Secondary Traumatic Stress for Trauma Researchers: A Mixed Methods Research Design

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Abstract:

Forty-nine infants and toddlers were killed and 93 others were injured in the ABC Day Care Center fire disaster in Hermosillo, Mexico. This study describes the experiences of ten mental health professionals who researched the community-scale grief and provided clinical services to the parents and caregivers of the affected children. A concurrent triangulation mixed-methods approach was used to quantitatively measure and qualitatively understand the secondary traumatic stress (STS) of the responding professionals. Results indicated that experiences of STS decreased with time and debriefing, however, the responding professionals who were more directly connected to the trauma and those who worked with parents who lost their children displayed an enduring impact of STS. Coping strategies and gender expectations are considered in a discussion of debriefing in the specific cultural context of Northwestern Mexico.

Keywords: trauma | secondary trauma stress | mental health professionals | disaster

Article:

Research on the prevalence and severity of post-traumatic stress for trauma survivors is extensive; however, mental health professionals (MHP) who respond to survivors are also vulnerable to intense feelings and disruptions in their life (Creamer & Liddle, 2005; Figley 1995). Several constructs have been proposed for this second-hand exposure on professionals: burnout, vicarious traumatization, compassion fatigue, and secondary traumatic stress (STS). Wee and Myers (2002) argued these negative effects are more pronounced for MHP who respond over extended periods, and Ursano and McCarroll (1994) suggest that these effects are stronger when responders identify with the victims. Both of these are likely when responders live within a disaster-impacted community, but there is little empirical research to support this. Additionally, when responders act intentionally, with adequate preparation and follow-up services, the impact of STS may be mitigated (Newell & MacNeil, 2010). However, resources such as pre-training, debriefing, and supervision for responding clinicians are often scarce when disasters strike more impoverished or developing areas. While Hermosillo is a relatively

developed city, Mexican mental health infrastructure (except in Mexico City) is underdeveloped and underutilized.

This study sought to evaluate and understand the reactions of MHP responding to and living within the disaster-impacted community of Hermosillo, Mexico. Specifically, this research explored "What are the (a) experiences and (b) STS levels of MHP responding to a community based disaster?" Given this dual focus of both understanding experiences and quantifying STS, the researchers utilized a mixed-methods concurrent triangulation design.

SYMPTOMS OF SECONDARY TRAUMATIC STRESS

MHP working with trauma survivors may experience a multitude of symptoms including psychological distress (e.g., sadness, grief, anxiety, fear, rage, and guilt) and cognitive shifts (Collins & Long, 2003; Newell & MacNeil, 2010). Figley (2002) and Naturale (2007) argued that being continuously exposed to traumatic stories may induce feelings in trauma responders similar to those commonly found in trauma survivors. Responding MHP have experienced nightmares, flashbacks, avoidance of trauma-eliciting materials, somatic complaints, addiction or compulsive behaviors, physiological arousal, reduced appreciation for material things, and impairment in daily functioning and coping (Collins & Long, 2003).

Both personal and professional relational disturbances may result from working with trauma survivors (Creamer & Liddle, 2005). Clark and Gioro (1998) argued that the stress of responding can lead to trust and intimacy issues in responders' personal relationships. For example, witnessing the effects of trauma can result in either detaching from or over-identifying with survivors' stories, which may cause responders to cope by withdrawing from family and friends (Newell & MacNeil, 2011). Additionally, Collins and Long (2003) indicated that responding MHP may experience shifts in cognition, changes in belief systems, and negative views of their work. Such impacts may reduce the ability of responders to trust or depend on others, decrease their perceived safety, and heighten feelings of powerlessness.

The nature of interaction with those affected by disaster further influences how STS manifests (Creamer & Liddle, 2005). Extended exposure (through long-term response) was found by Wee and Myers (2002) to enhance STS. Additionally, Creamer and Liddle (2005) showed that responding to the trauma of children predicted higher STS. Morbid discussions with survivors (Creamer & Liddle, 2005) or exposure to remains (Ursano & McCarroll, 1994), especially those of children (Leffler & Dembert, 1998), also increases responder stress reactions. Further, responders living in an affected community may suffer more acute STS, as Ursano and McCarroll (1994) found that responders who identify with victims experience more stress.

Perilla, Norris, and Lavizzo (2002) found, in their study on post-traumatic stress disorder (PTSD) with Latinos impacted by Hurricane Andrew, that community-level loss is a defining feature of disasters, yet has been the focus of limited empirical research. They underscored the need to explore this impact on populations with more collectivistic cultural worldviews. Through a meta-analysis on post-traumatic stress after disasters, Neria, Nandi, & Galea (2008) showed that for specific ethnic groups, and for parents of children exposed to disasters, the impact of trauma

often endures longer. Therefore, research on the effects of trauma on survivors and responders from collectivistic cultural groups is needed.

The ABC Daycare Center fire disaster on June 5, 2009, in Hermosillo, Mexico resulted in the deaths of 49 children, serious injury of 40 more, and exposure to 53 others (Greenhalgh et ah, 2012). This was an unusual disaster, as many parents, grandparents, and caregivers were not themselves physically affected, but shared the experience of having a child injured or killed. Mexican psychologists responded to this community while conducting research on community-scale grief (Jones & Murphy, 2015). In the midst of their work, they began exhibiting symptoms of STS which affected their functioning.

Consequently, the current study was undertaken as a means of responding to those MHP while simultaneously capturing their experiences. This study involved providing a debriefing intervention with both individual and group process components, and two research goals: (a) chronicling the experiences of these responding MHP; and (b) comparing their STS levels after prolonged work with a grieving community to their levels after receiving debriefing services.

RESEARCH METHODOLOGY

Mixed methods research methodology was utilized in the current investigation to build upon the strengths of both quantitative and qualitative paradigms to provide the most complete and comprehensive investigation of the research question (Johnson, Onwuegbuzie, & Turner, 2007). In accord with recommendations from Hanson et al. (2005), a concurrent triangulation mixed-methods design was used in which quantitative and qualitative data were concurrently collected and analyzed. This approach was selected due to the equal levels of priority given to both research questions. In-depth structured, qualitative interviews were conducted to capture participants' experiences of working with the disaster-affected community and were analyzed with consensual qualitative research (CQR) methodology (Hill et al., 2005). STS levels were measured twice with the Professional Quality of Life Scale (ProQOL; Stamm, 2010): prior to and two months after receiving debriefing services.

Participants

Participants in the current study were members of a research team for a larger project on trauma, prolonged grief and social networks by this article's third and fifth authors. Faculty in the regional development program at Centro de Investigacion en Alimentacion y Desarrollo (CIAD) in Hermosillo, Mexico, referred 10 area psychologists who had no direct connection with the families affected by the fire. That team interviewed parents and caregivers affected by the ABC Daycare fire and provided counseling services as needed. While all members interacted with the parents and caregivers, the eight who identified as social psychologists primarily interviewed community members and will be referred to as interviewers. In addition to conducting interviews, two team members with more clinical experience (masters-level, licensed clinical psychologists with training in death-related grief) responded to parents/caregivers affected by the interviews and will be referred to as counselors.

Over a four-month period, that research team spoke with 226 parents and caregivers. These conversations focused on the parents' grief, the functioning of both parents and their surviving children, and their connections/interactions with other parents of ABC children. Team members committed between 50-120 hours each across their interactions. During this, the counselors facilitated three team meetings to share experiences and conduct exercises aimed at maintaining the group's ability to successfully continue their work. When team members expressed concerns about STS to supervisors, the first author was invited to organize a structured debriefing process. All team members expressed interest in the service and agreed to participate in this study, with full awareness that the former was not contingent on the latter. The Institutional Review Board of the third author governed this process.

Seven participants were female, eight lived in Hermosillo, and all were Spanish-speaking Mexican citizens between the ages of 20 and 50. In addition to the previously stated role differences, two interviewers and the two counselors worked more directly with those parents/caregivers whose children had died rather than those whose children were injured. Also, prior to their work on the research project, the counselors assisted with body identification during the fire disaster.

Debriefing Services

In order to develop an understanding of the ABC Daycare Center Fire disaster and provide culturally appropriate debriefing services (Substance Abuse Mental Health Services Administration, 2003), the first author immersed herself in the Hermosillo community to learn about a variety of perspectives about the tragedy. This included (a) visiting the day care center, graves, memorials, and protest displays, (b) dialoguing with community members such as cab drivers who drove children to hospitals and doctors/nurses who treated children, and (c) learning from law students and faculty who studied the tragedy's political aspects. The first author also requested a partner, un-involved in the disaster response, to prevent her from acting in isolation, and to give her the opportunity to check her perceptions and dialogue with a peer (SAMHSA, 2003). A Mexican psychologist was recommended by the CIAD and accompanied the first author during the immersion and later served as a language interpreter during the debriefing and data collection.

Drawing upon this immersion, and upon her background working at a crisis center, the first author and interpreter provided individual debriefing services. Sessions lasted from 45-60 minutes and incorporated elements of Psychological First Aid (PFA), specifically a focus on participant stress reactions and self-care behaviors (Brymer et al., 2006). In line with James and Gilliland's (2013) suggestions, debriefing sessions provided participants with an opportunity to express emotions and share their views/beliefs about the tragedy while someone normalized their reactions and validated their concerns. Though some sessions featured self-disclosure of specific events, the debriefing was not designed to intentionally deconstruct traumatic experiences. After all individual sessions, a two-hour group debriefing was provided that emphasized individual strengths and how participants could rely upon each other (Echterling, McKee, & Presbury, 2000). Two months later, after quantitative data collection and prior to interviews, an additional group debriefing was provided.

Qualitative Methods

Semi-structured interview questions were developed based on knowledge Cd from community members and the current STS literature. Interviews 60-90 minutes and were conducted/recorded by the first author with the interpreter two months after debriefing was provided. The interpreter adjusted wording to more accurately represent cultural nuances. Questions were used to: (a) capture the specific experience of each participant, e.g., "Have you had any contact with the parents/caretakers since your work was completed?"; (b) provide comparative data on various aspects of their functioning, e.g., "How was your life satisfaction/personal relationships/sleeping before, during, and after your work with the parents?"; and (c) allow for open-ended exposition, e.g., "How has this experience changed/served you?"

CQR (Hill et al., 2005) was employed to analyze the interviews. CQR is based on the assumption that multiple perspectives are more effective when trying to understand complex issues and minimize researcher bias. Reaching consensus is integral to the process and relies on mutual respect, equal involvement, and shared power (Hill et al., 2005). To obtain multiple perspectives, CQR harnesses a coding team, which in this case was: two doctoral counseling students experienced in crisis intervention and an anthropology professor fluent in Spanish who conducted fieldwork on the ABC fire and other disasters. A Spanish-speaking counseling professor knowledgeable in CQR served as an external auditor. Hill et al. (2005) described three main steps in CQR data analysis: (a) develop domains to cluster the data; (b) construct core ideas to summarize the main ideas expressed by participants; and (c) conduct a cross analysis of data to identify categories that were consistent across participants.

The CQR protocol requires that the coding team reflect on and record their biases and any preconceived notions about the research (i.e., bracketing) before analysis (Fischer, 2009). Each coder then independently read the first two transcripts (cases) and developed language to describe the high-level themes (domains) apparent therein. A domain list was adopted after the coding team reached consensus; whenever the team sought to come to consensus, individual and consensus perspectives were recorded in an electronic spreadsheet to provide a record of the process for the external auditor. Then, at a second meeting, the coding team shared their thoughts on the abstract core ideas found in the cases that fell under each domain. During these and subsequent meetings, the coding team rotated roles so that one member would present a case, initiate dialogue, and record the consensus codes. This process was repeated until a stable list of domains and core ideas was generated, which was then used to re-analyze prior cases. At that point, a new spreadsheet was created to visualize the consensus domains and establish categories that captured the core ideas across cases (i.e., cross analysis). During this process, the bracketing notes were reviewed to ensure that the categories emerged from the data rather than being superimposed through bias (Fischer, 2009).

After the cross analysis was completed, the external auditor reviewed all bracketing notes, interview transcripts, original and final lists of domains/core ideas, and spreadsheets containing researchers' individual domains/core ideas (for each case), as well as final consensus categories across cases. This process ensured that the themes identified captured the essence of the data and were worded appropriately. Results from the external audit indicated no major omissions. The

auditor shared some reflections about extracting qualitative meaning from translated documents, which have been incorporated in the results.

Quantitative Methods

The ProQOL-5 (Stamm, 2010) is the most commonly used measure of the negative and positive effects of helping others who experience suffering and trauma. The ProQOL is a 30-item measure and has three sub-scales. The ProQOL was developed by Stamm as a three-scale instrument that measures: (a) compassion satisfaction (CS; $\alpha = .89$), (b) burnout ($\alpha = .71$), and (c) STS ($\alpha = .80$). Sample items include "I feel depressed because of the traumatic experiences of the people I *[help]*" and "I get satisfaction from being able to *[help]* people."

The ProQOL was administered to participants in Spanish at the conclusion of their four months of work with the parents/caregivers (immediately before debriefing services were provided). Two months later, the ProQOL was re-administered.

RESULTS

Given the small sample size ($N = 10$) and violations of normality, non-parametric analyses were conducted. The Wilcoxon matched-pairs signed rank test was used to assess differences in scores between ProQOL pre/post administrations. Wilcoxon rank-sum tests were also run to determine differences in compassion fatigue between sub-groups of professionals with different experiences or roles.

Qualitative findings are first presented to describe how the mental health professionals were impacted both personally and professionally by their work. The ProQOL results are then explored and considered in the context of the qualitative data.

Qualitative Results

According to CQR methodology, each category is labeled as a 'general' finding (in this case, true for nine to 10 participants); a 'typical' finding (six to eight participants); or a 'variant' finding (two to five participants,) to indicate how representative it is to the sample. These categories are listed along with several illustrative core ideas for each of the domains in Table 1 and are used to organize this section's subheadings. The domains reflect (a) how participating MHP were affected by their work; (b) their views and beliefs about the tragedy; and (c) the meaning making constructed from their experiences. Findings that were most representative of participant experiences and pertinent to the research questions are discussed by first providing an overview of each domain and then describing specific examples using participants' voices.

Impact of working with parents. Participants reported that working with parents whose children died or were injured influenced them greatly. All participants reported being psychologically affected as feelings emerged of sadness, helplessness, fatigue, guilt, anger, being a burden, and being unfinished. Several reported feeling burned out/disillusioned with their profession and angry at the messages they received regarding the value of detachment, especially when working with those suffering such deep trauma. For example, one interviewer shared,

Personally, it's important for me to recognize that some of the interviews were really heavy for me, it's been difficult. We speak of trying to separate ourselves from the interviews, to try and have it not affect us, but it is clear to me that this is totally impossible to do.

Participants coped with these feelings actively and passively, particularly discussing self-care and boundary setting. The psychological effect and coping domains are depicted through their quotes.

Table 1. Selected Domains and Categories Across Interviews

Domain	Categories *(Core Ideas)*	Cases (Frequency)
Psychological Effects	Emotional reactions (Sadness, helplessness, fatigue, guilt, anger, etc.)	General (10)
	Psychologists (& males) can't feel	Typical (7)
	Questioning profession	Variant (4)
Coping	Active	General (10)
	Balance/imbalance & boundaries	Typical (8)
	Passive *(avoidant, resigned)*	Typical (6)
	Self-care *(receiving therapy, seeking support)*	Typical (6)
	Self-protection	Variant (3)
Social Critique	Government ineffectiveness	Typical (8)
	Lack of justice	Typical (7)
	Political corruption	Typical (7)
Sense of Community	Solidarity *(local, national)*	General (10)
	Humanity	Typical (8)
	Memory	Typical (7)
	Propriety	Typical (6)
Relationships	With parents	General (9)
	With others	Typical (7)
	Feelings of obligation *(need to participate)*	Variant (2)
Transformation	Self-efficacy/self-concept	General (10)
	Purpose/direction/meaning	Typical (8)
	Increased awareness *(recognizing needs, new knowledge)*	Typical (8)
	Perspective change	Typical (6)
	Increased advocacy	Typical (5)
	Spirituality	Variant (2)

Psychological effect. All participants (general category) consistently discussed emotions and cognitive patterns representative of STS. Several expressed emotions such as guilt, stating, "I feel bad when I go out for myself... how can you keep your life going on if these things are happening?" Others expressed being more distracted as a result of their work, stating, "I'm not able to fully focus yet, I still feel it," while some described feeling drained, declaring, "Working with the grieving parents took things out of me that I didn't know were being taken out." Comments such as "I am very afraid that when I have a baby the same thing will happen to my baby," relayed feelings of sadness and fear. The notion that psychologists 'shouldn't feel' emerged as a typical category. This concept was highlighted by one participant stating, "...psychologists act like they are not affected, but I believe they are." Additionally, this theme had a gender component whereby males should suppress their emotions more than females, for as one stated, "psychologists have to be strong and do the work and not feel for the parents... I didn't feel that way though, because I'm a woman, it was ok for me to feel."

Some participants questioned their abilities or doubted their chosen profession as a result of working with the parents. This variant category emerged from the interviews of those who were present on the day of the tragedy and who worked directly with police and parents to identify children's bodies and also with those who interviewed the parents that lost children. One expressed losing faith in clinical abilities, "the problem was that I was very afraid of what I was doing, I was not confident in my skills." Another declared, "the pain of the mother was so high...I don't think I'm strong enough to be in this clinical area." Others reflected that since they no longer fit the mold of 'detached psychologists,' this profession was perhaps no longer for them. For example, one expressed her burnout, stating, "...I saw live [raw] flesh...seeing this made me realize that I cannot do anything, it changed my belief about what I can do professionally."

Coping. In order to deal with the various psychological effects induced by their work, the participants exhibited several patterns of coping, including both active (general category) and passive (typical category) strategies and mechanisms for self-care and setting boundaries. Common passive coping behaviors were resignation and avoidance; for example, one explained, "...because I am giving myself space" [from the ABC fire]. More often, however, participants indicated that they engaged in some form of active coping such as advocacy, "I felt very angry when I was hearing them talk...I wrote two articles."

Many (typical category) expressed concerns over balance/imbalance in their lives, as indicated in this quote, "I couldn't be productive during the work...now I'm learning how to put limits...if I am not able, I am not able." Various forms of self-care were employed (typical category) in order to restore balance and clinical effectiveness such as therapeutic crying, "I learned I was crying when I was working, so they said to take time for crying," or seeking their own counseling, "by going to my own therapy I can be strong enough to work with the parents." Three participants (variant category) spoke of self-protection they took from the intensity of the work by either emotionally numbing themselves before interviews or by intentionally distancing themselves from the social movements spawned by the tragedy.

Views and beliefs about the tragedy. Participants reported their perspectives about the trauma of the ABC Daycare fire and the impact it had on the Hermosillo community. They provided social critique with regard to the ineffectiveness of the government, lack of justice, and political corruption. However, they also described a sense of community where they felt solidarity, shared humanity, and the charge to remember the tragedy as a result of working with the parents.

Social critique. This domain reflects views, beliefs, and concerns over the concept of social justice, critiques on the government response and/or culpability, and comments on advocacy motivated by the tragedy. Reflections on justice, a typical category, were complex. They included components of personal connections:

> No one has learned from this... there is a [another] daycare with the same ceiling, same everything and parents still leave their kids there... 'haven't we learned anything?' I'm sure everyone thinks, 'poor parents, they need justice...'

Others were more focused on collective aspects of justice, as one noted, "Absolutely, this is a matter of human rights and social justice... [there is a] long way to get what we deserve." Through the interviews, there was also recognition of the interaction between personal and societal components, as captured in this reflection: "Social justice is not here yet. The ABC parents think, 'if I forgive, then everyone is going to forget and there will be no justice'... [but] internally, they have to forgive, for themselves."

Government ineffectiveness and corruption emerged as typical categories throughout the interviews. Some expressed frustration towards persons in power, as one frankly said, "we don't have a competent government right now," while others were skeptical of their country's ability to learn from the tragedy and challenge old policy, as one declared, "There is no change.... because it is not in the law!" Another one stated, "the government is never going to change, it is going to always be corrupt." Participants noted that the perceived historical pattern of political corruption made growing from the ABC tragedy difficult plus compounded the trauma.

Sense of community. Participants expressed variations around the theme of community. Solidarity was the most general category in this domain, while humanity, memory, and propriety were also frequently noted throughout the interviews. Solidarity was both expressed on the personal level, as when one noted, "It's very important to have the presence of another citizen and I am that other citizen." Concerning the national level, another declared, "This is not just a thing of Hermosillo, but of the whole country!" Often, a sense of advocacy was linked directly with community solidarity in comments such as, "This is our problem... maybe we need to change something." Specific active coping strategies seemed to be motivated by feelings of solidarity. For instance, one participant explained, "The tragedy was heavy on my mind, so I decided to go to the march to support the parents I knew."

Humanity emerged as a typical category distinct from solidarity. While many comments were variations of, "We are in this together," some of them reflected a specific connection to one's own humanity and the humanity of others. One participant summarized this concept, "The other one is suffering, not you, but that is not true, you are suffering too... when you see human suffering, you feel sad too." Participants indicated that they noticed this aspect of the tragedy most strongly after directly working with the grieving community, as one said, "after the work, I see the human side, I was only seeing the political side before..." Memory also emerged as a typical category under the community domain and included a strong desire for this event to "never be forgotten." Speaking to the notion of a lasting memorial, one declared, "At the end of the day it wasn't an accident, it was murder...the people need to remember...our message was, ?you are not alone and we don't forget'." Finally, the manner in which memorials were conducted or protests organized was important to most participants (typical category). This notion of propriety, or respect for those impacted, is illustrated by tire following quote, "They marched with empty strollers to respect/acknowledge to the children who died...they all got in a circle.. .the way they were talking was the right way to do it, because that march was very respectful. It honored the babies."

Meaning making. Participants reported being forever changed, and making personal meaning from their work. Most reported forming new relationships and how their personal relationships were impacted. Several became active in the movements to fight for justice and improved

standards in daycare centers, reporting increased advocacy, heightened spirituality, increased awareness of both community issues and personal needs, renewed purpose in their own lives and increased confidence in their ability to respond to trauma survivors. The relationship and transformation domains are depicted through their quotes.

Relationships. Participants often (general category) discussed their relationships (e.g. those they formed, those that changed, and those that served as a source of resiliency) in the context of their work with the ABC community of parents and caretakers. Some stayed closely connected to the parents, with one stating, "I've been in contact with the parents who have been suffering outside the work." Others noted a more distant rapport, with two (variant category) reporting feelings of obligation to be supportive of the social movements because of their work.

Participants also noted (typical category) the impact of trauma work on their existing relationships. A few indicated that their added stress altered, or rather shed light on, some of their close friendships, as one reflected, "You saw who was really with you and who is really not with you in good times and in bad." However, personal relationships often served as a source of resiliency, as one noted, "There were a lot of changes in me, but not in my connections with others, I had a lot of support." Another reflected on how the dynamic between her and her mother affected her work, "I didn't want my mother to see me cry, so I avoided the work... she knew what was happening and supported me anyway."

Transformation. A common theme among participants was how they had changed or grown as a result of working with the parents. While everyone indicated changes in their self-efficacy or self-concept, several other categories were typical rather than general, including purpose/direction/meaning, increased awareness, perspective changes, and increased advocacy. Most common were statements about the positive impact that the work made on them. For example, one "grew stronger and self-confident" while another reflected that the work "made me a better person." Additionally, some participants qualified areas in which they felt more efficacious, for instance one said that, "before the project, I didn't know that I could talk with someone for three hours about their experience of losing someone."

Feelings of purpose and meaning were shared by most participants (typical category). Examples included sharing, "I didn't think that I wanted to help people in mourning, or with a terminal illness. Now, I decided I want to do it." While one claimed that, "now I put more value on life", another wondered, "What am I going to leave here before I die?" Across the participants, however, the issue of purpose was strongly associated with pride at having done good work with the community, or as one humbly said, "I feel selfish that I feel good about participating in this, proud to be doing this."

Many also indicated positive changes in perspective (typical category) as a result of their work. One explained how she felt she had been given a gift in the wake of such a tragic event, "I don't like saying this, I believe I'm happier now, I spend time with my daughter, it changed everything." Others echoed that sentiment, while acknowledging how their lives have been considerably easier than those of the grieving parents, or as one said, "I feel more responsibility to be happy, to be thankful that nothing like that has ever happened to me" and another reflected, "we have to take advantage of what we have." A few (variant category) commented on how such

perspective changes or meaning-making connects with belief in a higher power, stating "There is a reason that God has put me here, I did what I was supposed to do." In sum, participants indicated a wide range of experiences related to their work as trauma responders.

Quantitative Results

The quantitative findings assessed changes between (a) time one, immediately after working with grieving parents; and (b) time two, after a debriefing intervention and the passage of two months. Findings from the Wilcoxon signed rank test indicated no significant differences in STS (M_1 = 11.33, M_2 = 11.17, TS = .49) or CS (M_1 = 39.67, M_2 = 38.06, TS = .39) between ProQOL administrations. However, there was a significant decrease in the mean burnout scores (M_1 = 21.44, M_2 = 13.83, TS = .024). Also, initial results are close to population means for responders (Stamm, 2010): STS (M = 13), CS (M = 37), and burnout (M = 22).

Initially, there was a significant and strong positive correlation between STS and burnout (r = .88, p < .01) which became weaker (r = .62, p = .07). Also, STS was not significantly correlated with CS initially (r = –.40, p = .29). However, at time two, these constructs exhibited a significant negative correlation (r = –.76, p = .02).

While all participants interacted with the grieving community, two displayed differences from their peers. Wilcoxon signed rank indicated that the counselors had significantly higher initial STS (M = 24, TS = .06) and burnout (M = 31, TS = .06) than the interviewers (M = 7.71; M = 18.71). The counselors also experienced a greater decrease in CS (M = –8.5, TS = .06) than did the interviewers (M = .36). The counselors and two interviewers interacted with parents whose children died, while other participants only interviewed parents of injured children. Though the differences between these groups were not significant, those who worked with parents of deceased children had higher initial mean burnout (M = 26) than their colleagues (M = 17.8) and also displayed higher initial STS (M = 16.3 to M = 7.4), as expected.

In summary, participants with high STS scores tended to have high burnout scores and low levels of CS. After individual and group debriefing and the passage of time, for the majority of participants, burnout returned to normal levels of functioning (as indicated by ProQOL cutoff scores; Stamm, 2010) though STS did not significantly decrease. However, the counselors (who also served as first responders to the tragedy) maintained high levels of burnout and STS along with lower levels of CS, despite attending debriefing services and allowing time for healing.

LIMITATIONS

The results of this investigation offer insight into STS for a team of Mexican mental health professionals and details how they were influenced by working with a community of grieving parents. Nevertheless, results must be interpreted within the context of study limitations, including sampling and researcher bias. While all participants involved in the larger research project on prolonged grief agreed to participate in this study, the sample size is still small. The non-random sample could have contributed bias to the results and may limit the generalizability of findings. Additionally, this study yielded a relatively small number of general categories (5) and large number of typical categories (16), suggesting considerable variance in participants'

experiences. Additional research is needed to tease out the nuances of disaster-related compassion fatigue and transformation. Although several procedures were included to reduce bias (i.e., use of multiple researchers, bracketing, external auditor), the first author was integrally involved in debriefing participants, as well as in collecting, transcribing, and coding the data. Finally, at the time of this study, the participants primarily worked as a research team to interview grieving parents/caregivers and not as front-line trauma responders. However, the nature of their role (listening to grief) elicited consoling and responding behavior in their work. The two counselors did have a clearer role as trauma responders as they worked closely with those parents affected by the interview process and they also had served in the immediate aftermath of the fire disaster. Although there are limitations to the current study, we believe that the findings shed light on the ways responders' lives change through interaction with victims of a traumatic event.

DISCUSSION

Results from the current mixed-methods investigation contribute to the research on understanding the STS for MHP responding to a community based disaster. Participants who interviewed those affected by the ABC daycare fire had strong emotional reactions to their experiences. This study highlights these experiences and provides greater descriptive detail about how the MHP processed their STS reactions. Participants exhibited passive and active coping strategies to manage their emotional reactions and reported being personally transformed, developing both critiques of and solidarity with their profession, community, society, and country. While most participants' STS and burnout decreased with debriefing and the passage of time, those who worked with parents who lost their children chronicled a different experience. Two particular implications emerged from the findings: (a) the need to assess one's preparedness to interact with trauma survivors (even as part of a research team performing interviews), and (b) the importance of integrating effective methods of debriefing/support services into any sustained professional interaction with trauma survivors (including a research project).

Participants reported feeling that the grief and trauma of this tragedy were beyond comprehension. While all felt ill-prepared at the beginning, many experienced increased self-efficacy as a result of their work, which was not unexpected, as an increased sense of personal accomplishment was also found by Newell and MacNeil (2011) in their examination of clinical trauma responders. However, in this study, those who identified children's remains also reported anger at their profession and society, and questioned their own abilities. Despite debriefing and the passage of time, their levels of STS remained high. Thus, there may be particular traumas (e.g. loss of a child) and particular response efforts (e.g. witnessing parents' reactions to finding their deceased child) that negatively affect responding MHP to a greater degree. To compound the trauma, environmental conditions may also contribute to STS. In line with Figley's (2002) observations, and more recent ones from Hurricane Katrina by Tosone, McTighe, & Bauwens (2015), living within the impacted community and being unable to personally remove themselves from the trauma may have heightened the STS experienced by participants. Assessment of preparedness and pre-training, as suggested by Newell and MacNeil (2010), can assist those responding to and working with trauma survivors. Prior to deployment within a trauma-affected community, training specific to the nature of the disaster and expected living conditions may also

be warranted. Further, particular care should be taken to encourage the self-monitoring of STS symptoms and the practice of self-care in local disaster responders.

Coping strategies may also place individuals at greater risk for STS and burnout. Although limited empirical research on ethnic differences in experiencing STS exists, Perilla et al. (2002) stated that Latinos impacted by Hurricane Andrew displayed more avoidant PTSD symptoms (e.g., avoiding thoughts/feelings, restricted range of affect, diminished interest, inability to recall, and detachment from others) than reactive symptoms (e.g., arousal, re-experiencing trauma). Similarly, participants in the present study reported the men had more avoidant symptoms due to the "machismo" pressure that they "shouldn't be impacted by the stories." Alternatively, several were not able to detach or disconnect from their feelings. Barrio and Myers (2008) suggest that being unable to remove oneself from the situation (inability to see the larger systemic context) impedes one's ability to process and engage in reflection. Thus, inviting trauma responders out of (or into) their feelings so that they process in multiple ways may be useful in assisting them to positively move through their experience.

Finally, many participants engaged in community events and advocacy efforts to support the parents. Further exploration of whether these behaviors were active coping strategies or stressful reactions to the situation motivated by cultural norms is warranted. As noted by Perilla et al. (2002), collectivistic worldviews are prevalent in many Latino cultures and may have influenced the responses of this study's participants. Thus, cultural context should be considered when constructing culturally respectful debriefing responses to those working with a trauma-affected community or when interpreting their STS response.

Otherwise, as far as intra-sample heterogeneity is concerned, all participants came from relatively middle-class backgrounds while the parents/caregivers were mostly working class. There was little-to-no ethnic diversity among the participants and interviewees, and neither group spoke indigenous languages. While there was no cultural disparity, the socioeconomic disparity may have affected the observed STS. The relative privilege of the participant interviewers may have prompted even greater pity from them for the parents.

In addition to community and collectivistic values, other components of the culture may be considered to foster positive coping and debriefing. For example, the gender of the participants in this study noticeably predicted how they processed during the debriefings, i.e. "men can't feel, but women can." Additionally, since participants had different stories to share based on the level of trauma with which they interacted, the group debriefings seemed less fruitful than did individual debriefing sessions. In this group debriefing context, it was helpful to keep the focus away from the specifics of individual participant experiences and direct the process more towards lifting up participants' strengths and making meaning from their experiences.

SUGGESTION FOR FUTURE RESEARCH

While individuals in the United States have found debriefing useful in disaster response, there is a need to explore how MHP responders in a variety of socio-cultural groups cope with STS. Little is currently known about the crisis and trauma response training that MHP receive in other countries and what is efficacious in their work with trauma survivors. Future research on STS in

other cultural contexts would benefit from larger sample sizes and learning from MHP working in a variety of disaster-impacted communities. Important next steps for this field of research are assessing preparedness of MHP to work with trauma impacted communities and developing effective, culturally appropriate debriefing services. Future research on differences between levels of STS for individuals that live within traumatized communities compared to those that reside outside of them would be beneficial. Finally, longitudinal research following trauma responders and the trajectory of STS over time would greatly benefit the field.

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