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Defining Secondary Traumatic Stress and Developing Targeted Assessments and Interventions: Lessons Learned From Research and Leading Experts

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Secondary traumatic stress (STS) impacts many helping professionals and staff who are indirectly exposed to the graphic details of others' traumatic experiences and to the posttraumatic stress symptoms of those persons. A nascent but growing database documents the nature and effects of STS, but no consensus definition exists for STS. As a result, there has not been a systematic program of research and development for STS preventive, and ameliorative interventions. Current STS interventions tend to focus on generic wellness, health promotion, workplace safety, worker morale, and self-care rather than addressing the specific effects of indirect exposure to others' traumatic events or traumatic stress reactions. To address this gap, a scientific meeting of STS experts convened to consider the science regarding STS interventions and to create an agenda for advancing the field toward the development of evidence-based treatments for posttraumatic stress disorder following indirect exposure. This article reports on meeting findings, reviews the evidence supporting treatment of STS, and identifies symptom targets, best practice treatment approaches, and strategies for moving the field forward.

Keywords: secondary traumatic stress, vicarious trauma, secondary traumatic stress intervention, secondary traumatic stress assessment

An expanding body of research evidence suggests that indirect or vicarious exposure to traumatic stressors can have a negative impact on professionals, paraprofessionals, and staff who provide services to trauma survivors, and that these secondary traumatic stress (STS) reactions can be distinguished from other types of occupational stress reactions (Beck, 2011; Cieslak et al., 2014).

However, advancement in research, prevention, and intervention with STS has been hampered by inconsistencies in the way the construct is conceptualized and measured. In addition, a very limited evidence base exists for interventions that have been proposed to ameliorate STS (Molnar et al., 2017). For example, Bercier and Maynard's (2015) systematic review of 4,000 citations and 159 written reports on STS interventions found that not a single study met acceptable methodological criteria. To address these concerns, this review will provide an overview of the definitional and research issues involved in conceptualizing STS, in developing assessments, and in crafting interventions to prevent or ameliorate the adverse effects of indirect exposure to traumatic stressors.

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Defining the Effects of Indirect/Vicarious Exposure to Traumatic Stressors

A number of different terms and definitions are applied to the concept of STS. Figley (1993) used the term compassion fatigue, which is characterized by feelings of helplessness, confusion, isolation, numbness or avoidance, and persistent arousal in those who interact with traumatized individuals. Even in this initial conceptualization, there was recognition that the constellation of reactions characterized as compassion fatigue overlapped with posttraumatic stress disorder (PTSD) symptoms. Later, Figley (1995) defined STS as a syndrome of symptoms that were nearly identical to PTSD, but suggested that compassion fatigue was a

less stigmatizing way to describe this phenomenon. Consequently, throughout the research literature, the terms compassion fatigue and STS are used interchangeably, although the latent constructs tapped by the measures used in related investigations sometimes differ (Bride, Robinson, Yegidis, & Figley, 2004; Devilly, Wright, & Varker, 2009; Salston & Figley, 2003; Stamm, 2010).

Pearlman and Saakvitne (1995) took a different approach to describing the impact of indirect or vicarious exposure to traumatic stressors, using cognitive self-development theory to develop the concept of vicarious traumatization. Vicarious traumatization was described as the cumulative impact of learning about the details of clients' traumatic experiences on a professional, and specifically the alterations in an individual's cognitive schemas and systems of meaning that may occur as a result (Pearlman & Saakvitne, 1995).

At least in part as a result of this terminological uncertainty, very few, if any, efficacy studies have investigated interventions for STS, and those strategies suggested in the literature do not target traumatic stress symptoms directly and/or have not been tested exclusively with those suffering from indirect exposure to traumatic stressors (Bercier & Maynard, 2015; Molnar et al., 2017; Shoji et al., 2015). More recently, current perspectives on treating STS have been enhanced by diagnostic criteria for PTSD defined in the *Diagnostic and Statistical Manual, Fifth Edition (DSM-5)*; American Psychiatric Association, 2013), where the criterion defining a traumatic event was expanded. This new definition explicitly includes "experiencing repeated or extreme exposure to aversive details of . . . traumatic events (e.g., first responders collecting human remains; police officers repeatedly exposed to the details of child abuse)" (American Psychiatric Association, 2013, p. 271). This affirmation that indirect exposure can constitute a traumatic event points to the opportunity to align clinical investigations on STS intervention with decades of existing research on efficacious and effective treatments for PTSD. It should be noted, however, that the PTSD Criterion A is more limited than that proposed for STS because the latter may develop with exposure to aversive details that may be neither repeated nor extreme. The relationship between STS symptom development, severity, impairment, and chronicity with the amount of repetition and the extremity of exposure is an important empirical question. The posttraumatic stress symptoms related to secondary trauma exposure may vary from mild to subclinical to clinically significant and, in the latter, may lead to functional impairment similar to that in PTSD. However, these symptoms would not constitute a *DSM-5* PTSD diagnosis unless the exposure was repeated or extreme. Therefore, attention to STS as a phenomenon that may parallel PTSD but is not always reducible to PTSD (and therefore may be missed or left untreated despite potentially causing substantial impairment in providers' lives and professional work) is warranted.

If the symptoms of STS are severe enough, then functional impairment related to intrusion, avoidance, alterations in cognitions and mood, and reactivity would suggest that evidence-based trauma treatments could be indicated to treat STS. However, the evidence that these advances are being applied to the treatment of STS is limited, and the current inventory of approaches for addressing the condition tends to fall under the category of education and training, wellness enhancement, and general health promotion strategies (Molnar et al., 2017).

To address this gap, a scientific meeting of STS researchers,¹ clinicians, trainers, and policymakers convened on October 5, 2017 (University of Kentucky Center on Trauma & Children, 2018) to systematically consider the state of science regarding STS interventions and to create an agenda for advancing the field toward the development of evidence-based treatments for PTSD resulting from indirect exposure. Based on the expert input from that meeting, this article provides a review of the current science regarding the treatment of STS, the symptom targets and current best practice approaches to address STS, and strategies for moving the field forward.

Challenges and Opportunities for the Assessment, Prevention, and Treatment of STS

Assessment of STS

A first challenge to addressing STS is the measurement of the phenomena that constitute the condition. A variety of instruments have been used to measure STS. The most widely cited of these are the Professional Quality of Life Scale (Stamm, 2010) and the Secondary Traumatic Stress Scale (STSS; Bride et al., 2004). The 30-item Professional Quality of Life Scale is a revision of Figley's (1995) Compassion Fatigue Self-Test reflecting Stamm's conceptualization of professional quality of life as encompassing the constructs of STS, burnout, and compassion satisfaction. However, exploratory and confirmatory factor analyses and other psychometric investigations have produced equivocal findings regarding the utility of the 30-item set and the reliability and validity of the subscales (Circenis, Millere, & Deklava, 2013; Craig & Sprang, 2010; Hemsworth, Baregheh, Aoun, & Kazanjian, 2018; Shen, Yu, Zhang, & Jiang, 2015). The STSS was designed to be congruent with the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision's* (American Psychiatric Association, 2013) diagnostic criteria for PTSD but worded specifically to capture the experience of persons who work with a traumatized population and thus those whose exposure to trauma is indirect. Given that the original conceptualization of STS was derived from systems theory and considers the professional in an ecological context (Ludick & Figley, 2017), the scope of symptoms represented on the STSS (i.e., focusing only on traumatic stress symptoms) is narrow.

Two additional instruments, the Trauma Attachment Belief Scale (Pearlman, 2003) and the World Assumptions Scale (Janoff-Bulman, 1989), were not designed specifically to assess reactions to indirect exposure to traumatic stressors or stress reactions but are nonetheless used in the literature to measure aspects of STS. The 84-item Trauma Attachment Belief Scale, a revision of the

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Traumatic Stress Institute (TSI) Belief Scale, is designed to measure the impact of trauma on an individual's beliefs regarding control, safety, trust, esteem, intimacy, and control. The 32-item World Assumptions Scale is designed to measure changes in the worldview of traumatized individuals in the domains of "benevolence of the world," "meaning of the world," and "self as worthy."

Whereas these instruments can be used to assess the extent and nature of STS and the outcomes of interventions for STS, they present several limitations. Although each instrument measures an aspect of STS, no single instrument is currently available that provides coverage of the entire domain of STS (Bride, Radey, & Figley, 2007; Molnar et al., 2017). Further, none of the instruments is designed to measure impairment in functioning that results from indirect exposure to traumatic stressors, which is another criterion needed to distinguish STS that does not warrant clinical intervention versus clinically significant STS. Finally, although evidence of internal consistency as well as convergent, discriminant, and construct validity has been provided for some STS measures, other key psychometrics have not been described, including temporal stability, interrater reliability, and criterion validity. Thus, the development of comprehensive validated measures to assess STS is a crucial priority. Such measures are essential to identify potential mechanisms of action underlying the development of STS that can serve as targets for STS interventions.

Risk and Protective Factors as Potential Targets for STS Interventions

In the absence of an empirical base for assessing STS, clinicians and investigators must draw on relevant findings from related clinical science to establish targets for STS interventions. Research on risk and protective factors of STS and its associated constructs (e.g., burnout, compassion fatigue, and vicarious trauma; Newell, Nelson-Gardell, & MacNeil, 2016) suggests a number of potential targets for intervention (see Turgoose & Maddox, 2017, for a recent systematic review). Given the positive correlation between STS and sheer volume of witnessed or other indirect trauma exposure among those whose work focuses on survivors (Deighton, Gurriss, & Traue, 2007; Tosone, Minami, Bettmann, & Jaspersen, 2010; Udipi, Veach, Kao, & LeRoy, 2008), the "dose" of indirect exposure in professionals' workload is a likely risk factor. Maladaptive coping strategies, such as emotion- versus problem-focused coping, self-criticism, and relinquishing control, also are correlated with higher levels of STS (Thompson, Amatea, & Thompson, 2014; Udipi et al., 2008; Zeidner, Hadar, Matthews, & Roberts, 2013) and could serve as risk-related targets for STS intervention. Other risk factors identified include the professional's own trauma history (Caringi et al., 2015), an interaction between an individual's characteristics and the level of organizational and socioenvironmental risk (VanBergeijk & Sarmiento, 2006), level of peer and organizational support (Bride, Jones, & MacMaster, 2007), and years of professional experience (Craig & Sprang, 2010).

Several characteristics have been identified as protective factors mitigating the risk of STS. Dispositional mindfulness is inversely correlated with STS in cross-sectional studies involving mental health professionals (Thieleman & Cacciatore, 2014; Thomas & Otis, 2010; Thompson et al., 2014), as has emotional self-awareness (Killian, 2008). Social support has been associated with

lower levels of STS (MacRitchie & Leibowitz, 2010), as have positive perceptions of the supportiveness of the work environment (Thompson et al., 2014) and compassion satisfaction, the perception that one's work is effective and valued (Robins, Meltzer, & Zelikovsky, 2009; Rossi et al., 2012; Thomas & Otis, 2010; Thompson et al., 2014; Udipi et al., 2008). Although a history of direct trauma exposure has been implicated in vulnerability to STS (Ivicic & Motta, 2017), resolution of PTSD related to those past traumatic exposures is associated with lower levels of self-reported STS (Creamer & Liddle, 2005; Hargrave, Scott, & McDowall, 2006).

Work-related protective factors also have been identified. Counselors' perceived self-efficacy, competence, and subjective sense of having the necessary skills to do their jobs have been found to be inversely correlated with STS (Finklestein, Stein, Greene, Bronstein, & Solomon, 2015; Ortlepp & Friedman, 2002; Prati, Pietrantonio, & Cicognani, 2010). Professional training in trauma-informed care has been shown to be associated with compassion satisfaction among mental health workers (Sprang, Clark, & Whitt-Woosley, 2007), and the utilization of evidence-based practices is related to lower levels of compassion fatigue and burnout among trauma therapists (Craig & Sprang, 2010). In addition, qualitative data indicate that effective supervision and processing are considered essential for addressing STS by clinicians (Killian, 2008) as well as by trauma-exposed paraprofessionals (Dierkhising & Kerig, 2018).

These findings are consistent with emerging knowledge regarding the protective factors that promote resilience more broadly (Grych, Hamby, & Banyard, 2015; Hamby, Grych, & Banyard, 2018), including those in the domains of self-regulation (e.g., emotional awareness, emotional regulation, and adaptive coping), interpersonal strengths and resources (e.g., generativity, compassion, and social support), and meaning-making (e.g., maintaining a sense of optimism, purpose, and finding meanings consistent with personal, family, and moral beliefs). However, the risk and protective factor studies are entirely cross-sectional and correlational. Thus, the causal direction may well be reversed, such that those who are lower in STS go on to engage in more adaptive coping strategies, are more mindful and emotionally aware, seek out more social support, seek opportunities for training in evidence-based practices, and perceive themselves as more efficacious and their work as more satisfying in comparison with those who have more severe STS reactions. In addition, experts note that STS also tends to be measured at a single time-point, despite an absence of evidence that STS is a stable phenomenon over time. Importantly, as well, none of these studies demonstrated that the introduction of these purported protective factors results in the lowering of levels of STS over time. In addition, both STS and the putative risk/protective factors may be the product of mediating or moderating variables such as dispositional positive or negative affect, personal or professional self-efficacy, affect regulation abilities, social competence, or organizational or professional infrastructures, policies, and resources.

Emerging Interventions for STS

Despite the lack of a strong evidence base to inform STS assessment and intervention, the significance of the problem is sufficiently recognized that a number of STS interventions have

been launched. In addition to clinical descriptions of strategies for intervening with STS (Figley, 2002; Saakvitne & Gartner, 2017), several self-help programs have been published, either specifically targeted to therapists (Bush, 2015; Skovholt & Trotter-Mathison, 2016) or to a wider range of professionals indirectly exposed to traumatic stressors or stress reactions (Baranowsky & Gentry, 2003; Mathieu, 2012; van Deroort Lipsky, 2009). In addition, more formalized structured workshops and in-person and online trainings have been offered, which also vary in terms of whether they are oriented toward clinicians (Miller, 2016), disaster workers/first responders (Gentry, Baranowsky, & Dunning, 2002), or a wider range of trauma-exposed non-mental health professionals (Kerig, 2018) and organizations (Fisher, 2015). Although self-care and wellness promotion are the most common features of all STS interventions, Bober and Regehr (2006) found that, in a study of 259 therapists working with trauma survivors, participation in these trainings did not result in more time spent in self-care activities, nor did these activities result in decreased STS.

The role of professional skill development as a key factor in STS prevention and reduction was highlighted in one of the only randomized controlled trials of an STS intervention that has been conducted to date. In this study, Berger and Gelkopf (2011) provided a skills-based psychoeducational curriculum to maternal and infant care nurses working in war zones. In comparison with those randomly assigned to a waitlist condition, immediately after the 12-week program, nurses who participated in the intervention reported significantly greater decreases in compassion fatigue and burnout, as well as increases in compassion satisfaction and professional self-efficacy, compared with those on the wait-list. Although the durability of these effects over time following the intervention, and the effects on participants' actual (as opposed to self-reported) professional performance and personal well-being, were not assessed, this study provides preliminary evidence of the efficacy of an STS intervention focused on psychoeducation with

a population of providers characterized by high levels of STS. Table 1 provides a summary of current or emerging interventions to address STS.

Proposed Future Directions for STS Definition, Assessment, and Intervention

This review suggests that methodologically robust research studies are needed to identify effective interventions for ameliorating STS. In addition, the outcomes targeted by STS interventions should not be limited to the kinds of professional and personal self-care that have traditionally been the focus of interventions to prevent or reduce burnout. In the scientific meeting on STS, a series of expert focus groups were conducted to (a) clarify the definition of STS and targets for STS intervention, and (b) identify current best practice strategies that warrant investigation for the prevention and amelioration of STS. These deliberations provide further context and meaning to the literature presented earlier.

Defining STS

The expert panel viewed STS as a construct that is directly related to, or potentially closely parallels the structure of, the *DSM-5* symptoms of PTSD, that is, intrusive reexperiencing, avoidance, alterations in arousal and reactivity, alterations in cognitions and mood, and dissociation. There was concern that some responses to indirect exposure to traumatic stressors or stress reactions extend beyond the PTSD symptom clusters (i.e., moral distress, decreased empathy, diminished professional self-efficacy, and feeling stigmatized). Therefore, an additional domain of associated features was included in focus group discussions to address these potential alterations in personal and professional systems of meaning.

PTSD involves the involuntary reliving of traumatic events in the form of conscious or unconscious memories and flashbacks,

Table 1
Current and Emerging Interventions for Secondary Traumatic Stress (STS)

Intervention	Target participants	Empirical support to date
Well Baby Clinic Staff Preparedness Program (Berger & Gelkopf, 2011)	Nurses working in war zones	Randomized controlled trial: Pre-post declines in STS and burnout; increases in compassion satisfaction and professional self-efficacy (Berger & Gelkopf, 2011)
Abbreviated Mindfulness-Based Stress Reduction training (Fortney, Luchterhand, Zakletskaia, Zgierska, & Rakel, 2013)	Primary care physicians	Observational study: Pre-post declines in stress and burnout sustained over 9 months (Fortney et al., 2013)
Trauma Affect Regulation: Guide for Education and Therapy (TARGET/T-4) (Ford, 2015). Note that T4 has been adapted as a training/educational presentation that focuses on provider recognition of STS and self-care.	Juvenile justice staff	Quasi-experimental studies: Pre-post reductions in youth behavioral incidents and use of restrictive/coercive sanctions by staff, and increased youth and staff satisfaction with program services (Ford & Hawke, 2012; Marrow, Knudsen, Olafson, & Bucher, 2013)
Resilience for Trauma-Informed Professionals (Kerig, 2018)	Non-mental health professionals working with traumatized clients	Observational study: Positive responses in program evaluation with gang intervention workers (Dierkhising & Kerig, 2018)
Sanctuary Model (Bloom & Sreedhar, 2008)	Staff and clients in mental health settings	Observational study: Implementation associated with increased staff morale and positive climate; less punitive responses to residents (Stein, Kogan, Magee, & Hindes, 2011)
Organizational Health (Fisher & Zahradnik, 2009; Fisher 2017)	Administrators and workers	None
Components for Enhancing Clinician Engagement and Reducing Trauma (CE-CERT; Miller & Sprang, 2017)	Clinical supervisors and supervisees	None

avoidance of those memories (or when avoidance failed, a reduction in conscious awareness of them, in the form of emotional numbing, relational detachment, or psychogenic amnesia), and hypervigilance as an attempt to detect any signs of recurrence and to be prepared to mobilize defensive (fight or flight) maneuvers should there be evidence of threat. These trauma-related adaptations may include altered emotions (e.g., anger, guilt, shame, and grief), beliefs (e.g., the self as irreparably damaged and helpless; the world and relationships as untrustworthy and dangerous owing to betrayal, abandonment, and exploitation; the future as unpredictable, uncontrollable, and hopeless), defensive behaviors (e.g., recklessness, self-harm, and reactive aggression), and altered states of consciousness (e.g., dissociation) that represent complex attempts to avoid and defend against both the intrusion of trauma memories and the danger of recurrences of traumatic events. Expert consensus was that STS can be understood as involving a parallel process in reaction to empathically experiencing the psychobiological impact on clients of both their traumatic event(s) and their subsequent symptoms of PTSD. Similarly, a professionals' vicarious experience of the impact that trauma has had on their clients may be compared with the traumatic effects of witnessing another person's direct exposure to traumatization in great detail—and with an added intensity resulting from the emotional connectedness and responsibility that is inherent in being in the role of a provider of support and guidance to traumatized and vulnerable help-seekers.

Intervening to Ameliorate or Prevent STS

A two-tiered approach was proposed by the expert panel as a framework for intervening preventively or therapeutically with STS: (a) universal/primary prevention on an organizational level to reduce risk factors and strengthen protective factors for all staff and professionals indirectly exposed to traumatic stressors or stress reactions, and (b) selective/secondary prevention or indicated/tertiary prevention and clinical treatment for staff and professionals who are experiencing, respectively, subclinical- or clinical-level impairment in personal or occupational functioning associated with STS.

Core elements common to evidence-based prevention (Birur, Moore, & Davis, 2017) and treatment (Bisson, Roberts, Andrew, Cooper, & Lewis, 2013) for primary PTSD may be applicable to individual-level interventions for STS. In addition to PTSD-focused interventions, motivational interviewing (Miller & Rollnick, 2012) was identified as an appropriate approach for achieving engagement in prevention programs and a therapeutic alliance in more intensive individual-level interventions to ameliorate STS-related functional impairment.

PTSD prevention interventions provide guidance for maximizing safety and minimizing unwanted exposure to traumatic stressors, psychoeducation about the symptoms of posttraumatic stress, and education about ways to reduce risk factors and enhance protective factors to prevent the expectable acute posttraumatic stress reactions from becoming chronic impairments. Adaptation of these protocols could provide nonstigmatizing information that explains how STS reactions directly parallel and involve the same stress response cycle dynamic as posttraumatic stress and PTSD, and active approaches to reducing unintended or excessive indirect

exposure to traumatic stressors or stress reactions and supporting efficacy and social support.

PTSD psychotherapy involves similar education and facilitation of effective coping, while also typically involving some form of therapeutic reexamination of trauma-related memories and the expectable trauma-related alterations in emotion, beliefs, behavior, and states of consciousness that occurred during and in the aftermath of traumatic events. Such trauma memory-processing interventions provide an alternative to avoidance and hypervigilance by enabling the client to intentionally and safely access and reconstruct memories of traumatic events as a narrative similar to (although more emotionally distressing than) other important memories (Schnyder et al., 2015). In so doing, trauma survivors are able to find meaning in the events and their aftermath and gain a sense of efficacy and control in relation to the memories and the distress they evoke. Careful therapeutic processing of those events and the effect they have on the helper can serve as a parallel means of facing (rather than avoiding) the often intensely disturbing reality of the danger and horror that can occur in life, and promote a sense of meaning and control in the knowledge that helping the client face those memories can be a crucial source of healing. It is important to remember that therapeutic (or targeted/indicated prevention) interventions for STS are indicated only for individuals who are experiencing not just STS reactions but also at least some functional impairment as a result—and only in a context of privacy that would enable frontline staff (and administrators) to feel safe from stigma or occupational repercussions.

In addition, therapeutic interventions for PTSD also provide varied forms of scaffolding of the self-regulation and relational capacities that tend to be impaired by avoidance, hypervigilance, and trauma-related alterations in emotion, beliefs, behavior, and states of consciousness (Ford, 2017). The expert panel recommended applying these principles to the treatment of STS. Psychotherapy for PTSD can enable clients to access and utilize self-regulation and interpersonal skills as a result of enabling them to understand and proactively respond to—rather than hypervigilantly avoiding—memories, emotions, and beliefs that have been altered by exposure to traumatic stressors. In addition, clients can benefit from receiving modeling and opportunities to learn (or relearn), practice, and build self-regulation and interpersonal skills into their daily lives. Although helpers tend to be knowledgeable about the importance of self-regulation and interpersonal skills—either as the result of formal learning or of life experiences—they may not recognize the impact that STS reactions expectably have on their ability to access and effectively utilize those capacities. By incorporating self-regulation and relational skills into the psychoeducation and trauma processing, STS interventions can potentially assist professionals in not only dealing with the impact of indirect trauma exposure but also strengthen the crucial skills that enable them to be effective in their work (as well as to extend those skills to their own personal lives in ways that they find helpful). Further research is needed to test the effectiveness of this application.

Components for Enhancing Clinician Engagement and Reducing Trauma (CE-CERT; Miller & Sprang, 2017) is an example of a practice model to intervene with STS that is consistent with a trauma responsive approach. CE-CERT includes experiential engagement, regulating rumination, creating an intentional narrative, reducing emotional labor, and parasympathetic recovery. Although untested, the goal of this practice approach is to facilitate the

healthy adaptation to trauma exposure in real time, so that avoidance is not necessary. CE-CERT also includes techniques for cognitive restructuring, emotion regulation, and enhancing support via peers, supervisors, or sociofamilial resources to facilitate self-reflection, safety, and affective/cognitive processing, and decreasing shame, guilt, demoralization, and isolation. CE-CERT provides a platform for intervening to target the alterations in arousal involved in STS, as well as strategies to reduce the avoidance of reminders or distress related to STS by enhancing professional mastery and competence. Table 2 summarizes the proposed intervention targets for STS that have been, or could be, incorporated into a comprehensive intervention plan.

Moving the STS Field Forward

STS is widely recognized as an important, common, and potentially impairing response on the part of providers working with clients/recipients who have histories of exposure to traumatic stressors. When STS is defined specifically as a reaction to intensive indirect exposure to clients' traumatic stressor experiences, it can be distinguished conceptually and operationally from more global problems with work stress/stressors (i.e., burnout and occupational mental health problems) and preexisting or emerging but work-unrelated psychiatric disorders. Further identification of

components that are shared with versus distinct from other related biobehavioral problems is necessary to create a nomological network that can serve as the foundation for the assessment, prevention, and treatment of STS alone and in combination with the other problems.

Definitional issues. The expert panel noted that a trauma-specific definition of STS, in contrast to the broader definition of compassion fatigue, also removes the requirement of the affected persons to experience "compassion." Compassion is not well defined and also is not necessarily experienced by (or the core driver for) stress reactions related to indirect exposure to service recipients' trauma histories. Although empathic overinvolvement with perceived victims may be reported by service providers, research is needed to determine when, for whom, and under what circumstances (e.g., different provider roles and mandates; different degrees of intensity of exposure to and severity of service recipients' trauma histories) empathic overinvolvement (or other forms of excess "compassion") is likely to be experienced by, and functionally/relationally debilitating for, service providers.

Moreover, the experts contend that a trauma-focused definition of STS provides a link between STS and the symptoms of PTSD. That link potentially facilitates clinical and research efforts to differentiate STS and PTSD and identify overlapping or common

Table 2
Proposed Intervention Targets and Identified Best Practice Approaches

Symptom domain	Proposed intervention targets by experts	Identified best practice approaches
Intrusion	<ul style="list-style-type: none"> • Distressing memories of client encounter • Distressing dreams about client's trauma • Dissociation/flashbacks of stories and images • Intense physical or psychological distress at reminders 	<ul style="list-style-type: none"> • Psychoeducation • Thought redirection • Intentional affective monitoring • Emotional regulation/tolerance strategies • Trauma memory processing/exposure • Dual awareness activities • Mindfulness • DBT
Avoidance	<ul style="list-style-type: none"> • of internal reminders (e.g., thoughts of client trauma) • of external reminders (e.g., avoiding clients and work) 	<ul style="list-style-type: none"> • Psychoeducation • Relational enhancements • Motivational interviewing • Strategies to manage ongoing trauma exposure • Self-reflection
Alterations in arousal and reactivity	<ul style="list-style-type: none"> • Irritability • Reckless/destructive behavior • Hypervigilance • Exaggerated startle response • Concentration problems • Sleep disturbance 	<ul style="list-style-type: none"> • Psychoeducation • Emotional regulation/ tolerance • CBT • Dual Awareness • Autogenics • Development of an observing self • Mental focusing • Mindfulness • Sleep hygiene • Progressive muscle relaxation
Alterations in cognition and mod	<ul style="list-style-type: none"> • Impaired memory • Exaggerated negative beliefs (e.g., professional competence) • Distorted or disrupted cognitions (e.g., stigma and safety) • Persistent negative emotions (e.g., self, work and clients) • Diminished interest in activities (e.g., work) • Feelings of detachment or estrangement (e.g., withdrawing from coworkers) • Inability to experience positive emotions (e.g., poor job satisfaction) 	<ul style="list-style-type: none"> • Psychoeducation • Cognitive restructuring • Cognitive processing • Relational enhancement • Professional skill development and competence building • Emotional regulation and tolerance

Note. DBT = dialectical behavior therapy; CBT = cognitive behavioral therapy.

symptoms for the two phenomena. To the extent that these conditions overlap, evidence-based assessments and treatments for PTSD can be applied and adapted to assess and treat STS (and conditions involving comorbid PTSD and STS). On the other hand, to the extent that STS can be distinguished from PTSD, interventions to prevent and treat STS can be developed that address mechanisms or outcomes that are not targeted by PTSD treatments. Identifying unique features of STS distinct from PTSD also may lead to the adaptation of PTSD treatments to symptoms that often are not identified in PTSD but are common sequelae of indirect exposure. For example, vicarious reexperiencing of traumas experienced by other persons and empathic overinvolvement with such perceived victims are not typically identified as symptoms of PTSD. However, these are core components of definitions of STS, including those that involve compassion fatigue as a central feature or as a potential component. Thus, the elucidation of the reactions and symptoms that constitute STS could point to clinically important variants of PTSD symptoms that had not previously been recognized.

Assessment. In regard to assessment, experts noted that progress is being made in psychometric refinement of self-report measures for STS and in the delineation of the structure and components/features of STS. However, latent class or network analyses with large-*N* data sets (Saxe, 2017) are needed to identify the linkages and boundaries between individual STS symptoms, inter-related subgroups of STS symptoms, and other mental health and burnout symptoms. Assessments measuring varied forms of psychosocial and vocational impairment have lagged behind the development of STS symptom measures, but without a link to impairment, the functional or clinical relevance of STS reactions is questionable. STS reactions associated with minimal impairment may be better conceptualized as expectable responses that could warrant the use of mitigation strategies (e.g., titrating the dose of indirect exposure to service recipients' trauma histories or PTSD symptoms) but not prevention or treatment interventions. Experts identified other assessment modalities, including intensive semi-structured interviews and ecological momentary analysis (i.e., repeated time-synchronized or random daily or several-times-daily self-reports via mobile devices), also are needed to provide a more detailed and contextualized description of STS and its development and prospective trajectories over time and across service recipients.

At the organizational level, the panel discussed the important role that supervision plays in creating space for individuals to process feelings related to vicarious exposure so these feelings can be metabolized and discharged, rather than repressed or avoided. The Secondary Traumatic Stress Core Competencies in Trauma-Informed Supervision (National Child Traumatic Stress Network, 2018) facilitates this process by operationalizing the activities associated with execution of each of the nine competencies necessary to provide quality supervision to professionals at risk of developing STS. These competencies can be used as a benchmark of skills and knowledge needed to provide effective STS supervision and as a map to resources that can address noted deficits. Further research is needed to determine the impact of this type of supervision on the development and progression of STS.

Prevention. Regarding prevention strategies, the experts convened at the scientific meeting noted that psychoeducational protocols have been developed to enable individual services providers

to recognize the types of secondary trauma exposure to which they may be exposed and both expectable and rare STS reactions that they may experience. The psychoeducation protocols tend to include elements of both universal (primary) and selective (secondary) prevention. Universal preventive STS psychoeducation tends to involve identifying common forms of indirect exposure to service recipient's trauma histories or PTSD symptoms, expectable mild STS reactions that are either transient or may serve as early warning signals, and basic precautions for titrating exposure and developing and maintaining a healthy lifestyle and relationships (Figley, 1995; Newell et al., 2016; O'Halloran & O'Halloran, 2001). Universal STS prevention interventions also have been designed to enhance services providers' professional/vocational skills and competence. Preventive STS intervention involves the identification of types of indirect exposure that increase the risk or intensity of STS reactions, including those associated with current or future functional or vocational impairment (Miller & Sprang, 2017). Research is needed to determine the actual efficacy of each of these preventive STS intervention components, alone or in combination, and the essential content or mechanisms identified by them (e.g., which STS reactions are identified as specific early warning signals for impairment vs. transient normative reactions; which health lifestyle and relationship practices). Preliminary support exists for preventive STS interventions' effectiveness in enhancing morale, workplace social climate, and provider self-efficacy as well as reducing self-reported levels of burnout and STS from moderate to mild levels (Bercier & Maynard, 2015; Berger & Gelkopf, 2011). However, much of the evidence is largely qualitative or anecdotal without any experimental controls to demonstrate efficacy and lacking long-term prospective follow-up evaluations to demonstrate sustained benefits (Molnar et al., 2017).

Organizational-level interventions for STS identified by experts during the meeting tended to involve selective prevention for high-risk services providers aimed at reducing exposure to secondary trauma (e.g., adjusting caseloads and case mix to titrate the amount of exposure to indirect trauma) or enhancing organizational supports for service providers (Bride & Jones, 2006; Carangi et al., 2015). These activities have been operationalized for measurement in the Secondary Traumatic Stress Informed Organizational Assessment (Sprang, Ross, Miller, Blackshear, & Ascienzo, 2017). This tool includes clusters of activities such as training to increase awareness and build resiliency reflective and supportive supervision, creation and maintenance of physical and psychological safety in the workplace, low-impact processing of critical incidents, and organizational policies to support the monitoring of STS. Process research is needed to determine whether the prescribed organizational changes and policies/procedures/practices are in fact implemented and, if so, by whom. Outcomes research should investigate whether these organizational interventions reduce STS and burnout and increased compassion satisfaction.

Treatment. As noted in the findings from these expert deliberations, interventions for STS tend to be adaptations of affect regulation and cognitive processing approaches to the treatment of PTSD or other stressor-related and anxiety disorders. Quasi-experimental design investigations have provided initial evidence of the effectiveness of these interventions in reducing burnout, subjective stress, and harsh disciplinary behavior by services providers (Molnar et al., 2017). Research is needed to determine whether trauma memory-processing treatments can be adapted and

are effective in ameliorating and promoting personal recovery and professional/occupational functionality with services providers who are experiencing debilitating STS that includes reactions paralleling PTSD intrusive reexperiencing symptoms. Research also is needed to develop (or adapt) and test therapeutic interventions when STS occurs comorbidly with PTSD or other preexisting or acute psychiatric or behavioral health disorders.

Conclusion

Overall, the conceptualization, assessment, prevention, and treatment of STS are very much in the early stages of scientific and clinical development. STS appears likely to affect a large number of providers of services to children, youth, adults, and families—how many, on how pervasive a basis, and with what effects on individual (personal and occupational) and organizational functioning and health remain unknown and in need of systematic investigation.

Bolstered by the acknowledgment in the *DSM-5* that indirect exposure that is repeated or extreme meets the criteria for a traumatic event, expert consensus was that the field should take advantage of several decades of trauma research that points to the most effective ways to assess and treat STS. Taking advantage of but not being limited by the conceptual sophistication of the traumatic stress framework is a probable pathway forward in the development of an effective organizational and clinical response to STS.

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