Secondary Traumatic Stress: Definitions, Measures, Predictors, and Interventions

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Child welfare professionals are exposed to a lot of traumatic events. They may experience trauma first-hand witnessing the negative experiences of children and families on their caseload or it may be experienced second-hand through the stories shared by clients or co-workers, or information being read in a file. The research has a variety of terms for this phenomenon (as described in this brief) but the evidence is clear: child welfare workers experience trauma as an occupational hazard and that exposure can manifest itself in ways similar to post-traumatic stress disorder (e.g., disrupted sleep, difficulty concentrating). In fact, a survey of 992 child welfare workers and supervisors from across the QIC-WD sites found that more than half reported experiencing secondary traumatic stress symptoms in the last 7-days.

Indirect trauma: An umbrella term

Indirect trauma may occur when people hear about, see evidence or images, or are exposed through other means to traumatic events through persistent and close contact with trauma survivors (Strand & Sprang, 2018). Researchers have sought to understand the components of indirect trauma based on conceptualizations and research findings over the past 30 years. The most prominent conceptual constructs include:

1) secondary traumatic stress (STS),

2) compassion fatigue (CF), and

3) vicarious traumatization (VT).

While these three concepts are distinct, they are often conflated and used interchangeably to describe any one of the specific phenomena in question. The lack of careful separation makes it difficult to follow the strands of research studying each construct. As a consequence, it is difficult to gain a thorough understanding of how members of different workplaces are affected by indirect trauma or the impact of indirect trauma on organizational and client outcomes. Even a recent publication noted

that this conflation failed to distinguish between the components and subsumed them all under the blanket term of vicarious trauma (Branson, 2019).

This brief begins with a set of definitions and measurement issues surrounding the first two constructs that are components of indirect trauma: STS and CF. That section is concluded by the results of a meta-analysis that gives clarity regarding the definition and measurement of STS and how it differs from CF as well as another workforce stress variables, burnout (Cieslak et al., 2014). The next section covers the definition and review of measures of a third indirect trauma construct, VT. The brief ends with a review of two meta-analyses focused on predictors of STS and four meta-analyses focused on interventions to address STS in the workforce. Implications for the child welfare field are included.

What is secondary traumatic stress (STS)?

STS includes behaviors and emotions resulting from knowledge about a traumatizing event experienced by a significant other or when involved with helping those who were traumatized in the past or present (Figley, 1995). STS may lead to the experience of the same symptoms as those with direct exposure to traumatic events (Bride, 2007). Others have called this secondary post-traumatic stress disorder (PTSD) or secondary PTSD (Cieslak et al., 2014).

The most recent version of the American Psychiatric Association DSM–V (American Psychiatric Association, 2013) stipulates as the first criterion for PTSD the experiencing of one of four situations.

1) Repeated or extreme exposure to aversive details of the traumatic events of others while in the role of a first responder or helper. Thus, an occupational hazard of working with those who are traumatized is STS.

2) Three major sets of symptoms: heightened arousal,

avoidance, and intrusive thoughts.

3) Duration of symptoms.

4) Impairment due to symptoms.

In workplace studies, only the criteria of exposure to trauma survivors and expressions of the three types of symptoms are routinely assessed. Thus, while the STS construct is currently aligned with experiences of PTSD *symptoms*, until measures of symptom duration and impairment are assessed in the workplace, STS as studied to date does not fully capture PTSD by focusing only on symptoms resulting from exposure to traumatic material or traumatized people.

Bride et al. (2004) developed the Secondary Traumatic Stress Scale (STSS) based on the 17 symptoms of PTSD in the APA DSM IV-TR (American Psychiatric Association, 2000). In the Bride (2007) study, and in many subsequent studies, assessment of clinical levels of PTSD *symptoms* due to exposure to traumatized clients were calculated by using formulas to assess whether experience of symptoms exceeded clinical symptomatology cut off scores. See Table 1 for a list of items in the STSS.

What are compassion fatigue and burnout?

CF is the distress that helpers experience when they are exposed to the impact of trauma in the lives of their clients (Nimmo & Huggard, 2013). It is generally measured as a combination of some symptoms of STS and some symptoms of burnout, but the term is used interchangeably with STS. This is confusing because STS and burnout are very different constructs.

Burnout, as originally conceptualized by Maslach (1976), was seen as stemming from exposure to all types of stressors in the workplace, including high workloads, the frustration of dealing with bureaucratic red tape, incivility of co-workers, insufficient resources, time pressure and other workplace stressors. While some of the symptoms of burnout may overlap with the reactions that follow from working with a traumatized client, an employee responding to another's trauma will be reacting to very different forms and content of stress than is routinely experienced in most workplaces. Thus, the types of emotional and cognitive reactions are likely to be different between STS and burnout.

Compassion fatigue is linked to STS, but STS involves the same symptoms as PTSD, which is an anxiety disorder. The emotions involved in the PTSD diagnostic criteria focus on hyperarousal and include symptoms of anxiety, or avoidance of anxiety, such as numbing. Burnout, on the other hand, is associated with feelings of energy depletion, depression, discouragement, or frustration in the face of an avalanche of work tasks, the inability to complete work tasks due to distractions, lack of role clarity, or roadblocks to progress. Certainly, that can lead to "fatigue" in attempting to help others, but burnout tends to be focused on the organization rather than the clients being served. Thus, measures of the constructs of STS and burnout may include some overlap, but there are many responses that clearly differentiate the two.

The items included in the most prominent measure of Compassion Fatigue changed between 1995 when the Compassion Fatigue Self Test was developed by Figley (1995) and 2002 when it was revised by his doctoral student, Stamm (2002). The latest version can currently be found in the Professional Quality of Life Scale (ProQOL; Stamm, 2010). In the ProQOL, CF is the combination of STS and burnout. The STS subscale of the ProQOL only includes 10 items which can also be found in Table 1[1]. One deviation from the STSS measure is the timeframe for items. In the ProQOL, respondents select frequency of experiencing each item over the past **30** days using a Likert-type scale ranging from 1 (never) to 5 (very often). This differs from the response format of Bride's STSS (2007), which asks respondent to select frequency of experiencing each item over the past **7** days using the same never to often rating scale. In addition, seven PTSD symptoms are missing in the ProQOL and even the symptoms that somewhat overlap with the STSS measure miss the palpable physical responses to exposure to trauma (e.g., heart pounding, reliving trauma of clients). Half of the 10 items of the ProQOL Burnout subscale (also found in Table 1) somewhat conceptually overlap with the STSS scale items, which may explain the high level of overlap between these constructs in the ProQOL.

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[1] We attempted to align the items in the various scales although perfect alignment was impossible

Ciselak et al. (2014) attempted to understand the relationship between STS and burnout in workforces exposed to traumatized populations in a meta-analysis of 41 papers published before 2012. When studies utilized the ProQOL instrument (N = 34), the estimated overlap between the STS and burnout constructs was 55%, which suggested that STS and burnout constructs as measured by the ProQOL are largely indistinguishable. When the STSS or Impact of Event Scale/Impact of Event Scale – Revised (IES/IES-R), also a measure of symptoms, (Weiss & Marmar, 1997) scales were used to assess secondary trauma symptoms and the Maslach Burnout Inventory (MBI; Maslach & Leiter, 2008) or a similar measure was used to assess burnout (e.g., Halbesleben & Demerouti, 2005), the shared variance was 34%. Burnout and STS in these studies were related but measured distinct constructs. Thus, when studying STS and/or burnout, it is recommended that stronger measures be utilized than the ProQOL since that measure does not distinguish between the two constructs very well. This conclusion is aligned with early research and narrative reviews of the literature regarding STS and burnout (Jenkins & Baird, 2002; Sabo, 2011; Thomas & Wilson, 2004).

Because the underlying conceptualization of compassion fatigue is fuzzy and the ProQOL measure is weak but often utilized, many researchers are confused and continue to use the terms STS and CF interchangeably. The poor conceptualization and measurement of CF and use of the terms CF and STS interchangeably muddies the understanding of findings in this area of research. Thus, descriptions of reactions to indirect trauma should be carefully delineated.

What is vicarious trauma?

Another effect of indirect exposure to trauma may be vicarious traumatization. Pearlman & Mac Ian (1995) define VT as changes in the "enduring ways of experiencing self and others and the world (p. 558)" with corresponding changes in cognitive schemas and relationships. VT originally was studied in therapists who have long-term and highly empathetic relationship with clients. In that context, VT is presumed to develop over time as a function of such relationships. VT also is believed to occur as an interaction effect among the therapist's personal trauma history, personality, interpersonal style, current stressors and supports, as well as the nature of the clientele and the type and amount of information shared.

Pearlman's measure of VT, the Trauma and Attachment Belief Scale (TABS, 2003), utilizes 84 items to assess beliefs and cognitive schemas in five areas for both self and others, mostly aligned with attachment schemas (Bartholomew & Horowitz, 1991; Bowlby, 1969). The five schema areas include:

1) *safety* - the belief that one and one's loved ones are secure and reasonably invulnerable to harm,

2) *trust* - the belief that one can trust one's own judgment and perceptions and the belief that one can rely on others,

3) *esteem* - the belief that oneself and others are valuable,

4) *intimacy* - the belief that one can feel connected to oneself and others, and

5) *control* - the belief that one can control one's own behavior and environment and the desire to be in control in social situations.

There is some research to suggest that VT may change schemas permanently and disrupt identity, self-perception, and worldview (Aparico et al., 2013).

Because the TABS is long and proprietary, other measures of VT have been offered. The Vicarious Trauma Scale (VTS; Vrklevski & Franklin, 2008) measures feelings of distress and being overwhelmed by working with traumatized clients but does not measure changes in cognitive schemas (Vrklevski & Franklin, 2008). Further, even though study participants completed both the VTS and the TABS measure, no attempt was made to assess the convergent validity between the two measures, nor has convergent validity been assessed in subsequent studies (e.g., Benuto et al., 2018).

Another measure of vicarious traumatization (Middleton & Potter, 2015) was developed in 2011 (Middleton, 2011). One item assesses an aspect of trust of others included in the Pearlman measure ("*Due to the nature of my work, I am less likely to trust others.*") but not the other areas of trust. Two items measure an outcome of

VT ("*My work negatively impacts how I function in my personal life.*" "*Due to the nature of my work, I am more irritable with my loved ones.*"). The final item taps into one of the 17 symptoms of PTSD ("*My work leaves me feeling emotionally numb.*"). Neither of these measures is a sufficient substitute for the TABS and unfortunately may perpetrate the conflation of STS and vicarious traumatization in the literature (Branson, 2019; Molnar et al., 2017).

Why is STS important?

STS impacts the sense of well-being in staff and is a concern in and of itself for that reason. Because STS involves dysregulation of emotions that can affect cognition and relationships, all three of these outcomes can impact the engagement of the children and families that child welfare workers are tasked to help. In addition, STS may disrupt engagement of collaborators, the ability to think clearly, critically, and decisively while assessing risk and safety, as well as the ability to make fair judgments and decisions. STS has been found to be associated with staff turnover as well (e.g., Barbee et al., 2018).

What is associated with STS?

Two meta-analyses examined predictors of STS. Hensel et al. (2015) examined 17 potential predictors of STS across 38 studies using meta-analytic techniques. They found the biggest effect sizes involved (1) occupational exposure to traumatized clients, (2) personal trauma history, (3) work support, and (4) social support. Three measures of caseload were examined to capture occupational exposure: caseload volume, caseload frequency, and caseload ratio and the latter was strongest. This finding means that the proportion of traumatized clients or proportion of time spent working with trauma survivors may matter more than the actual number of traumatized individuals on one's caseload or frequency of support given to them. For personal trauma history, the highest effect sizes were reported for therapists with a personal history of intimate partner violence or sexual abuse working with victims of the same types of violence or those with a personal history of childhood trauma working with children. Work support and social support both mitigated STS.

Baum, Rahav, & Sharon (2014) conducted a meta-analysis of gender differences in STS among those in close relationships with trauma victims (e.g., spouses, parents, children, and therapists). All of the twelve studies showed women had higher susceptibility to secondary traumatization, including the four studies that examined professionals. However, subsequent studies of professionals since 2013 find mixed results with women (Brady, 2017; Ivicic & Motta, 2018; Letson et al., 2020; Tehrai, 2016; Quinn, Ji, & Nickerud, 2019) or men (Johansen et al. 2019; Sprang, Craig, & Clark, 2011) being more prone to STS. Other studies found no gender differences (Ercevik, 2019; Hopwood et al., 2019; MacEachern et al., 2019; Padmanabhanunni, 2019; Penix et al., 2019; Salloum et al., 2015; Strolin-Goltzman et al., 2020; Teel et al., 2019; Turgoose et al., 2017). Thus, it is unlikely that gender is a major driver of STS.

What interventions reduce secondary traumatic stress?

Bercier & Maynard (2015) conducted a systematic review of interventions for STS with the mental health workforce. In the literature review, it was found that interventions either target individuals or organizations. Individual interventions include (1) traditional individual or group therapy, (2) crisis debriefing, or (3) an accelerated recovery program that offers helpers the opportunities to learn how to reduce negative arousal. Organizational interventions include (1) provision of supervision, (2) workshops, and (3) supportive organizational cultures (Inbar & Ganor, 2003). Of the 159 full reports that were screened, seven seemed promising, but all were found to be ineligible for inclusion in a rigorous review due to flaws in methodologies. Thus, research is needed to rigorously test these types of interventions to ascertain if any significantly reduce STS.

The case of Critical Incident Stress Management (CISM) as an intervention to prevent or reduce STS

Four literature reviews, two of which were meta-analyses, were published between 1999 and 2004. The reviews were conducted by the developers of Critical

Incident Stress Management (CISM) which is an intervention aimed at professionals interacting with trauma victims. The authors found moderate (Everly, Boyle, & Lating, 1999) to strong (Everly, Flannery & Eyler, 2002) effect sizes in their meta-analyses. The first meta-analysis examined a component of CISM that focuses on the structured discussion of a crisis or traumatic event in a group setting- the critical incident stress debriefing (CISD). In crisis debriefings participants share their cognitive, affective, and physical reactions to the event. Since it occurs in a group setting, participants often offer one another social support, normalize reactions, and offer strategies about healthy ways to manage stress. In the Mitchell CISM model, CISD is designed to be a component of a larger intervention program but sometimes happens in isolation. Everly, Boyle & Lating (1999) conducted a meta-analysis on the topic of group psychological debriefings (various forms of CISD) that occurred in 10 studies. The outcomes measured were PTSD symptoms (8 studies) and psychological distress (e.g., depression, anxiety, stress, poor health measured in 5 studies). Outcomes were combined for analysis. The effect size was moderate, and the authors concluded that these group psychological debriefings were effective in alleviating psychological distress in emergency care providers (e.g., EMS, police, soldiers, fire fighters).

Everly, Flannery & Mitchell (2000) conducted a subsequent literature review of the full CISM model which spans the crisis continuum by conducting precrisis preparation and training before a crisis occurs, large scale strategies to address disasters, individual crisis counseling and group debriefing during the acute phase of a crisis (either during or immediately following) and post-incident ongoing discussions and/or individual referrals after the crisis has passed. They concluded that while there were some methodologically strong studies of CISM showing positive outcomes, more rigorous research with close attention to implementation was called for. The narrative review was followed by another meta-analysis of eight studies of CISM, six of which were conducted by one or more of the authors (Everly, Flannery & Eyler, 2002) yielding strong effects as well. The Flannery and Everly (2004) review of 20 studies published on CISM after the 2000 paper also showed positive results but

noted that the same methodological issues remained.

Interesting as those results were, the studies did not effectively critique or control for the varying methodologies of the studies included in their meta-analyses. As a consequence, scholars criticized the rigor of the studies included in these reviews (Everly, Flannery & Mitchell, 2000; Flannery & Everly, 2004) and meta-analyses. Subsequent studies found that CISD, when aimed at individuals, can be harmful (e.g., Roberts et al., 2010; Rose et al., 2002; van Emmerik et al., 2002).

Tuckey (2007) noted that, since most people exposed to secondary trauma recover, rigorous research should compare those exposed to the same traumatic event who did and did not participate in a group debriefing session. Such research should involve a carefully constructed Randomized Control Trial (RCT) comparing these groups while controlling for pre-existing factors known to affect subsequent STS, such as trauma history. She delineated 15 recommendations to improve research in this area. In 2014 Tuckey and Scott conducted an RCT and found that, when controlling for pre-intervention scores (post-traumatic stress, psychological distress, quality of life and alcohol use), volunteer fire fighters randomly assigned to CISD vs education or screening after the same traumatic event showed an effect on an important outcome measure by ingesting significantly less alcohol. The CISD group also had significantly better post-intervention quality of life than those in the education group. There was no significant difference between groups on post-traumatic stress or distress. So, the CISD may broadly benefit general functioning.

Further evidence of this impact can be found in the systematic review portion of a larger study that included the review and a meta-analysis (Maglione et al., 2022). The meta-analysis assessed the quality of studies and grouped studies by setting (e.g., in a combat zone), type of personnel (military vs. law enforcement vs. first responder), and outcome measured (e.g., PTSD) on a wide variety of combat and operational stress control (COSC) interventions. The meta-analysis included 16 RCTs and 13 cohort comparisons. Ten of the studies had high risk of bias. Most studies (N = 24) assessed interventions aimed at military personnel. The broader systematic review

found that these types of interventions decreased stress and absenteeism and increased the ability to return to work. Yet, there was no significant impact on preventing or decreasing PTSD in the meta-analysis (Maglione et al., 2022), although the study that did show an effect utilized Eye Movement Desensitization and Reprocessing (EMDR) immediately after the incident (Wilson et al., 2001). Thus, while a broad range of COSC interventions can improve functioning, they do not seem to routinely affect PTSD. More research is needed to further understand the benefits of such interventions, why PTSD/STS is not generally affected and what interventions do affect PTSD/STS.

QIC-WD Takeaways

- Secondary Traumatic Stress is most clearly defined as exposure to indirect trauma and measured as PTSD *symptoms*.

- Because it is important to keep the constructs of burnout and STS separate, compassion fatigue, which is poorly defined and measures and conflates STS and burnout, should not be used as an umbrella term for indirect trauma any longer.

- STS should not be measured using the subscale in the ProQOL because it is missing almost half of STS symptoms and described other symptoms in muted terms.

- Burnout is a well-developed construct with several strong measures that should be used to capture the impact of normal workplace stressors, distinct from STS but also problematic for the workforce including those working with traumatized clients.

- Vicarious traumatization is a distinct outcome (from STS) of repeated exposure to indirect trauma that changes cognitive schemas particularly about relationships. A nonproprietary measure is needed to promote research regarding this important outcome of exposure to indirect trauma.

- The major predictors of STS are caseload ratio and frequency, personal trauma history, work support, and social support.

- While some older studies examining the relationship of gender to STS find that women experience STS more than men, most of those studies focused on women whose relatives were traumatized, rather than on professionals. More recent studies show mixed results or no differences between men and women.

- The only interventions to reduce STS that have been rigorously tested focus on how to help mitigate adverse outcomes when professionals are exposed to critical incidences of severe trauma (e.g., natural disasters, saving people from a raging fire, seeing fellow soldiers die in battle) rather than the day-in-day-out exposure to a wide variety of types and severity of trauma affecting children and/or members of their families that child welfare, domestic violence, child advocacy center staff and similar workforces deal with daily. Research shows that these CISM interventions can help general functioning but do not seem to affect PTSD. One promising intervention, EMDR, given immediately after the incident, has been found to reduce subsequent PTSD symptoms but needs to be studied further.

- More research on managing critical incidences is needed.

- No definitive studies have been conducted on interventions that aim to help the members of the child welfare and other human service workforce manage their daily trauma exposure. Rigorous research is needed to test the efficacy of those types of interventions.

Table 1

Secondary Traumatic Stress Scale (Bride)	ProQOL STS Measure	PRoQOL Burnout Measure	MBI Burnout Measure
6) Reminders of my work with clients upset me. (Intrusion)	I am preoccupied with more than one person I help.		1. I deal very effectively with the problems of my clients. (PA)
8) I feel jumpy. (Arousal)	I jump or am startled by unexpected sounds.		
7) I have little interest in being around others. (Avoid)	I find it difficult to separate my personal life from my life as a helper.		
2) My heart starts pounding when I think about my work with clients. (Intrusive)	I think that I might have been affected by the traumatic stress of those I help		
15) I am easily annoyed. (Arousal)	Because of my helping, I have felt "on edge" about various things.		
5) I feel discouraged about the future. (Avoid)	I feel depressed because of the traumatic experiences of the people I help.	I am happy. (R)	
3) It seems as if I am reliving the trauma experienced by my client(s). (Intrusive)	I feel as though I am experiencing the trauma of someone I have helped.		
12) I avoid people, places, or things that remind me of my work with clients. (Avoid)	I avoid certain activities or situations because they remind me of frightening experiences of the people I help.		2. I feel I treat some clients as if they were impersonal objects. (D)
10) I thought about my work with clients when I didn't intend to. (Intrusion)	As a result of my helping, I have intrusive, frightening thoughts.		
17) I notice gaps in my memory about client sessions. (Avoid)	I can't recall important parts of my work with trauma victims.		
4) I have trouble sleeping. (Arousal)		I am not as productive at work because I am losing sleep over traumatic experiences of a person I help.	
11) I have trouble concentrating. (Arousal)			
16) I expect something bad to happen. (Arousal)			
1) I feel emotionally numb. (Avoid)		I am a very caring person (R)	5. I've become more callous towards people since I took this job. (D)
9) I am less active than usual. (Avoid)		I feel worn out because of my work as a helper.	
14) I want to avoid working with some clients. (Avoid)		I feel connected to others. (R)	6. I feel I'm positively influencing other people's lives through my work. (PA)
13) I have disturbing dreams about my work with clients. (Intrusion)			
		I have beliefs that sustain me. (R)	8. I don't really care what happens to some clients. (D)
		I am the person I always wanted to be. (R)	7. Working with people all day is really a drain for me. (EE)
		I feel "bogged down" by the system.	3. I feel emotionally drained from my work. (EE)
		I feel overwhelmed because my case [work] load seems endless.	9. I feel exhilarated after working closely with my clients. (PA)
		I feel trapped by my job as a helper.	4. I feel fatigued when I get up in the morning and have to face another day on the job. (EE)

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