Shared Traumatic Stress among Social Workers in the Aftermath of Hurricane Katrina

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Abstract

With climate change, social workers and other mental health professionals may find themselves living and working in environments prone to natural disasters. The term shared traumatic stress (SdTS) contains aspects of post-traumatic stress and secondary trauma, and reflects practitioners’ dual exposure to collective traumatic events. In an effort to explore and further validate the construct of SdTS, a sample of 244 social workers from New Orleans were studied using path analytic modelling with respect to the personal and professional impact of Hurricane Katrina. Potential risk factors included attachment style, exposure to potentially traumatic life events and enduring distress attributed to Hurricane Katrina. Social workers’ resilience was examined for its role in mediating the relationship between these risk factors and SdTS. As hypothesised, insecure attachment, greater exposure to potentially traumatic life events in general and distress related to the events surrounding Hurricane Katrina were predictive of higher levels of SdTS. Insecure attachment and enduring distress attributed to Katrina also significantly predicted lower levels of resilience, though exposure to potentially traumatic life events did not. Resilience was found to mediate the relationship between insecure attachment, enduring distress attributed to Katrina and SdTS but not the relationship between exposure to potentially traumatic life events and SdTS. Implications for theory, research and practice are described.

Keywords: Shared trauma, shared traumatic stress, shared traumatic reality, Hurricane Katrina, social worker trauma, secondary trauma

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Introduction

As Hurricane Katrina approached the Gulf coast in August of 2005, few imagined that a disaster of unprecedented proportions was about to unfold. The inhabitants of the region had long since become accustomed to hurricane warnings. Katrina, however, was different. In addition to the primary impact of the storm, the failure of the levees due to human error resulted in the flooding of 80 per cent of New Orleans as well as parts of surrounding parishes (Kates et al., 2006; Gill, 2007). This caused significant structural damage to the homes of approximately 700,000 people (Gabe et al., 2005). Though one million people were evacuated, another 1,570 died. Logistical and procedural errors and inefficiencies stymied evacuation efforts and meant that the emergency period for Katrina lasted longer than any researched disaster (Kates et al., 2006). Social unrest grew in response to mounting anger directed towards politicians and agencies charged with the relief efforts when they were seen as inefficient and far removed from the urgency and gravity of the situation on the ground (Ginzburg, 2008). Four months after Katrina, the New Orleans population was only at 37 per cent of the pre-hurricane occupancy.

Along with mental health professionals of other disciplines, social workers have a long and important history of responding in the wake of large-scale traumas and disasters (Scoville, 1942). Since the 1970s, there has been a noted rise in the incidence of natural disasters (Center for Research on the Epidemiology of Disasters, 2009) and, most recently, the consequences of Hurricane Sandy portend the sustained impact of climate change (Fischetti, 2012; Lipman, 2012). Keeping in step with this trend, social workers have been increasingly called upon to respond to disasters and other significant traumatic events around the world (Bride, 2007; Naturale, 2007). These have included both man-made (Mongan et al., 2009; Shamai and Ron, 2009) and natural events (Javadian, 2007; Moyo and Moldovan, 2008; Rowlands and Tan, 2008). Following the terrorist attacks on 11 September 2001, more than 50 per cent of crisis counselling was performed by social workers (Naturale, 2007). In August of 2005, when Hurricane Katrina struck the Gulf Coast of the USA, social workers were present and involved as well.

As members of the New Orleans community, social workers and other mental health professionals were similarly hard-hit following Katrina. Some effort has been made to document the impact of Hurricane Katrina on the mental health community. In several instances, this involved reflective accounts of the nature and impact of the experience from the point of view of mental health professionals. Boulanger et al. (2013), for example, offered detailed accounts of the experience of several private practitioners. Due to the independent nature of their work, the authors note that these practitioners often laboured with little to no support or training as they managed
the personal and professional impact of the storm. Similarly, Faust et al. (2008) reflected vividly on their experience of the evacuation of New Orleans and their return to destroyed homes, closed practice locations and displaced patients. They describe their efforts to navigate the uncertain waters that constituted this community trauma of which they were each a part.

From the perspective of social work education, Lewis and Gillis (2008) detailed their efforts as coordinators of field education at a large New Orleans social work school to locate students and make provisions for them to continue their studies through quickly arranged field placements and improvised means of delivery of classroom content. This was done in the midst of the authors’ efforts to cope with the impact of the storm on their own lives and circumstances.

In addition to first-hand qualitative accounts, a limited number of quantitative studies examined the impact of Hurricane Katrina on mental health professionals. Some of these documented the post-Katrina landscape with respect to such issues as service needs. Calderon-Abbo (2008), for example, found that there was only one psychiatrist per every 21,000, while the number of persons seeking treatment increased by 32 per cent. The number of persons diagnosed with severe mental illness also doubled after Katrina (Kessler et al., 2006). Four months after the hurricane, public-sector psychiatric care was reduced by 96 per cent and remained at 70 per cent a year later.

Other studies looked at the impact of Katrina on mental health professionals themselves. Leitch et al. (2009) found, for example, that somatic experiencing treatment led to significantly greater resiliency and reduced symptoms of post-traumatic stress among social services workers who survived Hurricanes Katrina and Rita. Lemieux et al. (2010) documented evidence of substance abuse and depressive and post-traumatic symptoms as well as coping strategies among social work students in the wake of Hurricanes Katrina and Rita. The authors offer recommendations regarding the support and supervision of student practitioners in the midst of such potentially traumatogenic circumstances. A third group of studies looked at the impact of Katrina on the mental health community through the lens of social welfare and policy, and offered commentary on the lessons that the social work and mental health community must learn from this experience (Kulkarni et al., 2008; Moyo and Moldovan, 2008).

For social workers and other mental health professionals who were living and working in New Orleans at the time of Hurricane Katrina, the storm and the devastation that followed in its wake yielded a potent combination of factors that were deeply challenging and potentially traumatic both personally and professionally. In fact, the National Association of Social Workers estimated that at least 1,000 social workers experienced major loss due to the storm (National Association of Social Workers, 2005). Much has been
written regarding the ways in which social workers and other mental health professionals cope with the potentially traumatogenic effects of exposure to the accounts of their clients’ traumas. This dynamic has commonly been referred to as compassion fatigue/secondary trauma (Figley, 1995; Boscarino et al., 2004; Adams et al., 2006) or vicarious traumatisation (McCann and Pearlman, 1990; Pearlman and Mac Ian, 1995).

However, when a social worker is personally and professionally exposed to trauma by virtue both of their work and their membership in a community affected by trauma, these terms fail to capture the full breadth of the impact. This dual exposure confronts the worker with not only an intense professional obligation, but also personal concerns and priorities that may seem to stand in direct conflict with the demands of their work. Baum (2012b) refers to this as a trap of conflicting needs. Along with such concepts as shared reality (Kretsch et al., 1997) and shared traumatic reality (Keinan-Kon, 1998; Nuttman-Shwartz and Dekel, 2009; Baum, 2010, 2014; Dekel and Baum, 2010), the term that has been increasingly used to reflect the distinct impact of trauma that is simultaneously personal and professional is shared traumatic stress (SdTS) (Altman and Davies, 2002; Saakvitne, 2002; Tosone et al., 2003, 2011, 2012; Tosone, 2006; Bauwens and Tosone, 2010).

As a supraordinate construct, SdTS comprises elements frequently used to assess post-traumatic stress and compassion fatigue in the trauma literature. These elements were given equal weight (Tosone, 2012) and operationalised using established, psychometrically sound measures for post-traumatic stress and compassion fatigue, respectively (Tosone et al., 2011). Conceptually, this measure allows for the representation of the combined personal and professional dimensions of SdTS and was developed to better understand social workers’ responses to collective traumatic events, both man-made and natural. By contrast, Baum (2014) developed an instrument to examine double exposure in relation to five key features of shared traumatic reality, including intrusive anxiety, lapses of empathy, immersion in professional role, role expansion, and changes in place and time of work. This instrument was conceptualised based on social workers’ experiences with man-made disasters only. Furthermore, as Baum notes with respect to the study’s limitations, the sample consisted of a relatively small number of professionals dually exposed to the Gaza War.

Social workers, and even social work students, have been studied with respect to the impact of SdTS on their personal and professional lives in other contexts. Most notable among these are Israel (Baum, 2004, 2010, 2012a; Lev-Wiesel et al., 2009; Nuttman-Shwartz and Dekel, 2009; Dekel and Baum, 2010) and New York following the attacks of 11 September 2001 (Tosone et al., 2011). However, apart from the first-person accounts that have been cited, little has been done to understand, through the lens of shared trauma, the personal and professional experience of New Orleans social workers who lived and worked through the events surrounding Hurricane Katrina. The effort, then, to come to a greater general understanding of
the combined personal and professional impact of living and practicing in a potentially traumatogenic environment, while learning more about the particular experience of social workers following Hurricane Katrina, formed the rationale for the present study. As a replication of one study of social workers’ experience of SdTS following 9/11, the Post-Katrina Quality of Professional Practice Survey (PKQPPS) had two main objectives. The first was to further examine SdTS as a distinct construct and to understand its relationship to several variables that have been shown to be related to both PTSD and secondary trauma and that were examined in relationship to SdTS among social workers who endured the 9/11 events (Tosone et al., 2011). These were attachment, history of traumatic life events, level of distress from the potentially traumatogenic event in question (in this case Hurricane Katrina) and resilience.

Bonanno (2004) has suggested that there is an important connection between resilience and the impact of potentially traumatic events and that resilience is often underestimated in those populations exposed to adverse events. Along these lines, epidemiological research has demonstrated significant reductions over time in initially reported post-traumatic symptoms following events like 9/11 (Silver et al., 2002; Bonanno et al., 2006) and the bombing in Oklahoma City (Pfefferbaum et al., 2006), as well as among Vietnam Veterans (Niles et al., 2003). These findings also suggest a relationship between resilience and ongoing distress related to the adverse event under examination. Additionally, a positive relationship has been demonstrated between resilience and secure attachment (Friedman, 2007; Grunert, 2009). Racanelli (2005), meanwhile, documented a relationship between insecure attachment and compassion fatigue. Lastly, resilience has been shown to be negatively impacted by a history of exposure to potentially traumatic life events. For example, Holocaust survivors were shown to have higher rates of post-traumatic symptoms following 9/11 (Lamet et al., 2009) and a greater number of potentially traumatic life events was shown to impact negatively both spirituality and stress resilience following 9/11 (McTighe, 2010).

The second objective of the present study was to understand SdTS following a natural disaster and to consider the ways in which this may both resemble and differ from a man-made traumatogenic event such as 9/11. In the post-9/11 study, social workers who lived and worked in and around Manhattan at the time of the attack on the World Trade Center were studied with respect to the personal and professional impact of the 9/11 event. In that sample, insecure attachment and greater exposure to potentially traumatic life events were found to be predictive of SdTS related to 9/11. Furthermore, resilience was found to mediate significantly the relationships between insecure attachment and a history of potentially traumatic life events.

The present investigation tested a number of hypotheses: (i) insecure attachment will be negatively related to resilience, (ii) life events will be positively related to resilience, (iii) enduring distress attributed to Katrina will be...
negatively related to resilience, (iv) insecure attachment will be positively related to SdTS, (v) life events will be positively related to SdTS, (vi) enduring distress attributed to Katrina will be positively related to SdTS and (vii) resilience will be negatively related to SdTS.

Method
Participants and procedures

Participants for the present study were solicited from two sources. With the co-operation and support of the deans of the Schools of Social Work at Tulane University, Louisiana State University and the University of Southern Mississippi, lists of alumni living in the impacted area of the Gulf Coast were generated. These alumni were contacted via e-mail and invited to participate in the study by following a link to the PKQPPS instrument delivered via Zoomerang, an online survey delivery and collection site. Similarly, an announcement regarding this research was posted on an online electronic mailing list, also known as a listserv, which was created for the specific purpose of disseminating information about Katrina and its consequences to the clinical community in the region. This announcement also contained a link to the survey instrument. Data were collected between 15 January and 6 May of 2010, approximately four and a half years after the Katrina events. Informed consent was constituted by the participants’ choice to complete the survey. Inclusion criteria for participation in the study were the possession of at least a master’s degree in social work or a related profession, current employment in the mental health field (non-retired) and the completion of at least some of the demographic questions.

The Deans of the Schools of Social Work and the Supervisor of the listserv oversaw the dissemination of the invitation e-mails and two follow-up reminders as well as the posting of the research announcement on the listserv. In this way, the researchers remained blind to the identity of potential participants, thus ensuring anonymity. Because of this, calculation of an exact response rate was not possible. However, Zoomerang does track the number of visitors to the study’s website.

A total of 513 people visited the website for the PKQPPS survey. Of these, 511 entered the survey and responded to at least one item, though a sizeable number only answered a few questions \((n = 116)\) or were retired \((n = 153)\). In the end, 244 surveys remained that were useable and completed by participants who met the criteria for inclusion. This represents 48 per cent of the total of those who visited the PKQPPS site.

Analysis of the demographic data revealed that respondents were predominantly female \((82\, \text{per cent})\), white \((86\, \text{per cent})\), and married \((48\, \text{per cent})\). The vast majority \((83\, \text{per cent})\) possessed a master’s-level credential, while the remaining 17 per cent possessed a doctoral degree or had completed at
least some doctoral course work. The mean age of respondents was 48 (SD = 13). The modal income category of the respondents was $40–$60K (38 per cent). Though 58 per cent provided disaster-related services following Katrina, only 37 per cent reported having had specific disaster training. Sixty-one per cent witnessed Hurricane Katrina personally, while 53 per cent experienced a major loss due to Katrina. Forty-one per cent endorsed having discussed reactions to Katrina with their clients. Participants gave a mean response of 3.57 (1 = not at all, 7 = very much) when asked to what extent they still felt affected by the events surrounding Hurricane Katrina.

**Measures**

The PKQPPS consisted of several measures in addition to demographic, practice, supervisory, training, and Katrina-related professional and personal experience questions (e.g. disaster-specific training prior to Katrina, major loss as a result of Katrina). A description of the standardised instruments that comprised the survey follows.

The Adult Attachment Questionnaire (Simpson et al., 1996) measures attachment along the dimensions of ambivalence (nine items, Cronbach’s $\alpha = 0.82$ in this study) and avoidance (eight items, Cronbach’s $\alpha = 0.84$ in this study). All items in this self-report measure are rated on a five-point Likert scale. The AAQ is considered a strong measure of adult attachment and Griffin and Bartholomew (1994) have documented the construct, convergent and discriminant validity of the instrument.

The Life Events Checklist (Gray et al., 2004) was used to measure personal trauma history. This is a seventeen-item, nominal self-report measure (Cronbach’s $\alpha = 0.77$ in this study) that assesses exposure to potentially traumatic events throughout the life of the respondent on the following five-point scale: 1 = happened to me, 2 = witnessed it, 3 = learned about it, 4 = not sure and 5 = doesn’t apply. In addition to this, using a single item rated on a seven-point Likert scale (1 = not at all, 7 = very much), participants were asked the extent to which they are currently affected by the events surrounding Hurricane Katrina.

Resilience was measured using the Connor–Davidson Resiliency Scale (Connor and Davidson, 2003). This is a twenty-five-item, four-point Likert self-report instrument. Though the five subscales of the measure have been shown to have reliability scores ranging from 0.83 to 0.61 (Gillespie et al., 2010), the full-scale measure demonstrated solid reliability (Cronbach’s $\alpha = 0.89$ in this study) as well as test–retest stability ($r = 0.87$).

The Compassion Fatigue/Secondary Traumatic Stress subscale of Stamm’s (2002) Professional Quality of Life Scale-Revised (PQLS-R) served to operationalise compassion fatigue (Cronbach’s $\alpha = 0.83$ in this study). This thirty-item, six-point Likert self-report measure comprises
three ten-item subscales that may be used independently: Compassion Satisfac-
tion, Compassion Fatigue/Secondary Traumatic Stress and Burnout. The
scale is widely used and has demonstrated good construct, convergent and
discriminant validity (Stamm, 1995).

Post-traumatic stress disorder was operationalised by the PTSD Chec-
klelist-Civilian Version (PCL-C) (Ruggiero et al., 2003). This is a very commonly
used seventeen-item, five-point Likert self-report scale (Cronbach’s α =
0.92 in this study) that asks respondents to rate the extent to which they
were ‘bothered’ in a series of specific ways by a particular stressful event
over the course of the past month. Its three subscales correspond to the
re-experiencing, avoidant and arousal symptom categories of post-traumatic
stress disorder.

Lastly, in order to measure the key variable of SdTS, we used the mean
of scores on the PCL-C and the Compassion Fatigue subscale of the
PQLS-R. Responses on the seventeen items of the PCL-C were rescaled
using a 0–5 format to conform to the 0–5 format of the
PQLS-R. Participants’ mean scores on the PCL-C were then averaged with
the mean scores of the ten items of the compassion fatigue subscale of the
PQLS-R. This method allows for a balanced distribution of the weight
accorded to both the PCL-C and the PQLS-R, and reflects the equal relation-
ship of the PTSD and compassion fatigue components of SdTS. Each of the
components demonstrated very good reliability in the present study (com-
passion fatigue: α = 0.83; PCL-C: α = 0.92). Furthermore, the two measures
were strongly positively correlated (r = 0.67, p < 0.001) providing additional
evidence of the validity of the shared trauma measure and lending further
support to SdTS as a supraordinate construct.

Data analysis

Before the path model was estimated, the data set was examined for viola-
tions of normality, linearity, homoscedasticity and multicollinearity, as well
as for outliers. Univariate outliers were ‘Winsorised’ using the strategy of
outlier accommodation. After so doing, Mahalanobis Distances were com-
puted and no multivariate outliers were detected. A curvilinear relationship
between Avoidance and SdTS was handled by using the Jagodzinski and
Weede (1981) ‘beta’ for accommodating such nonlinearities (Jagodzinski
and Weede, 1981; Whitt, 1986). No evidence of multicollinearity was
found. Graphical tests revealed that the residuals were generally within ac-
ceptable limits of normality and homoscedasticity. In order to accommodate
a small amount of missing data, we used a robust estimator (Muthen and
Muthen, 2007) along with full information maximum likelihood. The PROD-
CLIN program was used to estimate and test the indirect effects in the path
model (MacKinnon et al., 2007).
Results

A number of demographic variables were examined as potential confounders in the proposed model. These were age, number of years in the field, income, education, gender and race/ethnicity. Bivariate correlation and multivariate multiple regression analyses were conducted to examine the relationships between these variables and the outcomes under investigation while controlling for the effects of the independent and dependent variables in the path model. These analyses revealed only a small, partial correlation (partial $r = 0.21$) between age and SdTS.

However, after removing the statistically insignificant demographics effects, and estimating the SdTS equation in the path model, the net relationship between age and SdTS was found to be negligible and statistically insignificant ($\beta = -0.10, p = 0.06$). More importantly, its inclusion or exclusion in predicting SdTS had virtually no impact on the magnitudes of the effects of the substantive predictors of SdTS. Thus, no demographic variables were controlled for in the path model. The results from the path analysis can be seen in Figure 1.

Most of the independent variables were significantly related to resilience, which was presumed to serve as the mediating variable (Table 1). These variables include avoidance, ambivalence and enduring distress attributed to Hurricane Katrina. Those with greater avoidant ($\beta = -0.17, p < 0.05$) and ambivalent ($\beta = -0.30, p < 0.05$) attachment exhibited less resilience, as did those reporting more enduring distress from Katrina ($\beta = -0.17, p < 0.05$). Greater exposure to potentially traumatic life events was not associated with resilience ($\beta = 0.11, p > 0.05$).

As hypothesised, the negative path from resilience to SdTS was statistically significant, indicating that those respondents who reported greater resilience also reported being less traumatised ($\beta = -0.16, p < 0.05$). Significant paths were also found between both avoidance ($\beta = 0.21, p < 0.05$) and ambivalence ($\beta = 0.29, p < 0.05$) and SdTS, indicating that less securely attached respondents experienced greater trauma. Similarly, a significant positive path was found between traumatic events and SdTS ($\beta = 0.13, p < 0.05$), thus demonstrating a relationship between exposure to potentially traumatic life events and SdTS. Finally, a positive, significant relationship was found between enduring distress attributed to Katrina and SdTS ($\beta = 0.26, p < 0.05$).

Three of the four independent variables, namely avoidance (indirect effect = 0.03, $p < 0.05$), ambivalence (indirect effect = 0.05, $p < 0.05$) and enduring distress from Katrina (indirect effect = 0.03, $p < 0.05$) were found to have significant indirect relationships to SdTS mediated by resilience (Table 1). However, these indirect effects accounted for only 9–14 per cent of the total effect of each independent predictor, thus demonstrating that the majority of their effect on SdTS is direct rather than indirect.
As a second attempt to measure SdTS as a distinct construct, and to evaluate its relationship to several variables that have been shown to be of particular salience, several aspects of the findings of this study are worthy of discussion. They constitute yet another step in the effort to establish a causal model for and to identify variables associated with higher levels of SdTS.

When compared with the results of the initial study of SdTS in social workers living and working in New York at the time of the attack on the World Trade Center on 9/11 (Tosone et al., 2011), several similarities can be found to the findings of the present investigation. As in the 9/11 study, insecure attachment (avoidance and ambivalence), a history of potentially traumatic life events and ongoing distress related to the disaster under investigation (in this case Hurricane Katrina) all bore a significant though modest relationship to SdTS. This offers further evidence of the importance of these

![Figure 1 Path model of 244 social workers’ attachment styles, history of potentially traumatic life events, enduring Katrina distress, resilience and shared traumatic stress following Hurricane Katrina. * p < 0.05; ** p < 0.10.](image-url)

### Table 1 Effects decomposition table

| Dependent       | Independent    | Total effect | Direct effect | Indirect effect via |
|-----------------|----------------|--------------|---------------|---------------------|
| Resilience      | Avoidance      | −0.17*       | −0.17*        | −                   |
|                 | Ambivalence    | −0.30*       | −0.30*        | −                   |
|                 | Life events    | 0.11         | 0.11          | −                   |
|                 | Enduring distress | −0.17*   | −0.17*        | −                   |
| Shared trauma   | Avoidance      | 0.24*        | 0.21*         | 0.03*               |
|                 | Ambivalence    | 0.34*        | 0.29*         | 0.05*               |
|                 | Life events    | 0.11*        | 0.13*         | −0.02               |
|                 | Enduring distress | 0.29*   | 0.26*         | 0.03*               |
|                 | Resilience     | −0.16*       | −0.16*        | −                   |

Standardised effects; *p < 0.05.

### Discussion

As a second attempt to measure SdTS as a distinct construct, and to evaluate its relationship to several variables that have been shown to be of particular salience, several aspects of the findings of this study are worthy of discussion. They constitute yet another step in the effort to establish a causal model for and to identify variables associated with higher levels of SdTS.

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variables when anticipating the impact of exposure to or involvement with a shared potentially traumatogenic situation. Additionally, it provides even further confirmation of the relationships between PTSD and insecure attachment (Renaud, 2008; Besser et al., 2009; Besser and Neria, 2010) as well as a history of traumatic life events and compassion fatigue (Creamer and Liddle, 2005) that are already documented in the literature.

In the present study, insecure attachment and ongoing distress related to Katrina were both negatively related to SdTS when mediated by resilience in the path model, thus suggesting that greater insecurity of attachment and higher levels of emotional distress related to the experience of Katrina had a negative impact on resilience, and that this in turn is related to higher levels of SdTS. Notably, a higher level of distress related to the events of 9/11 was not found to bear a significant relationship to resilience in that investigation. By contrast, while a history of traumatic life events was found to be related to resilience in social workers affected by 9/11, no such relationship was found among the social workers in this sample. Having said this, with the exception of ambivalent attachment, the direct effect on SdTS of the all variables under consideration was modestly stronger than the indirect effect as mediated by resilience.

These findings are consistent with and lend support to those found elsewhere in the literature. For example, greater levels of resilience have previously been found in social workers reporting greater attachment security (Tosone et al., 2010), and lower levels of attachment security have been found to be related to greater compassion satisfaction (Racanelli, 2005) in practitioners working with survivors of terrorism. In keeping with other findings in the literature (Lamet et al., 2009; McTighe, 2010), the relationship between a history of potentially traumatic life events and resilience was not significant in this study. Nonetheless, its positive direction ($\beta = 0.11, p = 0.07$) is more in line with the results of the post 9/11 investigation (Tosone et al., 2011).

One might argue that the effects of the variable that measures the enduring impact of the Katrina event on both resilience and SdTS are modest. As was noted in the 9/11 study (Tosone et al., 2011), this might be related to the fact that it was measured by a single item or that participants made implicit reference to Katrina as a potentially traumatic life event when completing the Life Events Checklist. As was done for the 9/11 study, the path model was recalculated without the Life Events Checklist but with a more extensive measure of the impact of Hurricane Katrina itself. This measure was made up of seven other items from the survey instrument that made specific reference to various aspects of the impact of Katrina on the respondent (e.g. seeking treatment related to the events of Katrina, experiencing major loss related to Katrina, etc.). However, this model did not yield empirical effects that were discriminably different from those reported in Figure 1, thus lending support to the findings of the path model as originally constructed. In the end, the present findings continue to speak to the importance of social
workers being aware and mindful of their own attachment profiles, history of exposure to potentially traumatic events and ability to tolerate this in order to decide what role they are capable of assuming in the face of a potential dual (personal and professional) exposure to a traumatic situation.

In addition to offering a greater understanding of the particular personal and professional impact of Hurricane Katrina on the social workers who lived and worked in the Gulf area in its wake, this study offered the broader opportunity to understand the nature of SdTS following a natural disaster. The present findings complement and extend our previous efforts to understand the nature of SdTS in the aftermath of a man-made disaster (i.e. the 9/11 terrorist attack) and provide substantial corroboration of our earlier findings regarding the factors that contributed to higher SdTS in social workers following that event. In this sense, we are building a case for SdTS as a specific and unique construct and for an understanding of its nature and potential impact irrespective of the aetiology of the disaster under consideration. In other words, the discovery of a similar relationship between the independent variables and SdTS in both the 9/11 and Katrina studies suggests a consistency to the phenomenon of SdTS that applies to both man-made and natural disasters. This is valuable inasmuch as it allows us to anticipate how social workers exposed personally and professionally to these potentially traumatogenic circumstances may cope with such events, as well as which factors might predispose them to greater risk.

These findings also reinforce the suggestion that factors such as attachment and a history of traumatic life events be taken into account in the planning and delivery of trauma training and education both at the graduate level and in postgraduate continuing education. They remind us of the need to pay particular attention to the impact on practitioners of trauma work when their lives are touched by it both personally and professionally. This is, of course, of the utmost importance for practitioners living and working in areas that are more prone to such potentially traumatic events (e.g. the Middle East). On an individual level, practitioners would do well to bear these factors in mind when weighing their own readiness and suitability for trauma work of a potentially shared nature. To the extent that this is an inevitable part of their work and they believe themselves to be vulnerable to shared trauma, they are encouraged to attend to self-care as diligently as possible and to build in adequate mechanisms to ensure balance and support in their life and work.

On an institutional level, faculty, administrators and supervisors are encouraged to take seriously the potential impact of a shared traumatic situation and the factors that may aggravate it when planning the distribution of work assignments and caseloads and when making provisions for the necessary supervision and support that may enable practitioners to work while minimising the risk of psychological harm to themselves in the midst of such circumstances. It would be important for future studies on SdTS to examine the nature of professional boundaries under such circumstances.
because self-disclosure and mutual discussion of the traumatic event have been found to be more likely and more acceptable in these unique situations (Bauwens and Tosone, 2010).

The present study has a number of limitations to take into account in interpreting the results. While the use of path analysis may offer a more nuanced understanding of the relationship between the variables under investigation, the correlational, cross-sectional design and self-report nature of the PKOSS inherently limits the explanatory power of the findings. As in the 9/11 study, the significant relationships described in the path model are nonetheless generally modest in magnitude. This may either be reflective of the real relationship that exists between the variables or be an artefact of the passage of time between the Katrina event and the collection of the data for this study. Additionally, the findings may not be generalisable to other mental health practitioners of different disciplines or working in different contexts. In spite of this, it is important to note that the findings reported herein are substantially similar to those found in our earlier investigation of shared trauma in the context of the 9/11 event and, as such, add further weight to the construct and model of SdTS that has been proposed.

As already noted, this study represents the next step in the investigation and validation of the construct of SdTS. However, a number of earlier recommendations for future research still hold true. SdTS needs to be investigated among mental health professionals of various disciplines. In addition to the potential to capture a more nuanced view of the nature of SdTS, such studies may help further our understanding of the differential impact of various training models. Furthermore, it would be beneficial to use the current methodology to compare the experience of practitioners exposed to discrete shared traumatic events such as 9/11 or Katrina with that of practitioners living and working under more chronically traumatogenic circumstances (e.g. the Middle East, the military). Further clarification of the nature of SdTS would also be gained by the opportunity to sample practitioners closer to the time of a potentially shared traumatic event, as would the collection of baseline data on those mental health professionals most likely to undergo such an experience. These and similar investigations would contribute to the advancement of our understanding of SdTS and enhance our ability to prepare and support those practitioners who expose themselves to the impact of trauma both personally and professionally.

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