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Secondary traumatic stress in school personnel

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Although research has examined secondary traumatic stress (STS) among mental health workers, no studies have systematically addressed STS among public school personnel. Given the amount of time children spend in school (7–8 h per day) and high national estimates of youth trauma exposure, this line of inquiry is warranted. Participants included 229 school staff members across six schools in the northwestern USA. Results indicated that school staff reported very high levels of STS, despite also deriving satisfaction from doing their job well at levels that approximate national averages of job satisfaction. Their levels of job burnout are remarkably average. Although individuals working in mental health receive training in recognition of STS in self and colleagues, and are provided with STS referral, mitigation, and treatment opportunities on the job, no opportunities such as these are routinely provided for school personnel. Implications and recommendations for such programs are discussed.

Keywords: secondary traumatic stress; posttraumatic stress disorder; trauma; school

Professional helpers who provide support to children and youth with trauma may themselves be at risk for the negative consequences of trauma symptoms, simply through their continued exposure to their clients' trauma narratives. This phenomenon has been referred to as Compassion Fatigue (CF) or 'secondary traumatic stress (STS) . . . the natural and consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a significant other, (and) the stress resulting from helping or wanting to help a traumatized or suffering person' (Figley, 2002, 1995, p. 7). Research has shown that these secondary effects may impact individuals in helping professionals, such as mental health workers (Figley, 1995). More specifically, trauma reactions of individuals who provide services to victims may be nearly identical to the effects of direct exposure (Figley, 1995). Reactions include symptoms such as those found in posttraumatic stress disorder (PTSD) as described in the *Diagnostic and Statistical Manual of Mental Disorders,* Fourth Edition, Text Revision [DSM-IV TR; American Psychiatric Association (APA), 2000]. Workers may experience posttraumatic stress reactions such as re-experiencing intrusive thoughts and imagery, numbing, avoidance, and hyperarousal. They may also have difficulty regulating emotions, including experiencing depression and other anxieties, and many of these difficulties may affect functioning across domains similar to PTSD (Figley, 1995).

Indeed, the secondary effects of trauma exposure are increasingly viewed as an 'occupational hazard' of working in the trauma field (Figley, 1999; Pearlman, 1999). Whether primary or secondary, trauma has the potential to negatively affect morbidity,

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mortality, and workplace failure (cf. Felliti, 1998). Thus, assessing trauma levels in workers and preventing and mitigating trauma resulting from workplace exposure have the potential to improve public health as well as workplace productivity (Bell, Kulkarni, & Dalton, 2003; Pearlman & Caringi, 2008).

Studies on STS suggest that empathetic engagement with one's clients may put one at specific risk of developing secondary trauma and in the long-term burnout (McCann & Pearlman, 1990). Ironically, this characteristic of effective clinicians may also be seen as a risk factor for their own development of mental health difficulties. However, more nuanced examinations of the role of empathy and STS suggest that there may be individual factors related to the experience of empathy that better predict STS and burnout. For instance, Moosman (2002) examined the relationship between empathy and STS/CF in a study of 183 psychotherapists. The author did not find a relationship between general emotional empathy and STS/CF (as measured by the Trauma Symptom Inventory Belief Scale; Pearlman, 1996, 2003); however, she did find that those who were extremely emotionally reactive in their empathetic engagement, or hypersensitive to their clients' experiences, were more likely to report STS/CF.

Similar to research on direct exposure to trauma, studies examining secondary trauma reactions among mental health and social workers also demonstrate some variation in characteristic risk predictors. For instance, Arvay and Uhlemann (1996) examined secondary trauma reactions among counselors who worked primarily with traumatized clients and found that the majority of STS symptom levels ranged from mild to severe, similar to the levels of PTSD found in outpatient client populations. Furthermore, younger professionals (fewer years in the field) and those who are exposed to multiple traumatized clients ('saturation') may be more at risk (Arvay & Uhlemann, 1996; Brady, Guy, Poelstra, & Brokaw, 1999; Chrestman, 1995; Ghahramanlou, & Brodbeck, 2000; Kassam-Adams, 1999). Other factors, including a personal trauma history, organizational stressors, and 'critical incident' stressors that occur on the job, were all found to increase individuals' risk of developing mental health difficulties related to their work in child welfare (Regehr, Hemsworth, Leslie, Howe, & Chau, 2004, p. 338). Based on these findings, the dose–response theory of direct trauma exposure may be extrapolated to secondary trauma, such that the compilation of stressors such as those described above may put individuals at risk of developing STS symptoms or may explain varying degrees of STS symptoms. For instance, one study examined STS among 187 Child Protective Service professionals using a web-based survey and found that an individual trauma history, low peer support, low administrative support, desire to find other work, and large caseload size were all factors correlated with higher reports of STS (Meyers & Cornille, 2002). In addition, research also has shown that positive coping skills and social supports are likely the strongest buffers against the development of STS-related difficulties (Follette, Polusny, & Milbeck, 1994; Schauben, & Frazier, 1995).

Despite this growing literature base, the majority of research examined STS in therapists, counselors, and emergency and first responder workers, with the most recent studies including social workers and professionals in the child welfare system (Bride, Jones, & MacMaster, 2007). One population that has not been examined in the STS research literature is public school personnel. Children spend approximately 7–8 h per day in school and national estimates suggest that approximately a quarter of American children will experience some type of trauma before their 16th birthday (Costello, Erkanli, Fairbank, & Angold, 2002; McConaughy, 2005). In low-income schools, specifically those receiving Title I funding, it is likely that the number of children exposed to single and multiple traumas is actually much higher (cf. Blodgett et al., 2010).

To our knowledge, this study represents the first examination of secondary trauma reactions among public school personnel. No specific hypotheses were made regarding the frequency or range of STS symptoms; rather, analyses were exploratory in nature. However, based on the past research among mental health and social workers, it was hypothesized that personal trauma history, intent to seek other employment, low peer social support, and organizations that discourage social support-seeking behaviors would predict higher levels of STS among public school personnel. A self-reported trauma history was hypothesized to explain the most variance in the predictor model, based on the dose–response theory and the potential for trauma-related sequelae following direct trauma exposure.

Method

Participants

Participants were 300 school staff members, including educators, paraprofessionals, school-based social workers, counselors, and administrators, across six public schools across urban, rural, and American Indian reservation communities, who were part of a series of voluntary trainings on STS in the northwestern USA. Due to the rural nature of several of the communities, participants were not asked their specific job titles in order to maintain confidentiality. The STS trainings occurred following collection of the data herein. Participants had a mean age of 45.59 years (SD = 12.10) and were primarily female (74.3%). Seventy four percent of the sample was Caucasian, not Hispanic, with the second largest represented ethnic group being Native American (20%). This is noteworthy given that past research has demonstrated that indigenous populations, such as Native Americans and Alaska Natives, are disproportionately exposed to a host of negative circumstances including poverty, domestic violence, and suicide, among other stressors, and yet are also rarely included in research studies (Beals et al., 1997; Child Welfare League of America, 2005; US Department of Health and Human Services, 2002). Further demographic information can be found in Table 1.

Measures

Public School Demographic Workplace Questionnaire (unpublished measure)

The Public School Demographic Workplace Questionnaire was designed for this study in order to assess relevant demographics such as age, gender, ethnicity, annual salary, and highest level of education. Additional questions included length of time in current position, length of time in public schools, percentage of time spent in direct practice versus administrative/paperwork duties, and intent to stay in current position. Items developed for the Public School Demographic Workplace Questionnaire were similar to items found on demographic questionnaires administered to social work populations (Bride et al., 2007).

Secondary Traumatic Stress Scale

The Secondary Traumatic Stress Scale (STSS; Bride, Robinson, Yegidis, & Figley, 2004) is a 17-item, self-report, Likert scale response formatted measure designed to assess difficulties that mirror the current description of PTSD as defined by the DSM-IV TR (APA, 2000). Specifically, the STSS includes items corresponding to each of the 17 symptoms and subscales representing the major PTSD symptom clusters of intrusion, avoidance, and hyperarousal, as well as a total score. Participants indicate how frequently,

Table 1. Participant demographics.

	Frequency	Percentage
Gender		
Women	223	74.3
Men	77	25.7
Ethnicity[a]		
Caucasian, not Hispanic	222	74.0
Native American	60	20.00
Other	11	3.7
Latino(a)	2	0.7
Asian	1	0.3
Caribbean	1	0.3
Highest level of education[b]		
BA/BS	119	39.7
MA/MS	119	39.7
Post-graduate work	47	15.7
Other	13	4.3
Current annual salary[c]		
Under $25,000	20	6.5
$25,000–29,000	10	3.3
$30,000–39,000	85	28.3
$40,000–49,000	70	23.3
$50,000–59,000	70	23.3
Over $60,000	38	12.7

[a] Three participants did not report their ethnicity.
[b] Two participants did not report their highest level of education.
[c] Seven participants did not report their current annual salary.

on a 5-point scale (ranging from 'never' to 'very often'), each item was true for them in the past 7 days, based on their interactions with trauma-exposed youth. Scores are obtained by summing the items across each subscale and for the entire measure for the total score. Criteria are met for subscales representing PTSD symptom clusters if a respondent endorses at least one item on the Intrusion subscale, at least three items on the Avoidance subscale, and at least two items on the Arousal subscale at a level of 3 or higher (a symptom occurring at least 'occasionally'). The STSS has demonstrated adequate validity and high levels of internal consistency in previous research (Bride et al., 2004; Ting, Jacobson, Sanders, Bride, & Harrington, 2005). Cronbach's α for this study was 0.76 for Intrusion, 0.90 for Avoidance, 0.87 for Arousal, and 0.95 for the total score scales.

Also three items examining self-reported trauma histories were added to the STSS. One item assessed participants' personal trauma history (i.e. 'Have you ever experienced a traumatic event in your life?' with a nonexhaustive example list provided). A second item asked when the trauma occurred (i.e. assessing for lifetime, past 12 months, or both) and a third item assessed whether their trauma still impacts their life (from 'not at all' to 'very severely'). Five self-anchored rating scales were also added that assessed the extent to which the participants' client/student population was traumatized (from 'not at all' to 'very severely'); that their work addresses issues related to client/student trauma (from 'not at all' to 'very often'); that participants have experienced 'fear, helplessness, or horror in response to the traumatic experiences reported by clients/students'; and that participants experienced symptoms of depression and/or symptoms of anxiety. The latter three items response formats were 5-item Likert scale ratings ranging from 'not at all' to 'very severely.' The items assessing symptoms of depression and anxiety were not explicitly

defined for participants; rather, their responses were based on participants' own perceptions of 'depression' and 'anxiety' symptoms. Cronbach's α for the added items was 0.68, which was acceptable given that the items were related but also did not necessarily assess a single construct.

Six qualitative items were added to further assess individuals' experiences of secondary trauma, three of which assessed the perceived source of participants' traumatic stress. Two of the six questions assessed from whom participants seek support with respect to their STS, burnout, and CF related to their jobs. One final qualitative question allowed participants the opportunity to report any additional information.

Professional Quality of Life Survey Revision IV

The Professional Quality of Life Survey Revision IV (ProQOL; Hudnall Stamm, 2005) is a 30-item, self-report, Likert scale response formatted measure that has three subscales and no composite scale. Items are rated on a scale of 'never' to 'very often.' The subscales are Compassion Satisfaction, Burnout, and CF/Secondary Trauma. The Compassion Satisfaction subscale includes items describing the satisfaction one derives from doing work well (e.g. 'I get satisfaction from being able to help people'). Higher scores indicate greater satisfaction. The Burnout subscale includes items describing feelings of hopelessness and difficulties in dealing with one's work or in doing one's job effectively (e.g. 'Because of my work as a helper/teacher, I feel exhausted'). Higher scores indicate higher risk for burnout. The CF/Secondary Trauma subscale includes items describing work-related, secondary exposure to extremely stressful events, such as hearing stories about trauma exposure in students (e.g. 'I feel as though I am experiencing the trauma of someone I have helped/taught').

The ProQOL has been evaluated across three classes of workers: healthcare workers (including clinicians and administrators), child/family workers, and school personnel (including counselors, teachers, and others.). Internal consistency was adequate, ranging from 0.72 on the Burnout subscale to 0.87 on the Compassion Satisfaction subscale. The average score on the Compassion Satisfaction subscale is 37 (SD = 7.0), and approximately one-quarter of participants score higher than 42 or below 33. The average score on the Burnout subscale is 22 (SD = 6.0), and approximately one-quarter of participants score above 27 or below 18. The average score on the CF/Secondary Trauma subscale is 13 (SD = 6.0), and approximately one-quarter of participants score above 17 or below 8. In this study, Cronbach's αs were comparable to past investigations (i.e. 0.88, CF to 0.73, Burnout). For scale development information, please refer the technical manual (Hudnall Stamm, 2005).

Peer Support Questionnaire

Variables related to social support were identified via items on the Peer Support Questionnaire (PSQ; Hardiman, 2009, unpublished measure). Specifically, the item 'How close is your emotional connection to your peers in the job?' was used as a descriptor of low/high social support. In order to categorize responses into predictor variables, responses of 'not at all' and 'somewhat' were coded as 0 and responses of 'close' and 'very close' were coded as 1. The sixth item on the PSQ 'Does your place of employment encourage talking to peers about stress and difficulties?' was used as a predictor for describing organizations that discourage/encourage seeking out social support from peers.

A response of 'no' was coded as 0 and a response of 'yes' was coded as 1. Cronbach's α for this study was 0.46.

Procedure

Assessments for this study occurred between August 2010 and February 2011. Scheduling of assessment sessions was based on school and staff members' availabilities to take part in training on STS and self-care, which occurred following each assessment session. Follow-up qualitative data collection is currently ongoing. Attendance at the assessment and training sessions was completely voluntary and there were no ramifications from school personnel for not attending to the investigators' knowledge.

School staff members were provided informed consent forms and told that the information being collected was about their experiences on job-related stress. Institutional Review Board approval, obtained prior to administering the assessments, was also described. Staff members were asked to complete the survey packet, which was voluntary, and the surveys were completed within 30–45 min. Surveys were anonymous and consisted primarily of quantifiable responses such as those found in the STSS, ProQOL, and PSQ. The STSS and PSQ included qualitative items with written response formats, which are being analyzed separately. Participants were also asked whether they were willing to be interviewed in relation to their work experiences and STS. This additional qualitative data collection is ongoing.

Data analysis

Quantitative surveys were entered and analyzed in PASW Statistics 18, a software package commonly used in the social sciences. All data were double entered to ensure accuracy. Means, standard deviations, and percentages were calculated for demographic variables as were descriptive sample characteristics. Multiple regression was used to examine the extent to which a self-reported personal history of trauma exposure, intent to seek other employment, low social support, and working for an organization that discourages social support-seeking behaviors predicted total scores on the STSS and CF/STS scores on the ProQOL.

Results

Sample characteristics

Participants averaged 8.99 years (SD = 8.58) in their current position and worked an average of 15.04 years (SD = 11.38) in public schools. Participants reported an average of 77% of their time engaged in direct service (e.g. teaching, meeting with parents, and community participation) and 24% of their time engaged in paperwork and/or administrative duties. In rating the extent to which their student population was traumatized, 13.7% of participants ($n = 41$) indicated that their students were either not traumatized at all or only mildly traumatized, 32.3% ($n = 97$) indicated that their students were moderately traumatized, and 44.7% ($n = 134$) indicated that their students were severely or very severely traumatized. Twenty-six participants (8.6%) did not report the extent to which their student population was traumatized. Two hundred and eleven participants (70.3%) reported that they had experienced a traumatic event, with 12.3% reporting that a traumatic event occurred in the past year, 54.7% reporting that a traumatic event occurred more than 1 year ago, and 2.3% reporting that they experienced a traumatic

event both within their lifetime and within the past year. Fifty participants (16.7%) reported that they had never experienced a traumatic event and 41 participants (13.7%) did not respond.

Approximately, 75% of the sample exceeded cut-offs on all three subscales of the STSS (Intrusion, Avoidance, Arousal; total score $M = 39.00$, SD = 13.70), meaning that they responded 'occasionally' or more frequently to at least one item on the Intrusion subscale, at least three items on the Avoidance subscale, and at least two items on the Arousal subscale. These results indicate that their symptoms may meet criteria for a diagnosis of PTSD if they were administered a standardized assessment. Furthermore, 35.3% of participants reported at least moderate symptoms of depression. The mean score on the Compassion Satisfaction subscale of the ProQOL was 39.71 (SD = 5.74), which was slightly above the average score (i.e. more Compassion Satisfaction than average; $M_{\text{normsample}} = 37.0$, $\text{SD}_{\text{normsample}} = 7.0$) reported in the technical manual.

The mean score on the Burnout subscale of the ProQOL was 24.11 (SD = 5.27), which was only slightly above the average score reported in the technical manual ($M_{\text{normsample}} = 22.0$, $\text{SD}_{\text{normsample}} = 6.0$). The mean score on the CF/STS subscale of the ProQOL was 23.00 (SD = 6.10), which was above the average score (i.e. more CF/STS than average) reported in the technical manual ($M_{\text{normsample}} = 13.0$, $\text{SD}_{\text{normsample}} = 6.0$). Of note, only approximately 25% of respondents score above 17 (Hudnall Stamm, 2005), suggesting a high degree of STS in this sample.

Prediction of total scores on the STSS

Multiple regression was used to determine whether specific variables predicted higher scores on the STSS total score. A personal trauma history, intent to seek other employment, one's emotional connection with their co-workers, and working for an organization that encourages/discourages social support-seeking behaviors were examined using biserial correlations. Only intent to seek other employment and working for an organization that discourages social support-seeking behaviors were significant predictors of STSS total scores ($p < 0.011$). Both variables were entered on the first step and the model was significant. The variables explained 13.3% of the variance in observed scores, $F(2, 233) = 17.70$, $p < 0.001$. Table 2 shows the biserial correlation coefficients and Table 3 shows the beta coefficients, standard error, and significance values.

Prediction of STS/CF scores on the ProQOL

Multiple regression was also used to examine whether specific variables predicted higher scores on the CF/STS subscale of the ProQOL, and variables were entered using the same

Table 2. Biserial correlations matrix for STSS total scores.

	1	2	3	4	5
1. STSS total score	1.00	–	–	–	–
2. Trauma history	0.07	1.00	–	–	–
3. Seeking other employment	0.24**	0.08	1.00	–	–
4. Emotional connection with co-workers	−0.06	−0.08	−0.08	1.00	–
5. Employer encourages talking with peers about stress	−0.24**	−0.16*	−0.11	0.20*	1.00

Notes: *$p < 0.05$; **$p < 0.001$.

Table 3. Individual and organizational characteristics as predictors of STSS total scores ($N = 234$).

Predictor	*B*	SE *B*	β
Step 1			
Looking for other work	11.71	2.82	0.26*
Employer encourages talking with peers about stress	−6.48	1.74	−0.23*

Notes: $R^2 = 0.13$ ($p < 0.001$). *$p < 0.001$.

method as in the regression for the STSS, above. Similar to findings for total scores on the STSS, intent to seek other employment and working for an organization that discourages social support-seeking behaviors had significant biserial correlations ($p < 0.01$ and $p < 0.001$, respectively). Both variables were entered on the first step and the model was significant ($p < 0.001$). The variables explained approximately 9% of variance in observed scores on the CF/STS subscale of the ProQOL, $F(2, 240) = 11.13$, $p = 0.001$. Table 4 shows the biserial correlations and Table 5 shows the beta coefficients, standard error, and significance values.

Discussion

To our knowledge, this study represents the first examination of secondary trauma reactions among public school personnel published to date. Overall, the participants included relatively seasoned school staff, with an average of 14.01 years of working in public schools. Notably, a significant majority of participants self-reported a personal history of trauma exposure (76.4%) and described their student populations as at least 'moderately' traumatized (77.3%). Although these variables were single-item self-reports, it is well documented that American Indian and Alaska Native populations experience trauma exposure at rates significantly higher than Caucasian, non-Hispanics, and nearly a quarter of the sample reported their ethnicity as American Indian/Alaska Native (National Center for Children in Poverty, 2007; US Department of Health and Human Services, Office of the Surgeon General, & SAMHSA, n.d.). Thus, it is likely a significant proportion of the sample, and the youth with whom they work, would report trauma exposure if administered a validated trauma exposure measure.

Given past research on trauma exposure among mental health professionals and the dose–response relationship (e.g. March, 1993; Regehr et al., 2004), the finding that a personal history of trauma was not significantly correlated with secondary trauma reactions among public school personnel was surprising. In addition, low emotional connectedness among co-workers was not significantly correlated, which was contrary to the hypothesis. On average, however, post-hoc analyses revealed that participants reported

Table 4. Biserial correlations matrix for ProQOL CF/STS scores.

	1	2	3	4	5
1. ProQOL CF/STS score	1.00	–	–	–	–
2. Trauma history	0.09	1.00	–	–	–
3. Seeking other employment	0.21**	0.02	1.00	–	–
4. Emotional connection with co-workers	0.08	−0.07	−0.03	1.00	–
5. Employer encourages talking with peers about stress	−0.23***	−0.15*	−0.06	0.21**	1.00

Notes: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Table 5. Individual and organizational characteristics as predictors of ProQOL CF/STS scores ($N = 241$).

Predictor	B	SE B	β
Step 1			
Looking for other work	3.59	1.27	0.18*
Employer encourages talking with peers about stress	−2.74	0.77	−0.22**

Notes: $R^2 = 0.09$ ($p < 0.001$). *$p < 0.01$; **$p < 0.001$.

relatively high levels of emotional connectedness with their peers (0–3 scale, $M = 2.02$, $SD = 0.76$), which may be an explanation for resiliency among participants such that their own trauma histories were not significantly predictive of their STS experiences. Indeed, social support has been shown to buffer a myriad of secondary trauma outcomes and is among the first line of intervention recommendations for social work and counseling organizations (e.g. Dill, 2008; Pearlman & Caringi, 2009). This was further supported by the finding that employers who discouraged peer support seeking was predictive of STS reactions. As well, post-hoc analyses showed that participants viewed peer support as a generally positive concept and one that should be fostered; thus, those individuals who reported significant STS symptoms may be lacking a quality social support system. Given that the majority of school staff members in this study experienced a significant amount of direct and secondary trauma exposure and negative psychological ramifications as a result of empathetic concern for their students, we argue that educators should have access to on-the-job secondary trauma management systems to which other helping professionals have access. For instance, STS interventions and school mental health initiatives should include explicit opportunities and plans for peer-pairing and co-worker support activities.

It should be noted that although intent to seek other employment and the perception that their organizations discouraged peer support-seeking behaviors were predictive of reported trauma reactions as hypothesized, these variables only accounted for a relatively small proportion of explained variance (~10%). Consequently, there are key predictors of STS symptoms among school personnel who were not assessed. For example, at the time of this study several schools had a number of changes occurring related to the introduction of new curriculum, staff turnover, and community-level stressors that unfolded in the year prior to assessment. These factors, as well as organizational variables related to them (e.g. support for staff through system change), may better account for some of the variance demonstrated in the STS scores.

In general, results on secondary trauma reactions from this study clearly demonstrated that school personnel are experiencing a great deal of STS and exposure to traumatized youth in their jobs. In addition to STS symptoms, nearly 36% reported experiencing symptoms of depression. Levels of STS were comparable to a recent study of licensed clinical social workers (LCSW; Caringi & Hardiman, in press). However, it is important to note that LCSWs usually are trained to deal with both primary and secondary trauma, and most LCSWs work settings typically include having formal support systems to mitigate professional STS built into their work; whereas school staff are likely neither trained to recognize nor prepared to manage primary or secondary trauma.

Despite the difficult mental health circumstances under which many individuals in this study are working, they also reported deriving satisfaction from being able to do their job. Specifically, participants reported higher scores on the Compassion Satisfaction subscale of the ProQOL than the norm. Furthermore, participants reported experiencing average

levels of burnout. These are specific strengths of the participating school staff members such that deriving pleasure out of one's work, having motivation to continue in one's work, and being emotionally connected with one's peers regarding job-related stress suggest that cooperative learning and support mechanisms may be successfully established as part of future initiatives.

Based on the public health triangle model of intervention (Gordon, 1983), future school-based initiatives to address secondary trauma may benefit from developing programs according to a collaborative, team-based approach. Specifically, three levels of intervention are recommended: *universal* (*tier one*) for all staff members, *secondary* (*tier two*) for those impacted by secondary trauma at moderate levels, and *tertiary* (*tier three*) for those with the most extreme levels of STS. Tier one interventions may include education on STS and its correlates, as well as an introduction to self-care. In addition, results from this study suggest that another important first step for tier one initiatives should include education for administrators on the impact of STS, the level of exposure, and encouraging their staff members to speak openly about the difficulties they may be having related to their work-related stress.

Following tier one interventions, tier two interventions may include more structured opportunities to discuss work-related stress with coworkers, in order to buffer against some of the specific negative effects of secondary trauma exposure in the workplace. This may include the development of 'personal,' 'professional,' and 'organizational' plans to deal with STS (Pearlman & Caringi, 2008). Finally, tier three interventions may include providing referral sources and encouragement to seek a health care professional, take time off of work, and other personal means to get well. There is a substantial literature base also addressing the importance of supervision at the organization, professional, and personal levels. Indeed, the National Child Traumatic Stress Network has developed a self-care 'toolkit' for educators which stresses the importance of supervision and peer-to-peer support (National Child Traumatic Stress Network Schools Committee, 2008). Furthermore, research on cultural connectivity among Native Americans and Alaska Natives suggests that utilizing cultural resources and values is a specific strength for mitigating negative mental health outcomes (Yellow Horse Brave Heart & DeBruyn, 1998). Given the relatively high proportion of Native American and Alaska Native peoples in the northwestern USA, it is recommended that local culture be a driving force behind the development of secondary trauma interventions and self-care plans, building upon the many strengths in these communities. Given the high levels of reported address in the current sample, STS mitigation trainings were offered and are ongoing, where maintenance plans are developed according to the three-tiered approach described above. Furthermore, the authors continue to work with participating tribal communities to adapt the STS mitigation trainings to incorporate culturally relevant and appropriate themes and activities.

Limitations

This study is not without limitations. Future research should examine the generality of these findings in the literature to date; thus, it is unclear whether these findings would be replicated elsewhere. Furthermore, the study was cross-sectional in nature; thus, no causal inferences can be made and it is unclear whether the same results would be found in a different timeframe or population. As these results derive from self-reported data from a sample of school personnel, it is not certain how representative these data are of all school staff members in sampled schools, or of school personnel in other schools. Furthermore,

given that trauma exposure in both school staff and the youth they serve was assessed via single self-report items, it is possible that the same results would not be found if participants were administered structured interviews or validated self-report measures. Finally, it could be assumed that anonymity would reduce the potential for social desirability influences; nevertheless, surveys such as these may relay biased information that must be considered when making interpretations.

Conclusion

In conclusion, results from this study suggest that public school personnel may be exposed to extraordinary levels of direct and secondary trauma in the workplace. Furthermore, opportunities for seeking support among coworkers may be limited, placing staff at risk of overwhelming external support networks. As this study was the first investigation of STS among public school personnel, future investigations replicating the methodology herein should be conducted in order to determine the prevalence of these phenomena among schools with varying demographics. To the extent that future research confirms similar levels of secondary trauma in similar educational settings, we strongly recommend empirical research that assesses whether STS treatment strategies that are effective with mental health and social work professionals can be successfully implemented to treat educators with STS. Interventions for secondary trauma should be inclusive of individuals outside of the healthcare field, including school personnel, given the potential for vulnerability. A public health model, which has been found effective in other populations, may be a helpful method for organizing school-based initiatives to address STS.

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