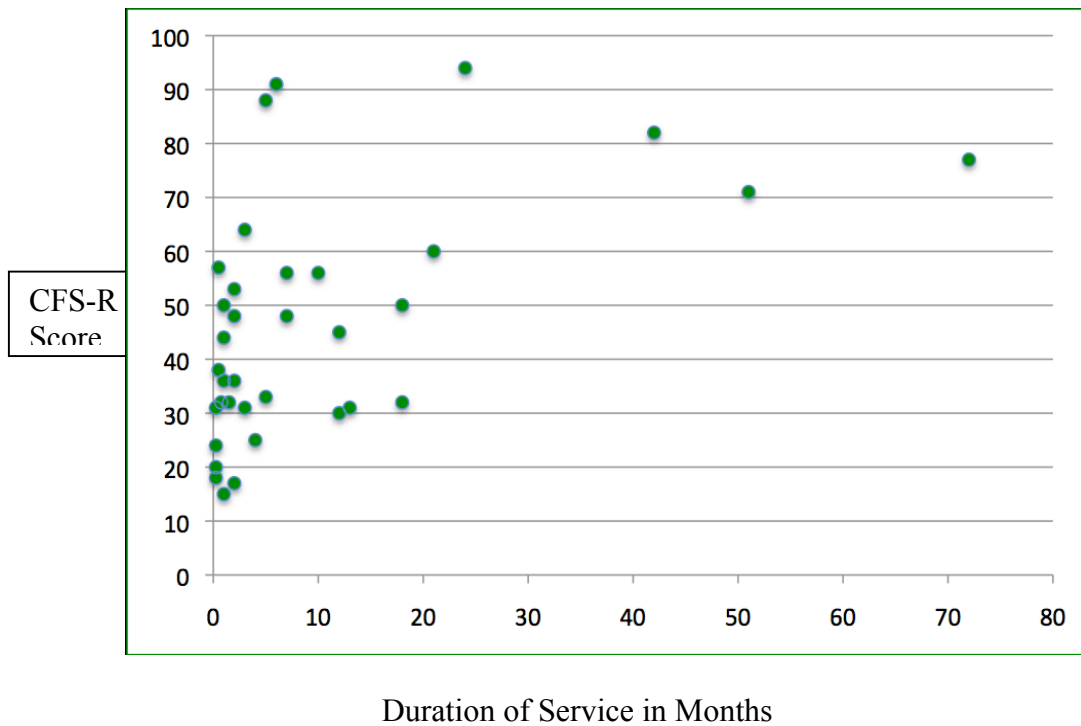
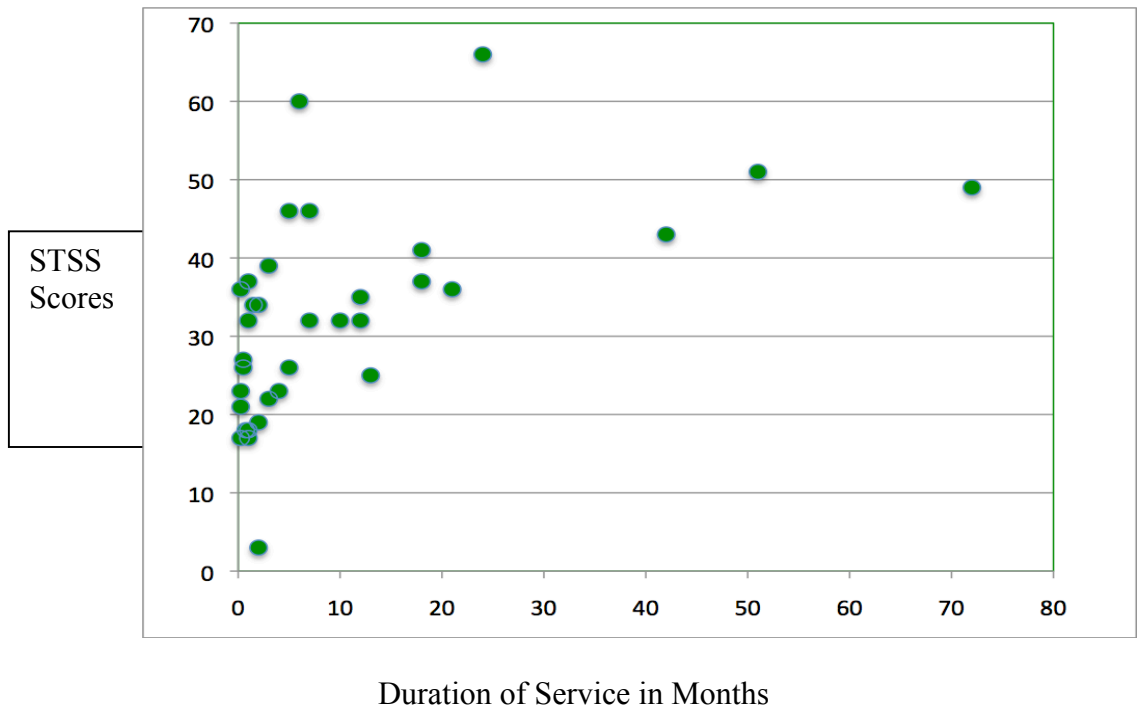


Figure 1.1 CFS-R Scores and Duration of Service





*Figure 1.2 STSS Scores and Duration of Service*

## **Chapter 5**

### **Discussion**

The purpose of this study was to further understand the prevalence of STS in disaster relief volunteers. The overall rate of Secondary Traumatic Stress among this sample of disaster relief volunteers was 20% according to the responses to the STSS. 11% met the criteria for Burnout and 28.5% met the criteria for Secondary Trauma according to the CFS-R. Overall, 91% of participants reported at least one symptom of Secondary Traumatic Stress or Compassion Fatigue. The prevalence of PTSD in the general population is 7.8% to 9.2% (Bagley, 2003) and the only difference between PTSD and STSD is the source of trauma, so the rate of STSD in volunteers is considerably higher than that of the general population. This falls in line with a previous study which found the rate of PTSD among social workers to be twice the rate of PTSD from all sources in the general population. (Bride, 2001) These results are also similar to a study of aid workers in Darfur in which 25% of the participants had STS. (Musa, 2008) Overall, when put in the context of previous research covered in this study's literature review, the rate of STS is on the low end of average for relief workers. Most interestingly, rates of STS were not strongly correlated with anything other than length of time working in a disaster site. For participants who worked for less than a year stress responses varied widely, but volunteers who stayed at a site for one year or more all had much higher rates of STS than their short-term counterparts. (See Appendix B)

In previous research, volunteers were found to be at a lower risk for developing STS than full time workers. (Cicognami, 2009) At the risk of sounding obvious, volunteers are at a site for no reason other than an interest in helping. While they may

benefit from networking or experience opportunities, their financial livelihood is not directly related to their relief work. It's possible their lower stress response is due to volunteers being less tied to their work. Volunteers tend to be in disaster zones for a shorter period of time than full time workers, and they usually can take refuge in knowing their work is appreciated and they have their normal life to return to after their term of service is over. As one participant in this study, a 31 year old male from Israel stated, "I served with All Hands in Ofunato for 1 month and I wished I could stay there until the end of the project. Volunteering was the best experience I ever had. I mostly feel happy when I think of the volunteering work I was fortunate to be part of. I remember the love we got from the residents and I remember the feeling of doing something with purpose and meaning. I loved that feeling and will definitely volunteer again in the future."

While one month is a long enough period of time to immerse oneself in a setting and witness tangible and meaningful results of one's work, it's also possible his feelings would have been very different had he worked on the project for one year or more. As one participant, a 37 year old female, put it, "I was only in Tuscaloosa for a short amount of time, and that was almost a year ago. A week was short enough that I was able to feel 'rejuvenated' by rest and recreation (ie: swimming, reading, ect.) when I started to feel tired and worn down." Long-term volunteers and full time workers may not be as easily rejuvenated. In a previous study more experienced workers showed less STS than those with no experience. (Soliman, 1998) However, volunteers are often lavished with praise and gratitude from residents, particularly when they first arrive at a site, which may keep them motivated and upbeat in the short term. The participant who worked in Tuscaloosa went on to say, "Even though what we accomplished was so small compared to the scope

of the destruction, I felt a sense of pride and accomplishment about our work – we could clearly see a difference in each property when we left it, and many many residents told us that what we did made a huge difference in their frame of mind about the possibility of recovery. It was very satisfying work and I was proud to be part of a hard-working and effective team.” It’s possible a volunteer with a longer scope of experience may not find such satisfaction in smaller victories after their first month or two. Among social service workers in New Orleans and Baton Rouge, younger workers had worse initial reactions but recovered faster than their older peers. (Leitch, 2009) In this study, there was no correlation between age and stress response, even among volunteers in New Orleans.

These findings have a few implications. First, findings indicate that even though volunteers may only be at a disaster site for a short period of time they are still at risk for developing a stress response that is roughly equal to the risk professionals face. This risk does not appear to be related to age, gender, or work site, indicating that volunteer relief organizations must be mindful of this risk regardless of whether their project site is domestic or international. Many volunteers describe their experience as fulfilling and rewarding, but it would be prudent for volunteer organizations to warn incoming, active and departing volunteers of stress responses they may experience. Most organizations make sure to let incoming volunteers know of the risks involved in volunteering, but to the author’s knowledge volunteers are not usually warned about how they may feel upon returning home. This could be an oversight, because as a 41 year old male participant explained, “I find it most troubling when I get back from a disaster area. I feel like I did too little and my current work is not important. Within our group...we joke that it is like post-partum depression.”

One previous study outlined some strategies an organization may employ to reduce stress in their volunteers. They could promote openness among volunteers suffering from STS, provide a safe space for workers to meet and talk about their experiences, create a support team for the volunteers, and encourage an atmosphere of respect and appreciation for their volunteers' work. (Rourke, 2007) Most individuals know how to take care of themselves, but may feel social pressure to push themselves to their limits and work as hard as they can. It's possible this feeling is especially strong in volunteers who are only at their site for a short period of time. This could explain why short-term volunteers had such varied stress responses.

This study is not without limitations. The sample size is small and heterogeneous. The wide variety of terms of service, work sites and organizations meant it was difficult to compare one group of volunteers to another. Also, the vast majority of volunteers were no longer serving at their site and had to rely on their memories of their time as a volunteer rather than their current emotional state. Future studies would do well to focus on current volunteers from one particular site and organization, or a few organizations operating in the same area, in order to expand upon current research. Future studies should also focus on treatment strategies for STSD since this appears to be a widespread problem for those in helping positions.

Stress responses aside, volunteering can be an incredible experience. It provides people with an excellent opportunity for exposure to new experiences, personal development, social and professional networking and cultural awareness. As one volunteer who worked in New Orleans for six months shortly after Hurricane Katrina so succinctly explains, "It was the most fulfilling and distressing thing I ever did."

## References

- Adams, R. E., Figley, C. R., & Boscarino, J. A. (2008). The compassion fatigue scale: Its use with social workers following urban disaster. *Research on Social Work Practice, 18*(3), 238-250.
- Badger, J. M. (2001). understanding secondary traumatic stress. *Continuing Education, 101*(7), 26-33.
- Bagley, R. W. (2003). Trauma and traumatic stress among missionaries. *Journal of Psychology and Theology, 31*(2), 97-112.
- Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). *Development and validation of the secondary traumatic stress scale. Research on Social Work Practice, 14*(1), 27-35.
- Bride, B. E. (2007). *Prevalence of secondary traumatic stress among social workers. Social Work, 52*(1), 2007.
- Cicognani, E., Pietrantonio, L., Palestini, L., & Prati, G. (2009). Emergency workers' quality of life: The protective role of sense of community, efficacy beliefs, and coping strategies. *Soc Indic Res, 94*, 449-463.
- Colen, B. D. (1979, July 9). Aircraft rescue workers also victims, psychiatrist says. *Washington Post*.
- Collins, S. (2003). Too tired to care? the psychological effects of working with trauma. *Journal of Psychiatric and Mental Health Nursing, 10*, 17-27.
- Daly, E. S., Gulliver, S. B., Zimering, R. T., Knight, J., Kamholz, B. W., Morissette, S. B., & , (2008). Disaster mental health workers responding to ground zero: One year later. *Journal of Traumatic Stress, 21*(2), 227-230.
- Dominguez-Gomez, E., & Rutledge, D. N. (2009). Prevalence of secondary traumatic stress among emergency nurses. *Journal of Emergency Nursing, 35*(3), 199-204.
- Ehring, T., Razik, S., & Emmelkamp, P. M. G. (2009). Prevalence and predictors of posttraumatic stress disorder, anxiety, depression and burnout in pakistani earthquake recovery workers. *Psychiatry Research, 185*, 161-165.
- Elhai, J. D., Jacobs, G. A., Kashdan, T. B., Delong, G. L., Meyer, D. L., & Frueh, B. C. (2006). Mental health service use among american red cross disaster workers responding to the september 11, 2001 us. terrorist attacks. *Psychiatry Research, 143*, 29-34.

- Errington, G. (1989). Stress among disaster nurses and relief workers. *Int. Nurs. Rev*, 36(3), 90-92.
- Figley, C. R. (1988). Victimization, trauma, and traumatic stress. *The Counseling Psychologist*, 16(4), 635-641.
- Figley, C. R. (2002). Compassion fatigue: Psychotherapists' chronic lack of self care. *In Session: Psychotherapy in Practice*, 58(11), 1433-1441.
- Figley, C. R., K.R. Figley, (2009). Stemming the tide of trauma systemically: The role of family therapy. *The Australian and New Zealand Journal of Family Therapy*, 30(3), 173-183.
- Holtz, T. H., Salama, P., Cardozo, B. L., & Gotway, C. A. (2002). Mental health status of human rights workers, kosovo, june 2000. *Journal of Traumatic Stress*, 15(5), 389-395.
- Leitch, M. L., Vanslyke, J., & Allen, M. (2009). Somatic experiencing treatment with social service workers following hurricane katrina. *Social Work*, 54(1), 9-18.
- Musa, S. A., & Hamid, A. A. R. M. (2008). Psychological problems among aid workers operating in darfur. *Social Behavior and Personality*, 36(3), 407-416.
- Rigoglioso, M. (2005). How katrina relief workers are faring. *Stanford Social Innovation Review*, 3(4), 45.
- Rourke, M. T. (2007). Compassion fatigue in pediatric palliative care providers. *Pediatric Clinics of North America*, 54, 631-644.
- Salston, M. D., & Figley, C. R. (2003). Secondary traumatic stress effects of working with survivors of criminal victimization. *Journal of Traumatic Stress*, 16(2), 167-174.
- Shah, S. A., Garland, E., & Katz, C. (2007). Secondary traumatic stress; prevalence in humanitarian aid workers in india. *Traumatology*, 13(59), 59-70.
- Shigemura, J. D., & Nomura, S. (2002). Mental health issues of peacekeeping workers. *Psychiatry and Clinical Neurosciences*, 56, 483-491.
- Showalter, S. E. (2010). Compassion fatigue: What is it? why does it matter? recognizing the symptoms, acknowledging the impact, developing the tools to prevent compassion fatigue, and strengthen the profession already suffering from the effects. *American Journal of Hospice and Palliative Medicine*, 27(4), 239-242.
- Simons, J. S., Raluca, M. G., Jacobs, G. A., Meyer, D., & Johnson-Jiminez, E. (2005). Associations between alcohol use and ptsd symptoms among american red cross

disaster relief workers responding to the 9/11/2011 attacks. *The American journal of Drug and Alcohol Abuse*, 31, 285-304.

Soliman, H., Lingle, S. E., & Raymond, A. (1998). Perceptions of indigenous workers following participation in a disaster relief project. *Community Mental Health Journal*, 34(6), 557-568.

Somer, E., Buchbinder, E., Peled-Avram, M., & Ben-Yizhack, Y. (2004). The stress and coping of emergency room social workers following terrorist attacks. *Qualitative Health Research*, 14(8), 1077-1093.

Stewart, D. W. (2009). Casualties of war: Compassion fatigue and health care providers. *Medsurg Nursing*, 18(2), 91-94.

Tassel, N., & Flett, R. (2007). Obsessive passion as an explanation for burnout: An alternative theoretical perspective applied to humanitarian work. *Australian Journal of Rehabilitation Counseling*, 13, 101-114.

Vos, J. D. (2011). The psychologization of humanitarian aid: skimming the battlefield and the disaster zone. *History of the Human Sciences*, 24(103), doi: 10.1177/0952695111398572

Zimering, R., Gulliver, S. B., Knight, J. A., Munroe, J., & Keane, T. M. (2006). Posttraumatic stress disorder in disaster relief workers following direct and indirect trauma exposure to ground zero. *Journal of Traumatic Stress*, 19(4), 553-557.