An Exploratory Study of Trauma Screening Procedures and Instruments in Schools

A Dissertation

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Abstract

As the primary setting where children access mental health services, schools represent a critical site for trauma screening and early intervention. However, the literature provides limited guidance on the technical adequacy of existing trauma screening instruments in the school context; effective practices for implementation of trauma screening procedures; and stakeholder perceptions of implementation-relevant outcomes that are associated with the actual adoption and use of trauma screening instruments. As such, this mixed-method dissertation study was designed to address three aims: (a) to examine the psychometric qualities of a brief trauma-screening tool (the University of Minnesota's TSSCA) in a school context; (b) to examining whether multiple-gating is a viable and efficient procedure for school-based trauma screening, and (3) to gather input from key stakeholder groups regarding their perceptions of the feasibility, acceptability, and appropriateness of trauma screening procedures and instruments. Results from screening administration provide confirmation of the TSSCA's reliability and factor structure when administered in the school context. Analyses of potential multiple-gating procedures suggest that the viability of multiple-gating is context specific and depends on the nature of the broad behavior screening at the first gate and school system resources. In focus groups with stakeholders, all participants perceived the TSSCA to be feasible, appropriate, and acceptable for use in schools. Feasibility was noted as a particular strength. Results from this dissertation study will contribute to the literature on school-based trauma screening as an evidence-based strategy of improving outcomes for children exposed to potentially traumatic experiences.

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Chapter 1: Introduction

Trauma and its sequelae portend serious threats to the mental health and well-being of children. In order to support resilience and promote healing for traumatized children, high quality evidence-based prevention and intervention services must be accessible in the settings in which children naturally exist, such as schools. Trauma screening is generally considered foundational to increasing children's access to relevant evidence-based mental health interventions within trauma-informed approaches to service delivery (Chafouleas, Johnson, et al., 2016; Ko et al., 2008; National Childhood Trauma Stress Network (NCTSN), 2012; Substance Abuse and Mental Health Services Administration (SAMHSA), 2014). As the main setting where children access needed mental health services, schools represent a critical setting for screening and early intervention (Costello et al., 2014). However, while the research and practical guidance on how to integrate trauma screening procedures in child-serving settings such as pediatric health care and child-welfare has matured, school-based research on trauma screening and access to early trauma-informed intervention is still in its nascent stages (e.g., Eklund & Rossen, 2016; Thomas et al., 2019). Indeed, empirical investigations of trauma screening procedures in school contexts are lacking (Chafouleas, Johnson, et al., 2016), which is a notable gap as schools are a unique child-serving setting with unique concerns around trauma screening including issues of consent, technical adequacy, feasibility, connection to services, and family privacy rights (e.g., Chafouleas, Kilgus, et al., 2010; Eklund & Rossen, 2016).

The present study sought to address specific gaps in the emerging literature on trauma screening in schools by conducting a mixed quantitative-qualitative study to

examine the feasibility, acceptability, appropriateness, and psychometric properties of the Traumatic Stress Screen for Children and Adolescents (TSSCA; Donisch et al., 2017). This introductory chapter provides a brief overview of the background literature, discusses the gaps in literature that build the case for this study, and describes the purpose of this dissertation study and its corresponding research questions.

Need for Trauma-Informed Interventions in Schools

More than two-thirds of youth experience trauma during childhood, with one-third experiencing multiple traumatic events (Copeland et al., 2007). Up to 20% of trauma-exposed youth develop post-traumatic stress symptoms or post-traumatic stress disorder (PTSD), and trauma exposure increases risk for other mental health problems (e.g., depression, substance abuse, suicide; Chapman et al., 2004). Although efficacious trauma-focused interventions exist, their use remains low (Dorsey et al., 2020). In addition, most youth with trauma-related mental health disorders do not receive access to early and timely intervention. For this reason, there has been interest among researchers, practitioners, and policymakers for the integration of trauma-informed interventions in schools.

Schools are uniquely positioned to provide youth with consistent access to mental health services by reducing access barriers, such as lack of health insurance, transportation, and mental health stigma (Bruns et al., 2016). School-based mental health has been shown to increase access to care for children from historically marginalized communities who often face the greatest barriers to accessing mental health services (Lyon et al., 2013). This is important as effective mental health services are unlikely to

produce positive benefits for children unless they are adopted and properly implemented in accessible settings, such as schools.

Substantial research has shown that trauma-related symptoms are amenable to treatment. For example, the California Evidence-Based Clearinghouse for Child Welfare, a comprehensive repository of evidence-based practices in children's mental health, has identified 21 programs in the area of child and adolescent trauma treatment with promising or more robust research evidence to support their use. Three of those programs, Eye Movement Desensitization and Reprocessing (EMDR; Adler-Tapia & Settle, 2017), Prolonged Exposure Therapy for Adolescents (PE-A; Foa et al., 2009) and Trauma-Focused Cognitive Behavior Therapy (TF-CBT; Cohen et al., 2017), meet the highest bar of empirical support that is required to receive designation as "well-supported by research evidence."

Considering the large numbers of children who have experienced early adversity and trauma, establishing interventions that are evidence-based is not sufficient to meet the needs of children who experience difficulties due to trauma. In actual practice, there is a tendency for child-serving settings to adopt reactive approaches that involve waiting for symptoms to become severe enough to qualify for targeted services, which constitutes a wait-to-fail model (Bruns et al., 2016). In order to reduce the impact of trauma exposure and likelihood of children developing more severe trauma symptoms, access to early and timely intervention is needed. In schools, early and timely intervention is a key feature of a multi-tiered system of support (MTSS).

MTSS evolved out of the public health model, which is a population-based framework that orchestrates the delivery of a continuum of services that are matched to

the underlying needs of a population (e.g., primary, secondary, and tertiary prevention: Chafouleas, Johnson, et al., 2016; Sugai & Horner, 2009). MTSS is an equity-based, needs-driven framework that guides the organization and delivery of services based on student need. At the primary level, universal supports are delivered to all children to prevent social, emotional, and behavioral problems from emerging and provide access to foundational supports that can also help reduce impairment for children who experience difficulties, such as those associated with trauma (Greenberg & Abenavoli, 2017). At the secondary level, the focus is on creating systems that provide access to early and timely targeted intervention for children demonstrating impairment due to symptoms of trauma to reduce the likelihood of more severe conditions like PTSD (Mitchell et al., 2017). An example of an intervention at the secondary level is Cognitive Behavioral Intervention for Trauma in Schools (CBITS; Jaycox, 2004), which is a small group intervention grounded in cognitive behavior therapy. Finally, the tertiary level involves more intensive, and often individualized, interventions for children experiencing more chronic, severe, or complex problems (Sugai & Horner, 2009). With regard to trauma, this may include the delivery of trauma-specific interventions for children who are experiencing clinical, diagnosable levels of impairment due to trauma symptoms, such individual treatment programs (e.g., TF-CBT; Cohen et al., 2006) and parent-child treatments (e.g., Parent Child Interaction Therapy (PCIT); Eyberg et al., 1995).

Another key concept of MTSS is data-based decision-making (Cook et al., 2010). When applied to identifying children who are in need of supports beyond those universally available, data-based decision-making involves using proactive screening to detect students who are demonstrating indicators of need for additional support in the

school population. Universal screening is the process of assessing all children to identify those who are exhibiting a need for more intensive support. When considering the integration of trauma-informed practices in schools, school-based trauma screening is a specific assessment practice designed to detect students who may be in need of specific trauma-informed intervention. Gonzalez and colleagues (2016) describe the rationale for this approach succinctly writing, "a public health approach involving school-based screening for exposure to traumatic events may maximize detection of youth at risk for a broad array of adverse outcomes, and early detection can ameliorate or prevent difficulties in emotional, behavioral, social, and academic functioning" (p. 78).

School-Based Trauma Screening

Detection is an essential first step in connecting children exposed to trauma to needed school-based mental health services (Chafouleas, Johnson, et al., 2016). Screening is a critical assessment practice for use in schools that is designed to produce data that educational professionals use to inform specific actions related to the provision of early and timely intervention (Cook et al., 2010). Screening also produces data to understand the particular base rate of a phenomenon, such as the prevalence of students exposed trauma, to secure resources and engage in capacity building. Without methods of proactively detecting whether children have an existing need, schools are likely to adopt a reactive, wait-to-fail approach (Cook et al., 2010). Trauma screening provides a specialized form of screening that is designed to determine whether a child's social, emotional, and behavioral difficulties are the result of exposure to trauma (Eklund & Rossen, 2016). If the screening instrument reveals a positive finding, then there is typically an additional diagnostic assessment to determine whether they would benefit

from a specialized trauma-informed intervention. Trauma screening facilitates service provision by producing data that guide practitioners' efforts to identify children who are experiencing difficulties and provides a starting point for hypothesis generation to identify potential root causes underlying the observed difficulties (i.e., avoidance of academic work, emotional outbursts in class) that are amenable to specific forms of intervention (Eklund & Rossen, 2016).

A number of instruments have been developed and validated to detect children who exhibit symptoms due to trauma exposure (for review see, Crandal & Conradi, 2013; Eklund et al., 2018; Strand et al., 2004) . These instruments vary in content, length, and empirical support. In a 2018 review of child and adolescent trauma screening instruments, only 18 were identified that were identified were trauma-focused, with psychometric evidence, and published after 2000 (Eklund et al., 2018). The number of items ranged from four to 78, with only three screening instruments offering 10 or fewer items, including the Child Trauma Screen (Lang & Connell, 2017), the Child Trauma Screening Questionnaire (Kenardy et al., 2006), and the PTSD scale of the SCARED Brief Assessment of Anxiety and PTSD Symptoms (Birmaher et al., 1998). Overall, based on their review of extant trauma screeners, the authors concluded that many are too lengthy, require specialized training for administration, involve detailed disclosure of potentially sensitive information, and consequently, are likely to viewed as less feasible, acceptable, and appropriate for large-scale administration in systems serving large numbers of children, such as schools (Eklund et el., 2018). For example, The University of California Los Angeles PTSD Reaction Index for DSM-5 (UCLA-PTSD-RI; Elhai et al., 2013; Steinberg et al., 2013) is a 31-item child self-report that serves as a screening

tool for assessing trauma exposure and symptoms in children and adolescents ages 7-18. The UCLA-PTSD-RI questions include items correlating to criterions B-E of the DSM-5, such as "I am on the lookout for danger" (Criterion E); "I have thoughts like 'I am Bad.'" (Criterion D) "I try to stay away from people, places, and things that remind me about what happened." (Criterion C); and "I feel like I am back at the time when the bad thing happened, like it's happening all over again." (Criterion B). Results provide a total score and scores across the four subscales of hyperarousal, negative alterations in cognition or mood, avoidance, and intrusion. A score is also provided to evaluate for the presence of dissociative symptoms. The UCLA-PTSD-RI also includes a "trauma history checklist" to help determine whether the trauma exposure criterion (Criterion A) as described by the DSM-5 has been met. This instrument is considered a "gold standard" in assessing PTSD in school age children (Donisch et al., in press). However, as a screening instrument there are limitations with regard to costs, time, and training that limit its potential use in schools. The instrument costs $3.00 per administration with a minimum of 25 administrations (for the self-report instrument; Behavioral Health Innovations, n.d.), is estimated to take between 20 to 30 minutes to administer per individual, and requires specialty training to administer and interpret (Steinberg et al., 2013).

The Child Trauma Screen (CTS; Lang & Connell, 2017) provides an alternative to the UCLA-PTSD-RI and is a ten item instrument for use with children 6 to17-years-old that is "…intended as a trauma screen for use across child serving systems" (Lang & Connell, 2018, p. 540). The CTS is free for use and includes both a parent report and a child self-report. The CTS was developed for use by professionals across a range of child-serving systems such as intake staff, clinicians, child welfare workers, juvenile

probation officers, pediatric providers, school personnel, case managers, and care coordinators without need for intensive training. The ten items of the CTS are split into two areas with four questions querying “events” which are answered yes or no and six questions querying “reactions” using a four-point frequency scale from rarely to three or more times per week. The four event questions query witnessing violence, experiencing violence, sexual abuse, and “anything else upsetting or scary” with examples and the open-ended question, “What was it?” The CTS has emerging evidence to support its use, with two studies (e.g., Lang & Connell, 2018; Lang & Connell, 2017) conducted by the instrument developers. Results suggest promising utility as a trauma-screening in clinical outpatient and child welfare setting with sensitivity and specificity of the child-self report form ranging from .83-.88 and .88-.95, respectively. On the parent report sensitivity and specificity ranged from .86-1.0 to .79-.9, respectively. However, the CTS includes sensitive information about the trauma exposure that may limit its utility as an initial trauma screener that detects students who can followed up by a more intensive diagnostic assessment that confirms whether a targeted trauma intervention is warranted.

Given the paucity of brief, simple, socially valid trauma screening instruments that assess both trauma exposure and symptomology, the University of Minnesota’s TSSCA was developed for use across a range of child-serving settings. The TSSCA was designed to provide front-line service workers (e.g., mental health clinicians, child welfare workers, educators, correctional and probation officers) with a free, brief, easy-to-administer and acceptable screening tool for children and adolescents, ages 5 to 18, who have experienced a traumatic event and may need trauma-informed services. The instrument uses five questions to measure children's traumatic stress symptomology, and

provides instructions and guidance for using the tool (Donisch et.al., in press). An initial validation study in the context of community-based mental health clinics with 130 youth produced promising evidence to suggest TSSCA is a reliable and valid instrument for trauma screening (internal consistency Ω = .81). Analyses suggested that the five items measured a unitary construct of trauma symptoms and a cut score was established that demonstrated promising evidence of sensitivity and specificity (sensitivity=82.86%, specificity=85.42%).

However, while the TSSCA potentially serves as a more feasible, acceptable and appropriate option over other trauma screeners given its cost, brevity, and usability, the TSSCA, as well as most other available trauma measures, have not been validated in the school setting. For example, measures like the UCLA-PTSD-RI and CTS are trauma screening instruments that have been designed and validated in contexts such as community-based mental health clinics and child welfare but not in schools. As mentioned earlier, schools are a unique service setting, with unique constraints and service providers. It is unclear whether the psychometric properties of the TSSCA and other trauma instruments will hold when administered in a other child-serving setting like schools. Moreover, it is unclear whether stakeholders find it to be feasible, acceptable, and appropriate relative to other trauma screeners.

Gaps in the Literature

Although the literature on school-based social, emotional, and behavioral screening is growing, there is limited research on school-based trauma screening procedures and instruments (Woodbridge, et al., 2016). Specific concerns facing schools around universal trauma-screening procedures include questions of consent,

developmental appropriateness of screening measures, the availability of reliable and valid screening measures, the time and resources required for administration, and linking children in need to appropriate care (Eklund & Rossen, 2016). While studies have been conducted using modified universal trauma screening procedures in school (e.g., Gonzalez et al., 2016; Woodbridge et al., 2016), the focus of prior research has been on examining the prevalence of trauma exposure and symptomology in schools or testing the effects of trauma-focused interventions (e.g., CBITS). Research has not explicitly focused on evaluating the psychometric properties and implementation-relevant aspects of trauma screening procedures.

The external validity of existing trauma screening instruments is limited, as most have not been developed for nor validated in school settings. As a result, the literature provides limited guidance on whether the underlying factor structure, technical adequacy, and classification accuracy of existing trauma screeners generalize to the school context. For example, the TSSCA has only been evaluated in one study within the context of community-based mental health clinics. There is a need for a confirmatory approach that aims to cross-validate the underlying factor structure of existing instruments when administered in a unique service setting (i.e., schools) with a unique sample of youth. Moreover, it is important to examine the reliability and validity of instruments to establish evidence to support their construct validity and score interpretations. Examining evidence of convergent and divergent validity can help demonstrate whether the TSSCA score is associated with other constructs to which it should be more and less related. For example, the TSSCA score should be more related to other trauma screening measures, particularly those that also involve self-report as there is overlap in constructs and

method. On the other hand, the TSSCA score should be less related to measures of different constructs, such as academic engagement. Consistent with Eklund and colleagues' (2018) definitions, there is a need to establish evidence in support of the efficacy (i.e., validity) of trauma screeners when administered in schools, such as the TSSCA.

While universal screening that involves the administration of a broad social, emotional, and behavioral screening instrument is often advocated as a comprehensive approach to detect students who have a need for intervention, concerns have been raised as to whether universal trauma screening is warranted and appropriate in schools. For example, school staff may raise concerns about increases in mandated reporting or the inability to provide intervention for all students who are detected as having trauma related symptoms (Reisbergs & Fefer, 2018). One alternative to universal trauma screening in schools that may be more feasible, appropriate, and acceptable is multiple-gating. Multiple-gating involves administering a series of more progressive assessments to detect children who have specific needs for intervention. When applied to trauma, a multiple-gating procedure would involve first the administration of universal screening to detect students who are exhibiting social, emotional, and behavioral needs followed by more targeted trauma screening for those children who are detected as having a need by the first gate. Such an approach potentially provides a more feasible, acceptable, and appropriate approach than universal trauma screening in schools. However, the viability of multiple-gating to identify children experiencing trauma symptoms is unknown. Research is needed to examine whether broad-based behavioral screeners identify students who are subsequently detected as positive by a trauma screener and determined

to be in need of trauma-informed intervention.

In addition to verifying the psychometric adequacy of trauma screening instruments for use in schools, additional research is needed to explore stakeholder perceptions of implementation-relevant outcomes that are associated with the actual adoption and use of trauma screening instruments. For example, there is a need for research that attends to the feasibility of trauma screening in schools, including different instruments and methods to optimize buy-in among staff, youth and diverse families (Woodbridge et al., 2016). Further, these extant instruments tend to include sensitive content that may pose challenges when administered in the school setting which may negatively affect the acceptability and appropriateness of particular measures for key stakeholders within the contexts of schools. For example, Eklund et al. (2018) noted concerns related to acceptability, "…in one study examining the rate and impact of traumatic events using a modified administration of a trauma screening tool, the administrators of the school asked that any questions related to sexual abuse be removed due to the nature of such questions…" (p. 40). These authors also pointed to a finding consistent with other research (e.g., Woodbridge et al., 2016), indicating that less than half of caregivers provided consent to participate. It is imperative to explore the feasibility, acceptability and appropriateness of school-based screening instruments and procedures from an implementation standpoint to determine whether trauma screening instruments are likely to be translated into routine practice in schools.

Dissertation Study Aims and Research Questions

In light of the above gaps in the literature, this dissertation study was designed as a mixed qualitative and quantitative study to address three aims. The first aim sought to

examine whether the findings from the initial validation study on the TSSCA generalize to the school context. The second aim focused on examining whether multiple-gating is a viable and efficient procedure for school-based trauma screening and identifying the best screening data to use. The third aim was to gather input from key stakeholder groups (staff, parents, and students) regarding their perceptions of the feasibility, acceptability, and appropriateness of trauma screening procedures and instruments. Each of the study aims corresponded to the following three research questions.

(1) Are the findings of the initial validation study for the TSSCA (e.g., underlying factor structure, reliability estimates, and classification accuracy) generalizable to the school setting?

(2) How viable is a multiple-gating procedure using data from a broad behavioral screener and a trauma-specific screener?

(3) Do educators, students, and caregivers perceive trauma screening administration procedures and instruments as feasible, acceptable and appropriate for use in schools?

Significance of the Study

Results from this dissertation study will hopefully contribute to the literature on school-based trauma screening as a way of improving outcomes for children exhibiting trauma-related symptoms that impair different aspects of their daily functioning, such as social, emotional, and academic performance. Findings will inform future research to evaluate whether a multiple-gating approach is a potentially more efficient, appropriate, and acceptable way to integrate trauma screening in school. In addition, results from this study will add to the emerging evidence on the technical adequacy of TSSCA when

administered in a novel service setting (i.e., schools). Currently, there are few, if any, brief and open access screeners are validated when administered in authentic school settings (Eklund, et al., 2018).

Chapter 2: Literature Review

The purpose of this chapter is to provide a comprehensive overview of the background literature that forms the conceptual and empirical bases for this dissertation study. The chapter begins with a discussion of the sources, prevalence and consequences of trauma exposure among children and adolescents. This discussion is followed by a synthesis of the literature related to provision of services to mitigate trauma symptomology, at the individual level and at the community level, utilizing a systematic public health approach. Next, the chapter provides a brief review of the literature on school-based mental health, including the provision of mental health services broadly and the integration of trauma-focused services specifically. Subsequently, the importance of screening to enact early timely intervention is described with a specific focus on existing trauma screeners, including the advantages and disadvantages of them for use in the context of school-based mental health. The chapter concludes by noting gaps in the literature including the need for research that examines the feasibility, acceptability, and appropriateness of trauma screening and for research that establishes the psychometric properties of trauma screeners in the school context.

Understanding Childhood Trauma

When children face serious adversity, such as neglect, maltreatment, sexual violence, the sudden and unexpected death of a caregiver, a frightening car accident, or witnessing domestic violence, most will recover and return to typical developmental functioning within three to six months (Luthar et al., 2000). However, a small subset of children will develop symptoms that impair their wellbeing, day-to-day functioning, and development. Children who experience symptoms that cause impairment in different

areas of life functioning are in need of timely identification to spur access to early, evidence-based intervention.

There are numerous terms and definitions for these potentially life altering experiences, with the term "trauma" being one of the most widely used. The American Psychological Association (APA) provides a narrow definition of trauma as experiences that involve "actual or threatened death, serious injury, or sexual violence…" (2013, p. 271). On the other hand, the Substance Abuse and Mental Health Services Administration (SAMHSA, 2014) provides a broader conceptualization of trauma as "an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being" (p. 7). This definition broadens trauma to include events such as parental separation or incarceration, homelessness, and culturally-specific experiences (e.g., systemic racism and discrimination that have been linked with the onset of social, emotional, and behavioral difficulties (e.g., post-traumatic stress symptomology; Arditti & Savla, 2016; Lansing et a., 2017; Jelleyman & Spencer, 2008; Ford & Courtois, 2013; Alessi et al., 2013; Holmes et al., 2016). The SAMHSA definition also emphasizes the subjective nature of individual experience, which is important because an event may be traumatic for one person but not another person. The definition also calls attention to the situational context in which trauma occurs and the link between exposure to adverse experiences and emergence of symptoms that impair wellbeing and functioning.

Another widely used term is adverse childhood experiences (ACEs; Felitti et al., 1998). ACEs represent specific early hardships in the home and community, such as

physical, emotional, and sexual abuse, neglect, and household dysfunction (e.g., parental criminal behavior, substance abuse, and mental illness). These exposures constitute cumulative risk factors, sometimes conceptualized as "toxic stress" that are linked with a host of negative outcomes, including mental health problems (e.g., suicide attempts, depressive disorder, anxiety substance use and abuse) and physical health problems (e.g., smoking, sexually transmitted diseases, physical inactivity, and severe obesity) (Chapman et al., 2004; Anda et al., 2006; Dube et al., 2003; Edwards et al., 2003; Felitti et al., 1998; National Scientific Council on the Developing Child, 2005/2014). The initial ACE study identified ten events that contributed to an individual's cumulative ACE score (Felitti et al., 1998). The events served as items that are summed to produce an index score that serves as a metric of risk (Felitti et al., 1998). The integration of the ACEs concept into research has resulted in a rapid and widespread expansion of research beyond Felitti and colleagues' initial study (e.g., Bethell et al., 2017).

Other terms used in the literature are complex trauma and developmental trauma. Complex trauma is defined as, "chronic and prolonged, developmentally adverse traumatic events, most often interpersonal in nature…and early-life onset" (Van der Kolk, 2005, p. 402). Developmental trauma refers to the unique manifestation of complex trauma on children's developmental trajectories and distinguishes it conceptually from single incident trauma (Wamser-Nanny, 2013, Van der Kolk, 2005). Developmental trauma is connected to the diagnosis of developmental trauma disorder. Multiple and chronic exposures have been shown to significantly increase children's risk for developing trauma symptomology and experiencing a range of short- and longer-term negative outcomes (Cook et al., 2005).

Yet another term, which will be used throughout this dissertation, is "potentially trauma events" (PTEs). PTE captures the probabilistic nature of exposure to traumatic experiences resulting in symptoms that impair a person's functioning and also takes into account that "most people exposed to PTEs cope remarkably well," (Bonanno & Mancini, 2012, p. 76). The concept of PTE overlaps with the above terms, and like ACEs, when exposed repeatedly and through different forms increases the likelihood of experiencing difficulties that lead to impairments in social, emotional, and academic domains of functioning.

Prevalence and Consequences of Trauma

More than two-thirds of children experience PTE during childhood, with one-third experiencing multiple events (SAMHSA, 2020). In a nationally representative sample, 60.6% of children ages 0-17 years-old had experienced or witnessed at least one instance of violence, abuse, or crime in the last year (Finkelhor et al., 2009). In a more recent study, Finkelhor and colleagues found that 37% of youth had experienced some form of physical assault in the past year (Finkelhor et al., 2015). In another study, 20% of all youth had experienced more than one type of PTE, and a shocking 10% reported 15 or more types of victimization (Saunders & Adams, 2014).

PTEs represent experiences that increase a child's risk for developing a variety of trauma symptoms that lead to short- and long-term negative outcomes including the development of diagnosable disorders such as post-traumatic stress disorder (PTSD), reactive attachment, acute stress, disinhibited social engagement, and adjustment disorders (Copeland et al., 2007). These different disorders refer to labels that professionals use to communicate with one another about specific symptoms that have

"functional significance," meaning that symptoms interfere with some aspect daily living, such as school performance. PTEs may also lead to sub-clinical problems that do not meet the threshold for a diagnosable mental health disorder but nonetheless interfere with some aspect of the child's social, emotional, and academic functioning (Copeland et al., 2007).

The short-and long-term consequences of exposure to PTEs are multifaceted. Immediately following a PTE, distress is normative and not a sign of psychopathology. Immediate reactions to PTEs are organized according to specific domains: emotional, physical, cognitive, behavioral, and existential. Examples of immediate reactions include numbness, detachment, anxiety, fear, nausea, increased startle response, difficulty concentrating, rumination, memory problems, restlessness, sleep disturbance, loss of self-efficacy, and despair (Center for Substance Abuse Treatment, 2014). Although these experiences are distressing, aversive, and uncomfortable, most children adapt within the context of specific protective factors, such as a supportive and responsive environment, and thus are not in need of clinical intervention (Masten, 2013). However, some children experience more severe symptoms that do not remit, leading to decreased capacity to adjust to and cope with present moment circumstances.

Some children experience more intense reactions to PTE within the first month, with reactions being severe enough to warrant a diagnosis of acute stress disorder and need for clinical intervention. If impairing symptoms persist after one month, a diagnosis of post-traumatic stress disorder (PTSD) may be appropriate. Trauma symptoms consistent with PTSD include re-experiencing, avoidance, negative alterations in thoughts or mood, and increased arousal (APA, 2013). According to the National

Institute of Mental Health (NIMH), four percent of adolescents between the ages of 13 and 18 in the US are likely to experience trauma symptomology severe enough to meet criteria for a clinical diagnosis of PTSD (Merikangas et al., 2010).

Children experiencing persistent problems related to PTE that may not be severe or specific enough to warrant a clinical diagnosis of PTSD may still be in need of services. Exposure to PTEs is a risk factor for a range of negative outcomes including academic failure, school dropout, drug use, delinquency, and increased contact with the juvenile justice system (e.g., Dierkhising et al., 2013; Porche et al., 2011; Perfect et al., 2016). These findings are consistent with the ACEs literature that demonstrates a relationship between early adversity and outcomes including lower academic achievement, exclusionary discipline, grade retention, truancy, reduced school engagement, and externalizing and internalizing symptoms (Perfect et al., 2016). For example, ACEs correlate with problems in memory storage and retrieval and attention problems, which interfere with children's overall academic outcomes (Anda et al., 2006). In a comprehensive review of school-related outcomes of PTE and traumatic stress, Perfect and colleagues (2016) found differences between youth exposed to PTEs and those with no exposure across several studies, including lower IQ scores, poorer memory performance, and greater attentional deficits for those exposed to PTE compared to those with no exposure. Unsurprisingly, short-term academic outcomes for children with exposure to PTE are likely to suffer, including class failure and school dropout (Fry et al., 2018; Porche et al., 2011).

In the longer-term, children who experience multiple PTEs have an increased likelihood of experiencing problems that extend into adulthood. These problems include

negative behavioral health outcomes such as severe and persistent mental illness, substance use disorders, justice involvement, exposure to subsequent PTE, unemployment that can lead to homelessness, and suicidality (Saunders et al., 2014). The negative outcomes also include a variety of health problems such as greater risk for cancer, diabetes, heart disease, and ultimately early death (Chapman et al., 2004; Anda et al., 2006; Dube et al., 2003; Edwards et al., 2003; Felitti et al., 1998). When considered altogether, PTE is a public health concern, and understanding the risk factors for PTE and the methods to treat and address related symptoms that cause impairment represent a fundamental aspect of any systematic agenda to improve the health and wellbeing of children and prevent longer-term negative outcomes that extend into adulthood.

Risk and Protective Factors of Trauma Exposure

Research consistently shows that exposures to PTE are not distributed normally across all children. For example, children living in certain contexts including poverty (Whittlesey et al., 1999), in military deployed families (Campbell et al., 2011), receiving special education services (Sullivan and Knutson, 2000), living in high crime areas (Saunders & Adams, 2014), belonging to marginalized communities including those with ancestral or linkages to historical oppression and colonization (Andrews et al., 2014; Holmes et al., 2016), in out-of-home and foster care placements (Salazar et al., 2013; Stein et al., 2001), and involved in the legal system (Rosenberg et al., 2014) are all associated with increased risk for exposure to PTEs. For example, for youth in the foster care system, the vast majority have witnessed violence (85%) and about half have been a victim of violence (51%) (Stein et al., 2001). Among juvenile justice-involved youth, one study suggested that 94% reported exposure to at least one PTE, with the average of 5.4

PTEs per youth (Rosenberg et al., 2014). In a study of child maltreatment among students receiving special education services, 31% of students with disabilities were found to have been exposed to trauma versus 9% of students without disabilities (Sullivan & Knutson, 2000). In particular, students served under the category of Emotional or Behavioral Disorders (EBD) highest rate of exposure to PTEs among all students with disabilities (Jaudes et al., 2008; Milot et al., 2010). In a large-scale epidemiological study, Saunders and Adams (2014) identified two individual characteristics that cut across PTE type: age and gender. Young people accumulate more PTEs as they age, particularly in the period of adolescence. Moreover, girls were at higher risk for exposure overall given disproportionate rates of sexual assault. However, across samples and contexts, exposure rates may differ, for example in a study examining trauma prevalence across middle school students in a large and diverse urban school district, Woodbridge and colleagues (2015) found that males, African American, Native American, and Latino students were significantly more likely to report exposure to traumatic experiences than white, Asian, and female students.

Research has identified the presence of risk and protective factors that moderate the relative vulnerability of children and adolescents to developing traumatic stress responses following a PTE. Not all children who are exposed to PTEs will develop difficulties that impair their functioning. As Dr. Ann Masten (2013), an expert in the field of resilience, noted “risk generally refers to conditions that could pose a significant threat to the adaptive function or development of a person, while resilience generally refers to positive adaptation or development in the context of risk” (p. 581). Risk and protective

factors play an important contribution in the prognosis of children who have experienced PTE.

In a meta-analysis of 64 studies examining risk factors for PTSD in children and adolescents, 25 potential risk factors for PTSD were identified (Trickey et al., 2012). Risk factors were grouped into seven categories: demographic factors, pre-trauma factors, objective trauma characteristics, subjective trauma characteristics, post-trauma individual factors, and post-trauma psychological environment. In addition, risk factors were organized according to small, medium, and large effect sizes. Small effect sizes were found for race and younger age. Medium effect sizes were found for female gender, low intelligence, low socio-economic status (SES), pre- and post-trauma life events, pre-trauma low self-esteem, post-trauma parental psychological problems, bereavement, time post-trauma, trauma severity, and exposure to the event by media. Large effect sizes were found for low social support, pre-trauma fear, perceived life threat, social withdrawal, comorbid psychological problems, poor family functioning, distraction, prior PTSD diagnosis, and thought suppression (p. 134). The DSM-5 (APA, 2013) also provides descriptions of risk and protective factors for PTSD, including pre-traumatic, peritraumatic, and post-traumatic factors. Pre-traumatic factors include temperamental, environmental (e.g., SES, education, social support), and genetic and temperamental factors. Peri-traumatic factors include environmental circumstances such as severity of trauma (dose and magnitude) and perceived life threat. Post-traumatic factors include temperamental factors such as negative appraisals and development of acute distress disorder as well as environmental factors such as subsequent exposure to repeated upsetting reminders and financial and other trauma-related losses.

Resilience is described as both a process and an outcome reflecting the extent and capacity of the system, for example the family, the school, and community, to support the recovery of the child following a PTE (Masten, 2013). Related to the concept of resilience is the notion of protective factors that buffer children from undesirable effects of a PTE and in the face of other risk factors. Further, like risk factors, protective factors can be organized across different social-ecological levels: individual, family, community, and societal/cultural (Racine, et al., 2020). Protective factors such as personal skills, peer support, social skills, physical and psychological caregiving, and spiritual, educational, and cultural supports provide protection for children (Masten, 2013). Research demonstrates that these protective factors have a moderating effect on child distress (Masten, 2013).

Treatment of Trauma (Responding to Trauma)

The prevalence of PTEs and potential for deleterious impact on the lives of children necessitates solutions that are accessible to children and families. Decades of research has shown that trauma-related symptoms are amenable to treatment (for review see, Leenarts et al., 2013; Morina et al., 2016; Schneider et al., 2013; Dorsey et al., 2017). In addition, research has uncovered a number of efficacious treatments that reduce trauma symptomology and ameliorate the negative developmental impact of PTE. Further, with effective support and treatment, children can return to their normal developmental trajectory. In particular, early intervention within the first three months following an exposure can be particularly effective at preventing the emergence of more severe symptoms that become chronic (De Young & Kenardy, 2017). Effective trauma interventions can produce change across a wide range of outcomes, across a different

community and global contexts, with diverse populations, and at different levels of service delivery (e.g., prevention, early intervention, and targeted intervention). This section will describe a selection of evidence-based trauma responsive services.

A number of programs exist to reduce exposure to preventable forms of PTE, such as child maltreatment, and to prevent the onset of more chronic and intractable symptoms following exposure. Prevention programs such as home-visiting (Matone, 2018) and parenting programs include universal strategies for positive parenting behaviors and adaptive coping in families such as Positive Parenting Program (Sanders, et al., 2002). Prevention programs are also available that meet the needs of specific groups who are at higher-risk for PTEs. For example, Parent Management Training-Oregon Model (PMTO) is a treatment to reduce coercive parenting strategies and prevent subsequent trauma among highly stressed military parents. Although coercive parenting is not a PTE unto itself, it is linked to an increase in the probability of maltreatment (Prinz, 2016). PMTO has been adapted across many contexts and for diverse populations. For example, it has been adapted for use in Norway, with military families, with Latinx immigrants in the United States, in Mexico, and in Iceland (Sigmarsdóttir et a., 2013; Baumann et al., 2014; Forgatch et al., 2011). Prevention efforts also exist to reduce other types of PTEs that manifest outside of the home environment. For instance, some communities adopt violence prevention programs that reduce the likelihood of youth exposure to community violence. Even more broadly, social norms and public policy, such as requirements for leashes on dogs in public, use of car seatbelts, wearing bicycle helmets, and discouraging use of corporal punishment may reduce exposure to PTEs. However, other PTEs like natural disasters and accidents are more difficult to prevent. As

such, early interventions designed to mitigate the impact of PTE have been developed and are a part of the continuum of services that can be made available to children and families.

De Young and Kennardy's (2017) review of preventative interventions for children and adolescents exposed to trauma described five practices for early, targeted intervention following trauma exposure: (a) Psychological First Aid (Brymer et al., 2006), (b) Skills for Psychological Recovery (Berkowitz et al., 2010), (c) School-Focused Training for Recovery (La Brocque et al., 2016), (d) screening and watchful waiting, and (e) information provision. Psychological First Aid is a program to help support individuals—young people, adults, and responders alike—in the immediate aftermath (i.e., the first days or weeks) of a PTE by reducing distress and fostering long term coping. Psychological First Aid includes eight core actions: contact and engagement with survivors; establishing safety and comfort; supporting emotional stabilization; information gathered on current needs and concerns' practical assistance; connection with social supports; information on coping; and linkage with collaborative services (Brymer et al., 2006). Skills for Psychological Recovery is a second step following Psychological First Aid, providing a framework for support in recovery, after immediate safety and security have been re-established (Berkowitz et al., 2010). School-Focused Training for Recovery provides a school-based program focused on training teachers in understanding trauma responses in children, how they can support recovery following a PTE, skills to identify children in need of more services, and self-care to combat compassion fatigue and vicarious trauma (De Young & Kennardy, 2017). Screening and watchful waiting is an evidence-based practice (i.e., not a manualized program). Screening, as a universal

practice and as a secondary prevention practice following a PTE, will be discussed at length later in this chapter. Screening and watchful waiting recognizes that most children will recover following a PTE within the context of natural supports and provides strategiesa, (i.e., screening) to systematically identify and provide additional support to those children who show emergent symptomology (De Young & Kennardy, 2017). Information provision is also a general evidence-based practice rather than a manualized program. Information provision is a component of all the previous preventative interventions listed, supports self-awareness and autonomy for children and families following a PTE, and empowers self-advocacy (De Young & Kennardy, 2017). Examples of information that falls under this approach are psychoeducation about common responses to a PTE, teaching coping strategies, providing information on how to utilize and enhance social supports, teaching signs to identify need for more intensive response, and how to find additional assistance (De Young & Kennardy, 2017).

Unfortunately, many children who have experienced a PTE are not identified until significant symptoms have manifested and impair functioning, which necessitates more individualized and intensive services. Some children require a higher level of care even in contexts where lower levels of preventative care are available. Targeted interventions are numerous. For example, the California Evidence-Based Clearinghouse for Child Welfare, a repository of evidence-based practices, includes three intervention that are listed as well supported by research evidence (i.e., Eye Movement Desensitization and Reprocessing (EMDR; Alder-Tapia & Settle, 2017), Prolonged Exposure Therapy for Adolescents (PE-A; Foa et al., 2009), and Trauma-Focused Cognitive Behavior Therapy (TF-CBT; Cohen et al., 2017). There is another intervention listed as supported by the research evidence

(i.e., Child-Parent Psychotherapy (CPP; Lieberman & Van Horn, 2005), and 17 additional interventions listed as having promising evidence, including Cognitive Behavioral Therapy for Trauma in Schools (CBITS; Jaycox, 2004). An additional 16 programs were unable to be rated due to the lack of research for review. It is beyond the scope of this dissertation to discuss each of the treatments. However, one of the most widely disseminated and effective trauma treatments—TF-CBT—is discussed.

TF-CBT is the treatment with the most robust evidence base of any child trauma treatment, with over 16 randomized trials demonstrating a range of positive outcomes across sex, age range, and ethnic and cultural groups for reduced symptoms of PTSD, anxiety, depression, and trauma-related behavioral problems (Cohen et al., 2017). Evidence has shown sustained effects one year after intake (Webb et al., 2014) and positive effects even in low resource countries when delivered by lay providers (Dorsey et al., 2020). TF-CBT is intended for use by trained mental health professionals to help children as young age five to adults address the negative effects of trauma and promote greater emotion and behavior regulation, including processing their traumatic memories, overcoming problematic thoughts and behaviors, and developing effective coping and interpersonal skills. It also includes a treatment component for parents or other caregivers. Parents can learn skills related to stress management, positive parenting, behavior management, and effective communication. TF-CBT is a short-term treatment typically delivered across 12 to 14 sessions, with each session lasting approximately 45-50 minutes. Each individual session is designed to build the therapeutic relationship while providing education, skills, and a safe environment in which to address and process traumatic memories (Cohen et al., 2017). Like other exposure-based and trauma-related

treatments, TF-CBT components (i.e., psychoeducation, cognitive coping, affective regulation, trauma narrative to provide gradual exposure) have been hypothesized to operate on specific mechanisms that influence improvements in clinical outcomes (e.g., self-blame; over-accommodating traumatic experiences; difficulty distinguishing "threat cues" from ambiguous but objectively non-threatening stimuli; e.g., avoiding all males) (Hayes et al., 2017; Ready et al., 2015)).

Although efficacious trauma-focused treatments exist, the use of and children's access to evidence-based mental health services remains low (Lyon & Bruns, 2019). Most children experiencing difficulties due to trauma do not receive treatment, especially those from marginalized, under-resourced communities (Garland et al., 2013; Lu, 2017; Roll et al., 2013). When they do access care, the services they receive are often not evidence-based or delivered with inadequate levels of fidelity (Roll et al., 2013). Thus, there is a need to integrate services and implement them well in the settings where children naturally exist, such as schools.

School-Based Mental Health

Multiple child advocacy organizations and policy groups (e.g., SAMHSA, the US Department of Education, the International Society for Traumatic Stress, the National Child Traumatic Stress Network) have recognized the importance of delivering prevention and intervention services across a range of child-serving settings to facilitate access to needed care (Magruder et al., 2016). Child-serving settings include child welfare, primary care, juvenile justice, and schools, all of which have the potential to reduce the access gap that prevents children from receiving needed supports (SAMHSA, 2014). Effective services, such as evidence-based trauma interventions, are unlikely to

produce positive outcomes for children unless they are adopted and properly implemented in settings where children can consistently access care, such as schools.

Schools possess unmatched potential for public health impact, given that 70-80% mental health services that youth receive are accessed in schools (Costello et al., 2014; Langer et al., 2015). Providing mental health services in schools addresses the shortcomings of traditional clinic-based mental health delivery, such as transportation and stigma (Bruns et al., 2016). Furthermore, schools disproportionately increase access to care for historically underserved populations (e.g., ethnic and racial minority youth) (Lyon et al., 2013). Due to these advantages, significant attention and resources have been directed toward providing children with access to quality school mental health services (Bruns et al., 2019). Recent research has also shown that school-based mental health services are effective at reducing a range of mental health problems and promoting academic success (e.g., Das et al., 2016; Faramand et al., 2011; Kavanagh et al., 2009; O'Mara et al., 2013; Sanchex et al., 2018).

Given that evidence-based programs and practices have been established for use in the schools to prevent and address the social, emotional, and behavioral wellbeing and functioning of students, researchers and practitioners have advocated for the use a multi-tiered system of support (MTSS) framework to organize and deliver school-based mental health services (Bruns et al., 2016). MTSS is a framework for integrating and organizing a continuum of school-based services to prevent and address academic, social, emotional, and behavioral problems that negatively impact student success inside and outside of school. In addition to providing a continuum of supports, there is also an emphasis on data-driven decision making, namely screening to detect students who need additional

support and progress monitoring to gather data on student response to intervention to make formative decisions while interventions are being delivered. MTSS is grounded in the core principles of the public health model (Cash & Nealis, 2004). This population-based approach to prevention and intervention utilizes a system approach to increase access to quality prevention and intervention services that target improving relevant public health outcomes.

The foundation of MTSS is the Tier 1 level of universal supports that are delivered and intended to be accessed by all students. The goal of Tier 1 is to prevent the emergence of problems, promote success-enabling factors, and provide the foundation of supports that enable interventions to work (Cook et al., 2020). Tier 1 supports include research-based core academic and social-emotional learning curricula, culturally and linguistically responsive instructional practices, proactive positive behavioral supports, and universal screening to assess current level of performance and detect students in need of additional support (Cook et al., 2010). Students who are identified as needing additional help beyond Tier 1 supports receive targeted support via Tier 2 intervention. Tier 2 interventions take the form of individual interventions or small-group skill instruction delivered as part of the general education milieu of supports (Jimerson et al., 2016; National Center on Response to Intervention, 2010). Brief, individualized interventions delivered by school-based mental health providers all fall under Tier 2 (e.g., Lyon et al., 2014). Those who continue to struggle despite receiving targeted, Tier 2 interventions delivered with fidelity are provided with intensive, individualized interventions at Tier 3. Tier 3 supports are reserved for students with complex needs and, therefore, involve specially trained professionals (e.g., behavior specialists, mental health

providers, and social workers) who deliver evidence-based interventions, such as TF-CBT (Jimerson et al., 2016). Across all tiers of supports there are opportunities to integrate trauma-informed practices to provide access to more comprehensive supports that aim to meet the needs of all students. Since the time of the initial ACEs study (Felitti et al, 1998), there has been a surge of interest among researchers, practitioners, and policymakers to integrate trauma-informed supports in schools. The proliferation of knowledge and interest related to the effects of adversity on children has resulted in the emergence of multiple school-based models to help educators create schools that are more responsive to trauma.

Trauma-Informed Schools

The prevalence and effects of PTEs on children has led to increased political and public attention on the issue (Magruder et al., 2016; Ridgard et al., 2016). The successful delivery of trauma-informed interventions has become a fundamental component of United States' strategy to ensure academic and life success for children and youth. The call for trauma-informed care is evident in federal legislation that governs education—Every Students Succeeds Act (ESSA)—as it requires the use of evidence-based trauma-informed practices. Specifically Section 1408 states that schools must, "(II) provide comprehensive school-based mental health services and supports and staff development for school and community personnel working in the school that are— '(aa) based on trauma-informed practices that are evidence-based…'" (ESSA in Prewitt, 2016).

Evidence supports the efficacy of trauma treatment in schools (Rolfsnes & Idsoe, 2011). By implementing evidence-based prevention and intervention strategies targeting trauma in schools, practitioners may help reduce the impact of trauma on academic and

life course outcomes for children. Moreover, including a prevention focus in school-based trauma practices may improve capacity and buy-in among leaders, which is necessary to sustain targeted trauma-treatment programs (Chafouleas, Johnson, et al., 2016).

With increased interest among educational researchers, practitioners, and policymakers on the impact of trauma on children's psychosocial and academic functioning, there have been efforts to develop language and descriptions of how schools can approach integrating trauma-informed supports. Much of this work falls under the broader umbrella of trauma-informed schools. The California Evidence-Based Clearinghouse for Child Welfare (CEBC) has not evaluated any system-level programs for trauma-informed care that have strong or substantial research evidence. However, one program, the Sanctuary Model (Bloom, 1995), was labeled as having promising research evidence. The Sanctuary Model is a systems-based approach to creating a "trauma informed community." According to the website for the Sanctuary Model, it has been used in a variety of child services settings, including schools, however, no research has examined its impact on outcomes in the context of schools. Two research studies have examined the program's efficacy in residential settings serving youth (Elwyn et al., 2015; Rivard et al., 2005). Results were positive, showing improvements in coping strategies, increased sense of personal control, reduced verbal aggression, and increased perceived sense of safety. One other program, Attachment, Self-Regulation, and Competency (ARC) had one study (Hogden et al., 2013) evaluating outcomes in a residential school serving children in the child welfare system. The ARC model emphasizes the development of stronger, secure attachments between child and caregiver; increased self-

regulation through affect regulation, modulation, and expression; and skill building (competency) in the areas of executive functioning and self-development. The pilot study found a correlation between ARC implementation and, "…reductions in PTSD symptoms, externalizing and internalizing behaviors, and the frequency of restraints used across programs" (Hogden et al., 2013, p. 679). Results suggest that ARC may be a promising model for implementing trauma-informed care in youth residential treatment settings. However, given the unique school setting, lack of a control group, and idiosyncrasies of implementation, replication is sorely needed before conclusions about generalizability to other settings can be assumed.

Review of the literature provides additional models of trauma-informed schools, some of which have preliminary outcome data. For example, Dorado and colleagues (2016) provide one such model of a trauma-informed schools approach within an MTSS framework. The Healthy Environments and Response to Trauma in Schools (HEARTS) was developed based on the Trauma and Learning Policy Initiative's flexible framework (Cole et al., 2005). At tier 1, the HEARTS model emphasizes school-wide culture change to create a trauma-informed lens among stakeholders, which includes training and consultation for students, staff, and caregivers on topics such as trauma sensitive practices and coping with stress. At tier 2, the HEARTS model addresses psychoeducational skill building for at-risk students, teacher wellness groups, coordinated care tam meetings for at-risk student and school wide concerns and consultation regarding revision of school policy to become more trauma-responsive. At tier 3, the HEARTS model emphasizes the delivery of school-based trauma specific interventions and consultation around student with individualized education plans, crisis

support for trauma-impacted school staff, proactive strategies to involve caregivers, and systems consultation around mental health services. The program evaluation of HEARTS revealed the following findings: (a) Increase in school staff's knowledge about trauma-sensitive practices, (b) Improvement in student engagement, (c) Decrease in exclusionary discipline practices and associated behavioral problems, and (d) Decrease in trauma symptomology among students who received therapy. It is important to note, however, that this study was a pre-post design and thus did not have certain methodological features that decrease threats to internal validity.

Synthesis of the available literature reveals more about specific guiding principles than concrete practices that educators can adopt and implement, suggesting that the field is in the early stages of developing and evaluating well-defined approaches to implementation (Chafouleas, Johnson, et al., 2016). A few common principles are to increase staff awareness of trauma and its impacts on student functioning. The aim of increasing trauma awareness is knowledge building, with the assumption that increased knowledge leads to better support for children who are exposed to trauma (Chafouleas, Johnson, et al., 2016). Chafouleas and colleagues' (2016) research described primarily demonstration and pilot projects (for example, Perry & Daniels, 2016; Shamblin et al., 2016) that provide starting points for developing replicable and testable models for trauma-informed schools. In general, research is lacking on the evaluation of the effects of core components of trauma-informed schools, such as professional development and sustainable implementation strategies, scalability of innovations (Chafouleas, Johnson, et al., 2016).

One area where empirical research has established evidence is screening (Gonzales et al., 2016; Woodbridge et al., 2016). Screening to identify children who have faced trauma or are at risk for developing more severe trauma symptomology is an evidence-based strategy for referring children into more intensive tiers of trauma services. School staff spend more time with children during the weekdays than any other adult in their lives and are more likely than staff from other child serving settings to have knowledge of symptoms that manifest as a result of exposure to PTEs (Finkelhor et al., 2012). Thus, school settings provide an ideal setting to detect students who may have a history of PTEs and may be in need of specialized services. A key aspect of trauma-informed schools in general is to increase children's access to evidence-based trauma-informed intervention (Chafouleas, Johnson, et al., 2016). Many of the trauma-informed school models emphasize the importance of screening as a way of detecting students who may be in need of trauma-informed intervention (Chafouleas, Johnson, et al., 2016). In addition to being a critical setting for integration of evidence-based mental health services broadly, schools serve as a place to detect children who may have a need for early and timely intervention as a result of exposure to PTE (Magruder et al., 2016).

School-Based Trauma Screening

Screening is a type of assessment designed to detect individuals who are exhibiting indicators of a condition or need, and thus would benefit from some type of care or intervention. Screening is typically a process of measuring indicators or risk factors for the development of problems before more serious symptoms emerge (Dowdy et al., 2010). In this way, screening is a critical component of early and timely intervention. Screening produces actionable data that practitioners use to drive decisions

regarding supports they will provide to children who are detected as having a need for intervention. Further, screening often serves as a more objective and technically sound method than other identification methods, such as subjective referrals or nominations that are reactive and vulnerable to bias (Podell & Soodak, 1993). For example, in the area school-based screening, teacher nominations of students have been shown to be based largely on subjective tolerance levels than objective behavioral indicators of need, resulting in widely disparate identification rates from one teacher to the next (Dowdy et al., 2013). Moreover, methods such as direct observation may involve less inference but they are cumbersome with regard to time and costs to conduct screening (Cook et al., 2010). As such, numerous screening instruments have been developed to detect students with a wide range of need ranging from literacy (e.g., curriculum-based measurement; Wyman et al., 2007) to behavior problems (e.g., direct behavior ratings; Chafouleas et al., 2013) to depression (e.g., Patient Health Questionnaire-9; Law et al., 2017).

Although the literature on school-based social, emotional, and behavioral screening is growing, there is limited research on school-based trauma screening procedures and instruments (Woodbridge, et al., 2016). Trauma screening is needed to identify potential root causes underlying a student's social, emotional, and behavioral difficulties and subsequently to connect students identified as positive via the screener to more precise and likely effective intervention (Cook et al, 2019). Integrating a trauma screener into a school's broader approach to screening can help prevent potential misdiagnosis of the root causes underlying the child's difficulties and use of inappropriate interventions (De Young & Kenardy, 2017). Researchers have advocated for implementing universal school-based screening methods to detect children exhibiting

trauma-related symptoms to connect them to needed, effective services. However, specific concerns facing schools around universal trauma-screening procedures include questions of consent, developmental appropriateness of screening measures, the availability of reliable and valid screening measures, the time and resources required for administration, and linking children in need to appropriate care (Eklund & Rossen, 2016). While studies have utilized modified universal trauma screening procedures in school (e.g., Gonzalez et al., 2016; Woodbridge et al., 2016), the focus of prior research has been more on the prevalence of trauma exposure and symptomology in schools, not evaluation of the technical adequacy of screening procedures. Additional research is needed to evaluate the administration of trauma screening procedures to develop procedures that increase the feasibility, acceptability, and appropriateness of trauma screening as part of routine practice in schools.

One possible alternative to universal trauma screening in schools is multiple-gating or more targeted screening procedures that provide a framework for administering assessments on a progressively more selective basis. One program that has used a multiple-gating gating approach is the Systematic Screening for Behavioral Disorders (SSBD), which is a three stage screening procedure used to identify students with emotional and behavioral disorders for special education services (Walker, et al., 1992). More recently, multiple-gating procedures were used to streamline and improve the accuracy of screening procedures for mental health services (Kilgus et al., 2016), for example, conducting broad universal screening to detect students who are exhibiting social, emotional, and behavioral difficulties provides the first gate, which is then followed by the administration of a more targeted trauma screener among those children

who passed through the first gate. In a review of trauma-informed practices in schools, Reisbergs and Fefer explicitly name the Social, Academic, and Emotional Behavioral Risk Screener (SAEBRS: Kilgus, et al., 2016) and the Strengths and Difficulties Questionnaire (SDQ: Goodman, 1997) as possibilities for a "good front-line identification system for all children who may benefit from more specific tier 2 assessment and intervention, including those who have experienced trauma (2018, p. 253).

Multiple-gating may provide a more viable approach to trauma screening than universal screening, and may potentially be viewed as feasible, acceptable, and appropriate way to conduct trauma screening in schools (Kilgus, et al., 2016). However, at this time it is unknown whether multiple-gating will adequately capture those students experiencing trauma symptoms. Research is needed to examine the degree to which these broad social, emotional, and behavioral screeners adequately identify students who are subsequently screened as positive by a trauma screener and deemed in need of a trauma-informed intervention.

Screening Instrumentation

Critical to the screening process is the routine surveillance of a population to identify the individuals who exhibit behavioral indicators or symptoms indicating risk for experiencing negative short- and long-term outcomes. This routine surveillance can occur through different processes including informant ratings, review of extant administrative data (e.g., absences, behavior disciplinary incidents), systematic observations of behavior, and universal or targeted screening. Unlike other assessment methods (e.g., assessment for the purposes of clinical diagnosis), screening instruments are typically

brief, require minimal training to administer, and have thresholds that indicate whether or not an individual considered at-risk and needs additional diagnostic assessment to inform intervention (NCTSN, 2007). Although there are different screening methods, research has indicated that some are more feasible, socially valid, and technically sound than others (Glover & Albers, 2007).

To be incorporated as part of routine practice in schools, screeners must have certain characteristics to be deemed suitable. In a systematic review of trauma screening measures in schools, Eklund et al (2018) assessed the quality of screening instruments by attending to the evidence to support their efficacy (psychometrics) and effectiveness (implementation level factors of generalizability to real world contexts). First, screeners must be technically adequate or psychometrically sound. *The Standards for Educational and Psychological Testing* and suggest that to be technically adequate, "an instrument should be (a) appropriately standardized for use with the target population, (b) consistent in its measurement, and (c) accurate in its identification of individuals at risk" (2007, p. 122). In terms of technical adequacy, evidence supporting construct validity is particularly critical for screening instruments to defend the interpretation and use of scores. Second, screening measures should be appropriate for the school context. In a review of considerations for school-based screening measures, Glover and Albers (2007) provide a comprehensive list of implementation-relevant factors to consider including compatibility of the measure with local service needs (e.g., Is the information provided useful? Does the timing/frequency of screening align with organizational realities?), alignment with constructs of interest (e.g., Are the constructs measured relevant to the services your organization provides?), theoretical and empirical support (e.g., Is there

evidence to support use of the type of screening instrument in this context?), population fit, acceptability (likeability), cost and benefit, infrastructure requirements, feasibility of administration, accommodations needs, and utility of outcomes (p. 119).

Common implementation-relevant outcomes include feasibility, acceptability, and appropriateness. Each of these dimensions are typically measured via stakeholder perceptions based on their experiences and understanding of certain procedures or products. Proctor and colleagues (2011) provided a compilation of implementation outcomes and definitions that are important to the uptake and use of particular innovations as part of everyday practice. Some of the implementation outcomes are subjective, perceptual outcomes that impact whether a person is likely to engage in and use a particular innovation, while other implementation outcomes are more behavioral and represent actual actions related to implementation (e.g., adoption, fidelity, sustainment). For this study, the focus is on perceptual implementation outcomes, including feasibility, acceptability, and appropriateness. Using Proctor et al., (2011) definitions, feasibility is the extent to which a new treatment, or an innovation, can be successfully used or carried out within a given agency or setting. Acceptability is the perception among implementation stakeholders that a given treatment, service, practice, or innovation is agreeable, palatable, or satisfactory. Appropriateness is the perceived fit, relevance, compatibility of the innovation or evidence based on practice for a given practice setting, provider, or consumer; and/or perceived fit of the innovation to address a particular issue or problem. When considered together, stakeholders who perceive a particular innovation, such as trauma screening, as feasible, acceptable and appropriate are more likely to support its use when translated into actual practice.

Brief, technically adequate, accurate, and usable screeners to identify traumatized children, particularly as part of school-based service delivery, are lacking (Eklund et al., 2018). Most of the extant trauma screening tools identified in the literature have characteristics more like a trauma diagnostic instrument (e.g., length, narrow focus of the instrument) than a brief screener (Eklund et al., 2018). Unlike screeners, diagnostic tools are typically lengthy, require specific expertise to administer, and are part of a comprehensive process intended to diagnose a condition, define symptoms, or develop a treatment plan (NCTSN, 2012). For example, The University of California Los Angeles PTSD Reaction Index for DSM-5 (UCLA-PTSD-RI; Elhai et al., 2013; Steinberg et al., 2013) has been identified as a screener but it includes 31 items, is estimated to take between 20 to 30 minutes to administer per student, requires specialty training to administer and interpret, and provides detailed information about the type and severity of symptoms (Steinberg et al., 2013). In a school of 500 students, administration would take about 170 hours.

Considering the need for high quality and brief screening instruments, the TSSCA was developed at the University of Minnesota. The TSSCA was designed as a screener for detecting children, ages 5 to 18 years, who have experienced a PTE and are exhibiting trauma-related symptoms. The TSSCA was developed to address key needs within child serving systems in Minnesota, to provide a free, brief, and technically sound instrument that can easily administered and interpreted by non-clinical staff to assesses for both PTEs and related symptomology. The five-item instrument measures children's traumatic stress, and provides instructions and recommendations for practitioners to use the tool as intended.

To develop the TSSCA, the team conducted an extensive literature review of over 25 instruments designated as traumatic or post-traumatic stress screening instruments. Through the process of construct modeling (Wilson, 2005), 15 items representing symptoms of traumatic stress were selected. These items were compared to DSM-IV and DSM-5 diagnostic criteria to ensure construct validity, and were reviewed by experts. The 15-item questionnaire was field tested with 120 children and adolescents between the ages of 6 and 19. Stepwise linear regression was used to identify 5 items from the 15-item questionnaire with the most explanatory power. For the purpose of this study, the UCLA PTSD-RI was designated as the "gold standard" instrument for assessing child traumatic stress and PTSD. This questionnaire was then administered to a sample (N=285) of individuals to test for clinical utility (Donisch, personal communication). More detailed technical information about the TSSCA is provided in chapter three.

While results of the initial validation study of the TSSCA provided promising findings (internal consistency Ω= .81; sensitivity=82.86%, specificity=85.42%), the validation sample consisted of children receiving trauma therapy in the context of community-based clinics (Donisch et al., in press). Additional validation evidence and usability data are needed to better understand whether the TSSCA is a viable instrument to use within school-based mental health service delivery to connect students in need to trauma-informed intervention.

Gaps in the Current Research

It is imperative that the core components of a trauma-informed approach are identified and operationalized to guide practice (Dorado et al., 2016; Overstreet & Chafouleas, 2016; Ridgard et al., 2015). Only when the value and operational definitions

of these core components have been established, can educators strategically approach adoption and implementation (Ridgard et al., 2015). One core component that cuts across different models of trauma-informed schools is screening to detect children who experiencing difficulties due to trauma to connect them to trauma intervention (Chafouleas, Johnson, et al., 2016). The TSSCA is a promising trauma screener due to its brevity, cost, and prior research supporting its technical adequacy. However, there remains significant gaps in the research on school-based trauma screening in general and the TSSCA specifically that limits the integration of trauma screening as a core component of a trauma-informed schools approach.

It is imperative for practitioners across a range of child-serving systems, including schools, to attend to the technical or psychometric adequacy of a screening instrument (i.e., validity, reliability, and accuracy) and its functionality in applied contexts. Eklund et al. (2018) categorized these distinct sets of evaluation considerations as effectiveness (e.g., feasibility, practicality, and acceptability) and efficacy (psychometric adequacy) variables. The concept of effectiveness is closely connected to the implementation outcomes described above, which are the deliberate effects of efforts to support the uptake and use of innovations as part of everyday practice, including outcomes such as feasibility, acceptability, appropriateness, adoption, cost, and sustainment (Glover & Albers, 2007; Proctor et al., 2010). Most trauma screening instruments have limited evidence of effectiveness when used in schools (Eklund et al., 2018).

The current literature lacks information about whether the underlying factor structure, technical adequacy, and classification accuracy of existing trauma screeners, such as the TSSCA, are generalizable across different child-serving settings. For

example, the TSSCA has only been evaluated in one study within the context of community-based mental health clinics (Donisch et al., in press). There is a need for research that uses a confirmatory approach that to cross-validate the underlying factor structure of existing instruments when administered in a unique service setting (i.e., schools) with a diverse samples of youth. Moreover, it is important to examine the reliability and validity of instruments to establish evidence in support of the construct validity of the instrument and interpretations based on scores. Specifically, evidence of convergent and divergent validity are important to examine whether the TSSCA relates to other variables that it should be theoretically related and unrelated to. For example, the TSSCA should demonstrate a stronger association with other screening instruments assessing social, emotional, and behavioral functioning than indicators of academic engagement and performance. In addition, screeners that are completed via self-report should evidence a stronger relationship with the TSSCA due to shared method variance. On the other hand, the TSSCA should demonstrate weaker relationships with certain demographic variables like grade level as there is a weaker theoretical connection between these variables. When taken together, consistent with Eklund and colleagues (2018) discussion, there is a need to establish evidence in support of the efficacy (i.e., technical adequacy) of trauma screeners when administered in schools, such as the TSSCA.

There are also few studies that have systematically gathered input from key stakeholder groups, such as staff, parents, and students, about their perceptions of implementation-relevant outcomes related to the integration of trauma screening procedures and tools as part of routine practice in schools (e.g., see Langley et al., 2013).

In particular, there is limited research on stakeholder perceptions of the feasibility, acceptability, and appropriateness of screening instruments. The TSSCA was designed with feasibility, acceptability, and appropriateness as key considerations. However, no research has examined stakeholders' perceptions of the TSCCA and trauma screening procedures in general to glean deeper insights that could better bridge the science of trauma screening into everyday practice in the schools.

When gathering stakeholder perceptions, it is important to consider all those who are involved in the screening process: staff, parents, and students. The use of mixed-method procedures to gather input from stakeholders is a particularly promising approach to inform trauma screening efforts in schools. A mixed-method approach not only helps understand from a quantitative perspective how stakeholders perceive particular implementation-relevant outcomes (e.g., feasibility or acceptability), but it also gathers illustrative information regarding how to design and deploy trauma screening in a way that is viewed as feasible, acceptable, and appropriate by those who will ultimately be involved in the screening process.

Purpose, Aims, and Research Questions

The purpose of this study was to address the above gaps in the literature and inform future research and practice as it relates to trauma screening in schools. This dissertation had three main aims. The first aim sought to examine whether the findings and psychometric properties from the initial validation study on the TSSCA generalize to the school context. The second aim focused on examining whether multiple-gating is a viable and efficient procedure for school-based trauma screening. The third aim was to gather input from key stakeholder groups (staff, parents, and youth) regarding their

perceptions of the feasibility, acceptability, and appropriateness of trauma screening procedures and instruments. In addition, this aim focused on gathering input from stakeholders that allowed for comparison of the TSCCA against another trauma screener to determine its relative advantage.

To accomplish the above, this project was designed as a mixed-method pilot of trauma screening instruments and procedures deemed practical and ethical by community partners and aimed to provide benefit to research participants, including students, staff, and the school community. In addition to a pilot demonstration of screening procedures, the study included use of focus groups with key stakeholder groups involved in the trauma screening process (staff, caregivers, and students) to gather additional input regarding their perceptions of implementation-relevant outcomes (i.e., feasibility, acceptability, and appropriateness), as well as compare the TSCCA against another trauma screener to determine its relative advantage. This study was designed to address the following three research questions:

(1) Are the findings of the initial validation study for the TSSCA (e.g., underlying factor structure, reliability estimates, and classification accuracy) generalizable to the school setting?

(2) How viable is a multiple-gating procedure using data from a broad behavioral screener and a trauma-specific screener?

(3) Do educators, students, and caregivers perceive trauma screening administration procedures and instruments as feasible, acceptable and appropriate for use in schools?

Chapter 3: Method

Methods were organized into two phases corresponding with three study aims: Phase One, gathering quantitative data to examine whether the psychometric properties of the TSSCA generalize to the school context and whether multiple-gating is a viable approach to trauma screening and Phase Two, gathering mixed quantitative and qualitative data from key stakeholder groups to examine implementation-relevant outcomes and inform recommendations to improve trauma screening in schools.

Setting

This study was conducted in an intermediate school district in the Midwestern region of the United States. The intermediate school district serves unique special education student populations ranging from birth to age 21 on behalf of independent member school districts within a large metro-region. The school system employs over 500 teachers and paraprofessional and operates four schools. All data collection in Phase One took place at four school sites in the district. At each site, data were collected in a private space to provide privacy for participating students. Phase Two data collection occurred at the district administrative offices, which operated as a convenient central access point for students, caregivers, and staff coming from a variety of locations in the district.

Within each purpose-built school building there are a variety of programs designed to meet the diverse needs of learners. These innovative specialty programs and facilities support the needs of students with disabilities who requiring a high level of support and individualization. The specialty programs include those targeting the needs of individuals with significant behavioral concerns requiring close supervision and

management; programs targeting the needs individuals with severe cognitive, communication, and adaptive deficits; programs serving youth with disabilities living in residential treatment settings; programs serving adjudicated youth with disabilities; and alternative learning centers providing credit recovery for students with and without disabilities requiring individualized options to earn their high school diplomas. A range of services are provided onsite including daycare for students with children; parenting classes; transition programming; restorative justice practices; small class sizes; specialized support staff including nurses, psychologists, psychiatrist, social workers, and counselors; teachers and staff with expertise and training in mental health, trauma, special education; purpose built classrooms and facilities; low staff to student ratios; and specialized curricula.

Participants

Phase One

The sample for the first phase of the study included 78 students. Student eligibility in the study was determined based on two inclusion criteria: first, consent obtained from the child's legal guardian (or the participant themselves when appropriate) and assent from the child, and second, the ability of the family and child to understand consent and assessment questions in English without translation. Demographic and descriptive information collected across participants included school site, school program, special education eligibility and classification, gender, age, grade, race/ethnicity, homeless/highly mobile status, home language, and migrant status. Demographic and descriptive data were provided by the school district for participating students as documented in the students' extant records and was not reported by the

students themselves. Descriptive categories were based on the school district's reporting codes.

Overall, there were 1,214 students served in the district at the time of data collection. Based on inclusion criteria 367 of those students were eligible for participation in the study. Among the 50 11 to 17-year-olds for whom consent was obtained, two declined to participate during assent, four did not participate due to variable or poor attendance, and one student returned a form who was not eligible for the study. Amongst 65 identified eligible 18-year-olds, 10 declined to participate explicitly. Given variable attendance and rolling graduation dates in the alternative learning centers, a number of 18-year-olds were not able to be contacted directly by the author. A comparison of overall district demographics and those who participated in provided in Table 1.

Participants were distributed unevenly across school sites, with half of the sample (n=35) coming from one school site. In regards to school program, the majority of the sample were enrolled in an alternative learning center (ALC) program at their school site (n=46). ALCs are credit-based programs that allow high-school students in any grade to work towards graduation requirements with more flexibility and individualization than offered in traditoinal schools. The ALC programs in this study serve students with and without special education eligibility. With regard to special education status, 42% of the sample (n=33) received no special education services. The most common special education eligibility category was emotional and behavioral disorders, with 22% (n=17) of the sample having this classification. Fifteen percent of the sample qualified for special education under Other Health Disabilities (n=12), 15% under Autism Spectrum Disorder

(n-8), 6% under Specific Learning Disability (n=5), and 1% (n=1) each, in the areas of severely multiply impaired, 504 only, and developmental cognitive disabilities.

In terms of race and ethnicity, 42% of the sample was Black/African-American (n=33) and another 42% of the sample was White (n=33). The remainder of the sample was identified as Hispanic/Latino (n=6), White and Hispanic/Latino (n=3), Asian (n=2), and American Indian/Alaska Native (n=1). Most of the sample (93.6%) spoke English at home. The remainder spoke Spanish or Somali at home. A slight majority (60%) of the sample was male (n=41). The remainder of the sample identified as female. No participants self-identified non-binary. Forty-five-percent of the sample was 18-years-old (n=35), with the remainder between 11-17 years old. Fifty-percent of the sample (n=39) were in 12th grade or higher, meaning the student was still working towards high school completion but had passed their expected graduation date. The remainder (n=39) were between 6th and 11th grade. Ten-percent of the sample (n=8) were identified as homeless. There were no identified migrant students in the sample.

Phase Two

The sample for the second phase of this study included eight staff members, six students, and four caregivers (n=18). A demographic survey was developed to collect basic descriptive information about participants during focus groups. All participants were asked to provide their gender, age, race/ethnicity, language, and relationship to the school district. Student participants were also asked to identify their grade during the 2018-2019 school year and whether they had scored in the range of "at-risk" on the TSSCA. Caregivers were asked if their child scored in the "at-risk" range on the TSSCA and highest level of education achieved. School staff were asked their highest level of

education achieved, length of time work in their current position, length of time working in the school district, and length of time working in education.

Among staff, one staff member chose not to share their demographic information. Of those that completed the survey, three were school psychologists, three were teachers, and one was a school social worker. The average number of years worked in education was 11 years (range 4-25 years). The average number of years working in the school district was four years (range 3-6 years). The average number of years working in their current position was also four years (range 3-7 years). One staff member reported earning a college degree and the remaining six staff members reported earning a post-graduate degree. In regards to gender, six participants identified as female and one participant identified as male. Staff participants were between the ages of 29 and 51 years. Six staff members identified as White and one as Asian or Pacific Islander. No staff members identified as Hispanic or Lantinx. All staff members reported speaking English at home.

Among student participants, all six completed the demographic survey. All had participated in the Phase One of the study. Only one student endorsed a score of six or higher on the TSSCA. The rest endorsed a score of five or less. A score of six or higher on the TSSCA indicates risk. All were in grade 12 and 18-or 19-years-old. Four students identified as female and two as male. Four students identified as Black or African American, one student identified as White and one student identified as Asian or Pacific Islander. No students identified as Hispanic or Lantinx; however, one student did not respond to this item on the survey. Five students indicated English as the primary language in the home and one student indicated that Somali was the primary language spoken in their home.

Among caregivers, all four participants completed the demographic survey. All had a child who participated in Phase One of the study. Their children were in grades 7, 8, and 10. Two of their children had scored a six or higher on the TSSCA and two had lower scores. Caregivers' ages ranged between 38 and 48. With regard to education, one completed some high school, two completed college, and one had completed a post-graduate degree. All caregivers identified as White and all indicated English as the primary language spoken in the home. Three caregivers identified as female and one as male.

Measures

Quantitative and qualitative data were gathered using a variety of data sources including rating scales, questionnaires, focus groups, and extant school administrative data. Data collection procedures for each of the measures are described below, beginning first with Phase One measures followed by Phase Two measures. Measures that were created for the study are available for public use and included in the appendices of this document.

Phase One Measures

Traumatic Stress Screen for Children and Adolescents (TSSCA). The TSSCA is a free, 5-item trauma screener designed to detect children who are experiencing trauma-related symptoms and, therefore, may be in need of specific trauma-informed intervention (Donisch, Zhang, Bray, & Gewirtz, 2017). The TSSCA is administered via one-on-one interview between the student and practitioner. An adapted version of the TSSCA—the TSSCA for Schools—was developed for this study (see Appendices A and B).

The most recent version of the TSSCA includes two questions intended to screen for possible exposure of trauma following a general introduction describing the screen to the child, “Below is a list of problems that people sometimes have after experiencing a bad or upsetting event. A bad or upsetting event might include being threatened or hurt, seeing someone else threatened or hurt, or feeling like your life was in danger.” The first question asks, “Have you ever experienced a bad or upsetting event?” to which the child is prompted to answer yes or no. The second, qualitative question, asks the child to name the bad or upsetting event(s). This second qualitative question was not asked in the current study to avoid the risk of eliciting sensitive information from the child. Sensitive information about trauma exposure is best evaluated by a trained mental health provider using a more detailed diagnostic assessment. Further, the initial validation of the TSSCA did not include information to support the inclusion of this question to improve the performance of the screener to identify the possible presence of trauma symptomology. Therefore, for the purposes of this study, students who answered “yes” to first question were asked to think about the worst event they had experienced when answering the subsequent symptomology questions.

The five symptomology questions of the TSSCA query trauma symptoms over the past month, such as “How often have you had upsetting thoughts, images, or memories of the event come into your mind when you didn’t want them to?” Responses are scored on a three-point Likert scale (never=0, sometimes=1, and often=2). Responses are summed and a score of six or higher indicates moderate to severe trauma symptomology, suggesting that a referral for trauma assessment and intervention may be warranted.

Initial research on the TSSCA demonstrated evidence supporting its diagnostic accuracy (Donisch et al., in press). Specifically, prior research using ROC analyses and the UCLA-PTSD-RI as a "gold standard" anchor measure indicated that a cut-score of 6 was associated with positive predictive value of 87.27% and negative predictive value of 80.39%. Sensitivity statistic was 82.76%, while specificity was 85.42%. The AUC for TSSCA was .87 (SE=.04, 95% Confidence Interval= [.80, .95]). Also, indices of reliability indicated acceptable internal consistency (α=.81) among the five items that theoretically assess a unitary dimension of trauma-related symptoms.

Social, Academic, and Emotional Behavioral Risk Screen (SAEBRS). The SAEBRS is a universal screening instrument completed by teachers (SAEBRS-TRF), the student (mySAEBRS), or both. It is designed to detect students who are struggling across three behavior domains in order to connect them to more in-depth assessment and, if needed, intervention (Kilgus, Eklund, et al., 2016). Results provide norm-and criterion-referenced risk designations for individuals and groups across the evaluated domains: (a) risk for social behavior problems, (b) risk for academic behavior problems, and (c) risk for emotional behavior problems.

The SAEBRS-TRF is a 19-item teacher completed rating of student behavior. It be administered up to five times per year online or via hard copy. The estimated time to complete it for each student is one to three minutes. Results are scored and reported for interpretation using software or a scoring rubric. To complete the form, teachers complete ratings on a four-point Likert scale (0=never, 1=sometimes, 2=often, 3=almost always) to indicate how frequently an individual has engaged in the behaviors in the previous month. Behaviors include arguing, interest in academic topics, and worry. Once

completed, the responses are summed by domain to create total score. In the domain of social behavior, a score of 12 or lower indicates risk; in academic behavior, a score of nine or lower indicates risk; in emotional behavior a score of 16 or lower indicates risk, and in total behavior a score of 36 or lower indicates risk. The possible range of scores on the SAEBERS-TRF is 0-57. On the six-item Social Behavior subscale, the possible range of scores on the Social Behavior subscale is 0-18. On the six-item Academic Behavior subscale, the possible range of scores on the Academic Behavior subscale is 0-18. On the seven-item Emotional Behavior subscale, the possible range of scores on the Emotional Behavior subscale is 0-21. The tool is available through the FastBridge system, which is an online assessment system used widely across school districts across the United States, including the state in which this study was conducted.

The mySAEBRS is a 20-item student self-completed form completed online. Questions are presented one at a time following brief directions. Students can choose to read the questions themselves or have the questions read aloud by clicking a speaker icon. The estimated time to complete is about ten minutes per student. To complete the assessments, students use a four-point Likert scale (0=never, 1=sometimes, 2=often, 3=almost always) to indicate how frequently they have engaged various behaviors in the past month. Behaviors include getting along with peers, feeling worried, and getting good grades. Once completed, the responses are summed by domain to create total score. The cut-scores between forms are the same-- in the domain of social behavior, a score of 12 or lower indicates risk; in academic behavior, a score of nine or lower indicates risk; in emotional behavior a score of 16 or lower indicates risk, and in total behavior a score of 36 or lower indicates risk. The possible range of scores on the MySAEBERS is 0-60. On

the seven-item Social Behavior subscale the possible range of scores on the Social Behavior subscale is 0-21. On the six-item Academic Behavior subscale, the possible range of scores on the Academic Behavior subscale is 0-18. On the seven-item Emotional Behavior subscale, the possible range of scores is 0-21

A review on the Evidence Based Intervention Network synthesizes three studies conducted in elementary, middle, and high school settings evaluating the technical adequacy of the SAEBRS (Kilgus et al., 2013; Kilgus, Eklund, et al., 2014; Kilgus, Sims, et al., 2014). and suggests that it is a technically adequate and potentially effective instrument for school-wide screening (2014). Across studies of middle and high school students, internal consistency reliability coefficients, measured using Cronbach's alpha ranged from .93 to .94 in total behavior, .89-.93 on the social behavior subscale; .92 to .93 on the academic behavior subscale; and .77 on the emotional behavior subscale. Test-retest estimates using Pearson's *r* were only reported in one study, with results of .41 on the social behavior subscale, .47 on the academic behavior subscale, and .48 across total behaviors (EBI, 2014). Concurrent validity using the BASC-2 indicated an *r* of .94 for total behaviors; .85 for the social behavior subscale; .88 for the academic behavior subscale; and .69 for the emotional behavior subscale. Estimates of diagnostic accuracy were in the acceptable range or better. Area under the curve (AUC) was .99 on total behaviors; sensitivity was .95; and specificity was .92 (EBI, 2014). On the social behavior subscale AUC was .96, sensitivity was .93, and specificity was .85. On the academic behavior subscale AUC was .95, sensitivity was .91, and specificity was .83. On the emotional behavior subscale AUC was .86, sensitivity was .86, and specificity

was .73 (EBI, 2014). Internal consistency estimates for the sample in this study were not available, as only total scores and index scores were available to the author.

Phase Two

Usage Rating Profile (URP). The URP-Assessment (URP-A; Chafouleas et al., 2012) and items of the Children's URP (CURP; Briesch & Chafouleas, 2009) were adapted to gather data on implementation-relevant outcomes associated with administration of the TSSCA. The URP-A is a 28-question self-reported rating form developed to measure the constructs of social validity (e.g., acceptability, feasibility, etc.) of assessment practices (Chafouleas et al., 2012, Miller et. al., 2014). Questions include items such "This assessment is an effective choice for understanding a variety of problems." Responses are gathered using a six-point Likert scale (1=strongly disagree, 2=disagree, 3=slightly disagree, 4=slightly agree, 5=agree, and 6=strongly agree). The URP-A produces ratings across six factors: acceptability, understanding, home school collaboration, feasibility, system climate, and system support. School staff who participated in a focus group completed the full, standardized form of the URP-A. Caregivers were given select items from the URP-A. Items that were irrelevant to caregivers experience were removed (e.g., "My work environment is conductive to implementation of an assessment like this one"). The wording of items was changed to improve clarity by replacing pronouns and generic terms with "the TSSCA". Adapting items from the URP to more closely match study purpose has precedent in the literature and did not appear to negatively impact reliability estimates (McIntyre et al., 2018). The adapted parent form included 15 items in total. Although all items of the URP-A weren't completed by all caregivers, results were still calculated for descriptive purposes.

The CURP (Briesch & Chafouleas, 2009) is a 21-item measure that captures children's perceptions across three factors of social validity: personal desirability, feasibility, and understanding. Items are rated on a four-point scale ranging from 1= I totally disagree to 4 = I totally agree. All students were given items from the CURP that were deemed appropriate to their experience completing trauma screening instruments. Items that were deemed to be irrelevant were removed (e.g., "This method made it hard for the other students to do work"). The wording of items was changed to improve clarity by replacing pronouns and generic terms such as "this method" with "the TSSCA." The adapted form included 15 items in total. As with the URP-A, although some items of the CURP weren't completed by all students, results were still calculated for descriptive purposes.

In a validation study examining the construct validity of the URP-A, results suggested adequate model fit with its proposed six-factor model (Miller, 2014). Further, estimates of internal consistency varied across the factors (α=.63-.90), with Acceptability evidencing the strongest internal consistency and System Support evidencing the weakest (Miller, 2014). Initial validation of the CURP using exploratory factor analysis revealed a three-factor model. After removing poorly performing items, reliability was calculated across the three identified factors, and estimates of internal consistency ranged from .75-.92 (Briesch & Chafouleas, 2009). While the evidence for the URP is still emerging, it is unique in its scope as a measure of social validity, as it captures multiple dimensions pertinent to likely adoption and use as part of routine practice. Additionally, given the small sample of focus group participants in this study, use of a standardized instrument,

such as the URP provided a point of reference for aggregation with potential future studies. All URP forms used in the study can be found in Appendices C, D, and E.

Trauma Screening Comparison Survey. A trauma screening comparison survey was developed by the author to evaluate participants' ratings of the TSSCA's acceptability, feasibility, and appropriateness relative to another trauma screening instrument, the Child Trauma Screen (CTS; Lang & Connell, 2017). The CTS was selected as an alternative current, brief, free, psychometrically sound trauma screening instrument for use across diverse-child serving systems by variety of professionals. Participant provided ratings on a nine-point rating scale from 1=Not at all acceptable to very acceptable/feasible/appropriate to 9=Very acceptable/feasible/appropriate. The form also included space for participants to provide a rationale for their rating in each area. No psychometric information was available for this instrument as it was developed for the study. A copy of the TSSCA/CTS comparison survey can be found in Appendix F. A copy of the CTS can be found in Appendix H.

Focus Group Record Forms. Record forms were created and used as visual organizers to support focus group participation, to provide space for note taking, and to record participants' ranking of recommendations. The participants were informed that the notes on their record sheets may be used by the facilitator to illustrate ideas and elicit recommendations from others through use of a Nominal Group Technique (NGT; Morris-Gallagher et al., 1993), a methodology eliciting using user feedback that will be described in the next section of this chapter. A sample focus group record form can be found in Appendix G.

Extant School Administrative Data

This study also included the use of extant data from the district's school administrative data system. Demographic data were collected from the district for all participating students and in aggregate for the district overall. The data were compiled and sent to the author by a district administrative staff. The district also provided student outcome data from two assessments of social, emotional, and behavioral functioning that are administered universally within the district, the Benchmark Assessment Tool (BAT) and the Student Engagement Inventory (SEI)

Benchmark Assessment Tool (BAT). The BAT is a five-item, teacher completed instrument used to measure student social emotional learning skills. The BAT was developed within the school district to support instructional planning. The BAT requires teachers to rate students across five domains: self-awareness, self-management, social awareness, relationship skills, and responsible decision making. There are five possible levels within each domain: initial, emerging, developing, intermediate, and proficient. Each student is rated by their homeroom teacher. Internal consistency estimates were not able to be calculated as item level data were not available nor provided upon request.

Student Engagement Instrument (SEI). The SEI is a free, 35-item self-report rating scale designed to assess key dimensions of student engagement in school (Appleton et al., 2006; Appleton et al., 2012; Carter et al., 2012). Administration of the SEI within the study school district was universal and standardized. Teachers administered the SEI online or using paper and pencil depending on the school site. Each student completed the SEI three times per year (e.g., fall, winter, spring). Students respond to items such as "My education will create many future opportunities for me,"

using a five-point Likert scale from 1=Strong Disagree to 5=Strongly Agree. Results from the SEI produce a total score and six domain scores conceptually linked to two types of engagement, cognitive and affective. In the affective domain, the SEI measures control and relevance of school work, future goals and aspirations, and intrinsic motivation. In the cognitive domain the SEI measures teacher-student relationships, peer support for learning, and family support for learning. Prior research has indicated that SEI is a reliable and valid tool (Appleton et al., 2006; Appleton et al., 2012; Carter et al., 2012). As with the BAT, item level data for the SEI were not provided by the district. As such, internal consistency estimates were not able to be calculated for the study sample.

Procedures

Partnership with the intermediate school district was secured through ongoing relationships between the author, the author's academic mentor (Dr. Cook), and district leadership. Moreover, there was prior interest among district leadership and personnel to examine factors related to the use of trauma screening to improve student access to needed trauma-informed intervention. District fit for the study was based on the following inclusion criteria: (a) current use of a broad universal screener to identify students who are socially, emotionally and/or behaviorally at risk, (b) absence of trauma screening procedures to detect students who are experiencing trauma symptomology, and (c) availability of mental-health service providers trained in evidence-based service provision specific to trauma.

Approval for this research was granted by the district administrators who were responsible for overseeing and supervising school principals and their educational programs at the four school sites. Approval and support to partner in this research was

also obtained from the district school psychology team, the head of special education, and the principals at each school site. These agreements were formally documented for purposes of institutional review.

Research Design

The study design was a mixed qualitative and quantitative feasibility demonstration that occurred in two phases. The main goal of feasibility demonstration studies is to gather data from key stakeholders that informs ways of improving aspects of a product (e.g., TSSCA) that increase the likelihood that it will be successfully used in actual practice (Bowen et al., 2009). Phase One involved administering broad and trauma-specific screening instruments (SAEBRS-TRF, mySAEBRS, and TSSCA) to all students for whom consent and assent was obtained. Phase Two involved focus group sessions with key stakeholder groups (students, school staff, and caregivers) to gather mixed quantitative and qualitative data on their perceptions of the feasibility, acceptability, and appropriateness of trauma screening instruments and procedures. Consistent with Palinkas et al. (2011), this study used a quan>qual approach, where the quantitative data was used to spur qualitative input, in this case to have participants elaborate and describe the reasons for their ratings. For example, based on participants' ratings of acceptability, they were asked to elaborate and provide recommendations to improve the acceptability of trauma screening in schools. More broadly, results from both phases of data collection, described hereafter, were used together to provide a comprehensive picture of acceptability, feasibility, and appropriateness of trauma screening procedures and instruments.

Collaboration and Planning with Stakeholders

Prior to data collection, extensive planning occurred with stakeholders and at the partnering school site to plan for conducting an ethical and effective screening procedure. The author worked closely with the school psychology team to facilitate planning and execution of this study. Initial agreements and a letter of support from each school principal were created. All recruitment materials and study materials were reviewed and created in collaboration with district staff to ensure maximum clarity, appropriateness, and fit for students, staff, and families.

Although screening procedures were not predicted to produce an increase in mandated reports to child protection, the author collaborated with the school social work team to troubleshoot and plan for the possibility of disclosures requiring reporting. Further, listening session and professional development about the purpose of the study and trauma screening broadly were presented to key staff including social workers, social emotion learning coaches, district administrators, and school psychologists.

School psychologists who helped to coordinate and follow-up with recruitment were given a $100 gift card for the time they invested in facilitating different aspects of this study. All payments were discussed and agreed upon with the district and participating schools. Teachers who helped to complete the SAEBRS-TRF and coordinating recruitment and consent were provided with a $20 gift card as a thank you for their time.

Recruitment, Consent, and Assent Processes

Child eligibility in the study was determined based on the following inclusion criteria: (a) consent obtained from the child's legal guardian (or the participant

themselves when appropriate) and assent from the child and (b) the ability of the family and child to understand consent and assessment/screening questions in English without translation. Initial recruitment flyers were sent to families as paper forms. Classroom teachers distributed and collected forms to and from students. The school psychologist at each site distributed and collected forms to and from teachers. This initial recruitment described the purposes of the study, potential benefits (e.g., access to trauma-focused mental health assessment and intervention for students who demonstrate need), risks (e.g., potential for disclosure of private information), the limits of confidentiality and circumstances that necessitate mandated reporting, and incentives for participation. On the recruitment flyer, caregivers were invited to participate, decline to participate, or to ask more questions. Options for contacting the school psychologist or study author were provided, as well as a link to the online consent forms. All caregivers who returned the form or completed the online consent form were entered in a random drawing for one of five $20 gift card, regardless of whether they provided permission for their child participate in the study.

Based on feedback from the school psychology team about student questions related to the study and the flyer, the study author made visits to all classrooms with eligible students at three of the four school sites (one site declined to these visits), answered questions about the study, and again distributed recruitment forms. In addition, all school psychologists were sent an electronic version of the recruitment form to share with teachers and families as needed. Students were offered a non-contingent voucher for a treat (up to $2.50 value) at the school café for returning flyers. Families of eligible

students that did not return a form received one follow-up phone call from the study author to ensure that recruitment messages were received.

Students who were 18-years-old learned about the study during the initial recruitment period with 11 to 17 year-olds and were also recruited during classroom visits by the study author. The author worked with each site's school psychologist and classroom teachers to identify a day and time to visit the teacher's classroom, briefly describe the study (recruitment), and schedule a time for interested students to participate in study procedures (consent and administration of questionnaires). A copy of the consent form for 11 to 17-year-olds can be found in Appendix J.

Student assent was obtained in person immediately prior to administering the TSSCA and SAEBERs (see Appendix I). Assent, including explanation of benefits and risks and the limits of confidentiality, was obtained from the student at the time of the screening using an IRB-approve script. Participants were encouraged to ask questions about study procedures. If participants agreed to participate, they were asked to type or write their name into a box on the survey platform or paper assent form and check a box indicating they wanted to participate. For students that were 18-years-old, active consent was obtained in person by the study author via electronic form (see Appendix J for detail). All 18-year-old students who completed consent at Phase One were entered in a random drawing to win a tablet computer and received a voucher for their school café (worth up to $2.50).

At the time of consent/assent students and caregivers agreed to follow-up contact for sharing of results and participation in future research. All student participants and their caregivers (if under 18) were invited to participate in 90-minute follow-up focus

group over the summer, after TSSCA results had been shared. Student participants and their caregivers were informed that participation required the ability to engage independently with the group for the entire allotted time and to complete several written forms.

Focus group participants were offered a $100 gift card for their time and provided light refreshments during the focus group. Focus group slots were filled on a first-come-first-serve basis with the goal of recruiting 6-8 participants per group: students, caregivers, and staff.

Phase One: Screening Administration

At each partnering school site, the SAEBRS-TRF, mySAEBRS, and the TSSCA for Schools were administered with all children (and their classroom teachers) for whom active consent was obtained. The study author worked with school psychologists, social workers, educational assistants, and classroom teachers to identify a 30-minute time slot during the day where the student would not miss important instruction or highly preferred activities and pulling the student would not be disruptive to ongoing activities. At that date and time, the student was pulled from class to obtain assent and, if provided, complete the mySAEBRS and the TSSCA. The TSSCA portion of the screening process took roughly three to five minutes per child, the mySAEBERS five to ten minutes, and assent and questions roughly five minutes. Following completion of the student self-report measures, the study author met with the participating student's classroom teachers to ensure completion of the SAEBRs-TRF.

Phase Two: Focus Groups

Focus groups are commonly used methods in demonstration studies as a tool to collect qualitative data from key stakeholders (Denning & Verschelden, 1993; Patton, 2014). Focus group procedures were developed following the recommendations set forward in the literature (Krueger & Casey, 2002; Patton, 2014) and to incorporate NGT (Morris-Gallagher et al., 1993) to elicit participation and feedback. Each focus group session was 90 minutes long and held in a district location central for most participants.

Each focus group began with an explanation of the purpose of the study, privacy, and how information collected would be used for purposes of addressing specific research questions. Participants were provided with the opportunity to ask questions and introduce themselves. Following Krueger's (2002) recommendations for conducting focus groups, participants were then asked to answer questions informally. Scripted questions were followed in a semi-structured manner acting as a guide to facilitate conversation. Participants were encouraged to build on each other's thoughts. A copy of the focus group guide is provided in Appendix K.

Following this introduction, focus group participants were provided copies of the CTS and the TSSCA. They were asked to review each form for about five minutes. Following review, each participant was given the Trauma Screening Comparison and asked to rate the TSSCA relative to the CTS. The CTS was selected as a comparison measure due to its relative similarity to the TSSCA and has been evaluated for use in schools, specifically an all-day school for children with emotional and behavioral disorders (CTS; Lang, & Connell, 2018). The CTS is a free, ten-item instrument "…intended as a trauma screen for use across child-serving systems" (Lang & Connell,

2018, p. 540). Forms include a child report for use with children ages seven and older and a parent report for use with children ages six and older. Items assess trauma exposure and symptomology. A copy of the CTS can be found in Appendix H.

NGT (Morris-Gallagher et al., 1993) was used to generate a list of prioritized recommendations from participants about how to improve the feasibility, acceptability, and appropriateness of trauma screening in schools. NGT is a staged focus group procedure developed in the field of programming planning. NGT uses its structured format to elicit participant discussion on a particular topic, ultimately resulting in a list of results and recommendations that are created in session. NGT was selected for this study, as it allows for both idea generation and consensus building within a short period time. The process encourages equitable participation from all group members, helping to elicit, hopefully, more extensive and varied feedback from participants, even in the group is small. Further, analyzing results is simplified by the creation of a hierarchical list through group consensus, providing a more feasible alternative to other qualitative analysis strategies. The author used a six stage approach to NGT adapted from Claxton, Richie, and Zaichkowsky (1980) to guide discussion. During the first stage, introduction and explanation, the author defined key terms and the guidelines for discussion, a sample of the script is provided in Appendix K. During stage two, silent generation of ideas, participants were asked to silently brainstorm and write down their ideas considering the feasibility, acceptability, and appropriateness of trauma screening instruments and procedures. Example questions were provided. In stage three, each participant was asked to share at least two responses with the group, which were recorded on a flip chart by the author. In stage four, group discussion was encouraged to elaborate, add new ideas, or

challenge ideas currently on the list. In stage five, the idea list was consolidated and clarified. Each idea was assigned a letter. In stage five, participants were asked to select their top eight ideas and to rank them from 1 (most important) to 8 (least important). Finally, in stage six, results were consolidated. This was completed post hoc by the study author.

Sharing results

Following administration of the screening tools, legal guardians of students under 18-years-old who scored six or higher on the TSSCA indicating possible presence of moderate to severe trauma-related symptoms, were contacted and notified of the results by the researcher (see "Phase One De-Brief Script" in Appendix L). At that time, caregivers were given an opportunity to ask questions and provided a list of relevant trauma-related resources that are available to them. Participants who were 18-years-old and scored a six or higher on the TSSCA were contacted directly. In order to ensure that the participating school district was able to benefit from the findings of this research, a plan was developed to share the data in workshops with interested staff in addition to sharing the final dissertation project. Initial results were shared with selective administrative staff and the school psychology team. Onset of COVID-19 shelter in place orders interfered with additional planned workshops. An executive summary of summary results was produced for use by the district based on staff feedback following the initial workshops. Additional data and support for interpretation will continue to be available to district staff by request to the study author.

Data Analytic Approach

Research Question One: Technical Adequacy of the TSSCA in Schools

Given that the TSSCA produces a unitary factor capturing trauma risk, the first data analytic procedure involved confirming the construct validity of the school-adapted TSSCA via a confirmatory factor analyses (CFA) using weighted least squares means and variances (WLSMV) estimation. The fit of each model was determined across several indices (e.g., chi-square statistic, comparative fit index [CFI], the Tucker-Lewis index [TLI] root mean square error of approximation [RMSEA]) with values of the CFI and TLI greater than .95 and values of the RMSEA less than or equal to .05 as indicative of good model fit to the data. Standardized factor loadings (ß) less than .50 were used to identify poorly performing items that required further examination. A reliability estimate in the form of internal consistency was calculated using coefficient omega. Correlational analyses were conducted to examine evidence of convergent and divergent validity with other measures, including the SAEBRS, BAT, SEI, and demographic variables.

Risk scores were computed for the TSSCA and SAEBRS data using established cut scores and coded as a categorical variable of yes at-risk or not at-risk. Total scores were also used as the sum of items and included as continuous variables. All demographic variables were coded as binary sets. Gender was coded as male/female (no non-binary or gender non-conforming students were identified in the sample). Ethnicity was coded as white/not white. Age was coded as 18-years-old or less than 17-years-old. Home language was coded as English/non-English. School program was coded as ALC/other. HHM, migrancy status, special education classification and emotional behavioral disorder classification were coded as yes/no.

Research Question Two: Viability of Multiple-Gating

The numbers of students who were detected as at-risk by the SAEBRS-TRF, mySAEBRS and the TSCCA as experiencing moderate to severe trauma-related symptoms were calculated. These data were then used to perform a cross tabulation analysis of the number and proportion of students who were identified by the SAEBRS and the TSSCA. Next, the number of students identified using the TSSCA but missed by the SAEBRS were calculated to determine whether the TSSCA uniquely identified students who would otherwise have been missed (i.e., false negatives according to the SAEBERS). If the multiple-gating procedure is to be effective in identifying children for trauma, then the initial universal screening has to identify students who are subsequently detected by the trauma screening instrument. Using time estimates from the administration of the TSSCA and SAEBRS, the efficiency of a multiple-gating procedure was estimated by calculating the time that would have been saved by only administering the TSSCA to those students who were flagged as "at-risk" by the SAEBRS versus for every student in a hypothetical school of 500 students.

Research Question Three: Stakeholder Perceptions of Trauma Screening

Descriptive statistics and qualitative data were used to evaluate the feasibility, acceptability, and appropriateness of using the TSSCA in schools. Means, standard deviations, and ranges were calculated for the URP-A and CURP to examine the extent to which stakeholder groups found the TSSCA to feasible, acceptable, and appropriate. Qualitative data from the NGT were used to synthesize recommendations from stakeholder groups to improve trauma screening in schools. Given district concerns about

mandated reporting, number of mandated reports were also included as an indicator relevant to considerations of both acceptability and feasibility.

Chapter 4: Results

Through a pilot administration, the present study aimed to demonstrate and evaluate the technical adequacy. feasibility, acceptability, and appropriateness of the University of Minnesota Traumatic Stress Screen for Children and Adolescents (TSSCA). Phase One involved administering broad and trauma-specific screening instruments (SAEBRS-TRS, mySAEBRS, and TSSCA) to all 78 students for whom parental permission and assent was obtained. Phase Two involved focus group sessions with key stakeholder groups (students, school staff, and caregivers) to gather mixed quantitative and qualitative data on their perceptions of the feasibility, acceptability, and appropriateness of trauma screening instruments and procedures. The first section of this chapter provides descriptive statistics for each of the quantitative measures. Results are then organized and presented for each of the three research questions that informed the data analytic approach.

Descriptive Statistics

In total, complete data (mySAEBRS, TSSCA, and SAEBRS-TRF) were collected for 75 students. For three students SAEBRS-TRF ratings were not obtained. Twelve participants had missing SEI data and 31 had missing BAT ratings. Descriptive data, including means, standard deviations, and ranges, for all measures are displayed in Tables 2 and 3.

Of the 78 students screened using the TSSCA, 35% (n=27) were found to have scores that exceeded the threshold of at-risk established via previous research. Overall, the average score on the TSSCA was 4.19 (SD=2.97), with scores ranging from a minimum of zero to a maximum of ten. Among the students who had scores in the at-risk

range, the average score was 7.33. Among students who had scores lower than the at risk cut score, the average score on the TSSCA was 2.47. Ten students (13%) answered "no" to the initial question querying about trauma exposure. After removing students who said no to the initial trauma exposure questions, the average score for those who were found to be not at risk was 3.00.

Among students who had experienced a PTE, all students completed all five symptom items on the TSSCA. The items with highest mean score was item one, "Had upsetting thoughts, images, or memories of the event come into your mind when you didn't want them to?" (M=0.88, SD=0.738) and item two, "Felt afraid, scared, or sad when something reminded you about the event?" (M=0.88, SD=0.720). The item with the lowest mean score was item three, "tried to stay away from people, places, or activities that reminded you of the event?" (M=0.77, SD=0.852).

On the mySAEBRS instrument, all students completed all 20 of the items. Scores of 36 or lower indicate risk. Of 78 students screened using the mySAEBRS, 28 (36%) were found to be at-risk. The mean total score was 39.06 (SD=6.48), with a range of 19-55. For the Social Behavior subscale, a score of 12 or lower indicates risk, and descriptive statistics revealed that nine students (12%) were found to be at-risk. The mean score on the Social Behavior subscale was 15.05 (SD=2.28), with a range of 9-20. On the Academic Behavior subscale, a score of 9 or lower indicates risk, and 21 students (27%) had scores that exceeded the cut score. The mean score on the Academic Behavior subscale was 11.26 (SD=3.21), with a range of 3-17. On the Emotional Behavior subscale, a score of 16 or lower indicates risk, and 67 students (86%) had scores that fell

at or above this risk value. The mean score on the Emotional Behavior subscale was 12.76 (SD=3.88), with a range of 2-21.

On the SAEBRS-TRF, teachers completed all items for 75 students. Risk cut-offs are consistent across forms. Of 75 students screened using the SAEBRS-TRF, 45 students (60%) were found to be at-risk. The mean total score was 33.36 (SD=8.617), with a range of 11-54. On the Social Behavior subscale, 40 students (53%) were found to be at-risk. The mean score on the Social Behavior subscale was 11.01 (SD=3.80), with a range of 3-17. On the Academic Behavior subscale, 43 students (57%) were found to be at-risk. The mean score on the Academic Behavior subscale was 9.19 (SD=3.751), with a range of 0-17. On the Emotional Behavior subscale, 64 students (85%) were found to be at-risk. The mean score on the Emotional Behavior subscale was 13.16 (SD=3.234), with a range of 3-20.

For the 65 student participants for whom total SEI rating scores were reported, only percentile data were provided, as no item level data were made available. Findings for the total score revealed that six students were in the 1-10%ile, 11 were in the 11-25%ile, 36 were in the 26-75%ile, seven were in the 76-90%ile, and five were above the 90%ile as compared to national norms. Descriptive data for each of the five domains of the SEI are displayed in Table 2.

For the 45 participants who had at least one complete BAT rating, ratings were based on total scores across a five-point ordinal scale from initial to proficient across five domains. No total score was provided. Across all of the subscales, Self-Awareness had the highest mean score (M=3.39, SD=0.86). Responsible Decision Making had the lowest mean score (M=2.84, SD=1.00). Complete results are provided in Table 2.

Research Question One: Technical Adequacy of the TSSCA in Schools

Research question one asked: Are the findings of the initial validation study for the TSSCA (e.g., underlying factor structure, reliability estimates, and classification accuracy) generalizable to the school setting? To answer this question confirmatory factor analyses (CFA) were conducted to test whether evidence supported and confirmed the unitary construct assessed by the TSSCA with data gathered in a novel setting by a unique sample of participants. Analyses were also performed to estimate the internal consistency of the TSCCA items by calculating an omega coefficient and to examine via correlational matrix evidence of convergent and discriminant validity of the TSCCA with other measures.

Results of CFA

Prior to running the CFA, data were examined to ensure that assumptions for performing CFA were met. This involved conducting preliminary descriptive statistical analysis to examine missing data, collinearity issues, and presence of outliers. No issues were noted with missing data, collinearity, or outlier data. Examination of standard deviations suggested appropriate variability, and multivariate data appeared to be relatively normally distributed. Spearman correlations were calculated between items, and scores were found to be positive and statistically non-significant (see Table 4).

Several fit indices were calculated in order to evaluate model fit (e.g., chi-square statistic, comparative fit index [CFI], the Tucker-Lewis index [TLI], and root mean square error of approximation [RMSEA]). A non-significant chi-square, values greater than .95 for the CFI and TLI, and a value less than or equal to .05 for the RMSEA are indicative of a model that fits the obtained data. To examine items, standardized factor

loadings (ß) less than .50 are considered to be performing less than adequate and require further examination (Brown, 2015). Results for the CFA fit indices and factor loadings are depicted in Table 5. Standardized factor loadings ranged from 0.64 (item three, "Tried to stay away from people, places, or activities that reminded you of the event?") to 0.96 (item one, "Had upsetting thoughts, images, or memories of the event come into your mind when you didn't want them to?), exceeding the .50 threshold for detecting potentially poorly performing items. These findings provided initial evidence that all items were performing adequately and loading on to a unitary factor. Overall, fit indices from the CFA revealed a good fitting model, consistent with the hypothesized unitary factor structure of the tool. The chi-square was 3.97 and non-significant, indicating the model fit the data CFI and TLI values were both approximately 1.00 which is greater than the established threshold of .95. RMSEA was found to be zero and non-significant because the degrees of freedoms (df=5) exceeded the Chi square in the model specified (X^2=3.966). This is likely due to sample size to parameter ratio and parsimony of the single factor model. For this reason, the other fit indices of good model fit were prioritized (e.g., factor loadings, chi-square, CFI, and TLI), and results together suggested that the model demonstrated a good fit to the data.

Internal Consistency

Internal consistency of the TSSCA items was calculated using coefficient omega. The result was in the acceptable range (Ω = 0.84). This estimate was consistent with previous findings (Ω= .81: Donisch et al., 2017).

Convergent and Divergent Validity

Correlational analyses were used to examine evidence of convergent and discriminant validity with other measures. Given missingness in extant data, pairwise deletion was performed to avoid biasing the results in favor of respondents with more consistent attendance or those who were new to the district, particularly in ALCs where students attend only "as needed." The following variables were included: TSSCA total, risk (n=78); mySAEBRS total, risk and subscale scores (n=78); SAEBRS-TRF total, risk, and subscale scores (n=75), SEI total and subscale ratings (n=64), BAT subscale ratings (n=45); and demographic data including gender, race/ethnicity, age, home language, homeless/highly mobile status (HHM), migrant status, special education classification, emotional/behavioral disorder classification, and school program (n=78).

First, evidence of convergent validity was examined. Findings revealed significant correlations between the TSSCA and all scores from the mySAEBRS except the academic subscale. The strongest correlation was noted between the TSCCA total score and mySAEBRS emotional behavior sum score. Significant yet weaker correlations were found between the TSSCA total score and the Emotional Behavior subscale of the SAEBRS-TRF *(r*=-0.25*),* which was expected due less shared method variance than the mySAEBRS. Significant yet weaker correlations were also found for gender indicating males were associated with higher TSCCA scores, which is surprising given that female gender is typically associated with higher risk. Further, TSSCA results were not found to significantly correlate with other variables that it should theoretically be associated with, likely as a result of the restricted range on these variables due to the nature of sample.

Research Question Two: Viability of Screening Procedures

Research question two asked: How viable is a multiple-gating procedure using data from a broad behavioral screener and a trauma-specific screener? To answer this question cross-tabulation analyses were performed to evaluate the number and proportion of students flagged as "at-risk" using a broad behavioral screening instrument as compared to the TSSCA and to determine the extent to which the TSSCA uniquely identifies students who are "at-risk." In addition, the administration time for universal screening procedures as compared to multiple-gated procedures was calculated to estimate the efficiency of the two different screening approaches.

Correlations between the TSSCA and other variables were used as a starting point for examining agreement between measures. A summary of agreement calculations can be found in Table 7. Given that risk rather than sum scores are most relevant for decision making, binary risk decisions were used to calculate agreement. The TSSCA risk score demonstrated the strongest associations with mySAEBRS overall risk and the mySAEBRS Emotional Behaviors subscale. Thus, cross-tabulations were performed between the TSSCA overall risk, the mySAEBRS overall risk, and mySAEBRS emotional behavior risk.

Agreement between mySAEBRS overall risk and the TSSCA was fair (Cohen's kappa=0.35). In total, the mySAEBRS total score identified 28 (36%) students as at-risk. Of those students identified as at-risk, the TSSCA identified 16 (57%) as evidencing trauma symptoms that exceeded the cut score. When examining students who were not identified as at-risk via the mySAEBRS total score, results suggested that 11 students (14%) would be missed who were found to have trauma-related symptoms that exceeded

the TSSCA cut score. These 11 students represent false negatives that the mySAEBRS would not detect via an initial universal screening, and thus, would not have been administered the TSSCA if using a multiple-gating procedure. In sum, while these results suggest moderate agreement, they also question the viability of multiple-gating as a procedure for targeted trauma screening due to students who may be missed by the universal screener and not detected as in need of intervention.

Agreement between the TSSCA and the Emotional Behavior subscale of the mySAEBRS was poor (Cohen's kappa =0.018). Using data from the Emotional Behaviors subscale from the mySAEBRS, a total of 67 (86%) students were identified as at-risk. Of those students identified as at-risk, the TSSCA identified 26 (38.80%) as evidencing trauma symptoms that exceeded the cut score. Of the eight students who were not identified as at-risk via the Emotional Behavior subscale, results suggested one student (1% of the total sample) would likely be missed who reported elevated trauma-related symptoms that exceeded the TSSCA cut score. The number of students missed using the Emotional Behavior subscale is much lower than the rate of those missed using mySAEBRS total score, yet agreement between the two was found to be low. The high proportion of students identified as at-risk on the Emotional Behavior subscale relative to the TSSCA may subscale resulted in few students who were not at-risk, resulting in a lower false negative rate by chance rather than the sensitivity of the mySAEBRS Emotional Behavior Scale to trauma symptomology.

As discussed previously, no significant association was found between the TSSCA and SAEBRS-TRF total score. Agreement between the TSSCA and the SAEBRS-TRF was poor (Cohen's kappa=0.03). In total, 45 students (60%) were

identified as at-risk using the SAEBRS-TRF total score. Of the 45 students identified as at-risk by the SAEBRS-TRF, 17 were also detected by the TSSCA as having trauma symptoms that exceeded the cut score. SAEBRS-TRF data revealed that 30 students had scores below the established cut score of 36, indicating no risk. Nine of these students were identified by the TSSCA as at risk, indicating that slightly smaller proportion of students (12%) would likely be "missed" using a multiple-gating procedure than using mySAEBRS total score. Similar to with the Emotional Subscale of the mySAEBRS, this finding may be due to a greater proportion of students who were identified as at-risk, in this case when using teacher-report data (n=45) as compared student-report data (n=28).

While the TSSCA was not associated with the SAEBRS-TRF total score, a weak correlation was identified between the TSSCA total score and the Emotional Behavior subscale. In total, the SAEBRS-TRF Emotional Behaviors scale identified 64 (85%) students as at-risk. Of those students identified as at-risk, the TSSCA identified 22 (34.38%) as evidencing trauma symptoms that exceeded the cut score. Among the remaining eleven students who were not identified by the SAEBRS-TRF Emotional Behaviors subscale, four were identified by the TSSCA as at-risk, which is a higher proportion of false negatives (5%) than the same subscale from the mySAEBRS (1%).

Overall, results of cross-tabulation analyses suggest poor agreement between the TSSCA and the SAEBRS-TRF total and Emotional Behavior subscale if the SAEBRS-TRF. Agreement between the Emotional Behavior subscale of the mySAEBRS is also poor, however the proportion of false negatives using this scale was the lowest (n=1; 1%). Results of cross-tabulation analyses between the mySAEBRS total and TSSA demonstrate moderate agreement, but the highest proportion of higher false negatives

(n=11), suggesting that agreement is not necessarily the best metric to determine the optimal data to use within a multiple-gating approach.

Estimates were calculated to determine the amount of time it would take to complete universal trauma screening compared to targeted trauma screening as part of a multiple-gating procedure. On average, the one-on-one administration of the TSSCA required roughly five minutes per student. This suggests that universal trauma screening in a school with 500 students would take roughly 2,500 minutes or about 42 hours.

If 36% of the 500 student school were identified as at-risk via a self-report broadband behavioral screener (mySAEBRS total score), this would result in 180 students then being administered the TSSCA. In this multiple-gating scenario, the total time for screening administration would be roughly 910 minutes or roughly 15 hours. This estimate was derived as a self-report broadband screener like mySAEBRS would take roughly 10 minutes to administer if all students were provided time on the same day to complete the measure. The remaining time would be devoted to one-on-one administration of the trauma screener with the 180 students who were identified as at-risk which would save roughly 27 hours of time relative to a universal trauma screening approach.

Alternately, if the Emotional Behavior subscale of the mySAEBRS were used as a first gate, this would result in 430 students (86% of 500 students) being administered the TSSCA. In this scenario, total time for screening administration would be roughly 2,160 minutes or roughly 36 hours. Time for administration of the broadband behavioral screener would remain the same as the mySAEBRS is not available for administration at the subscale level alone. The remaining time would be accounted for by one-on-one

administration of the TSSCA to all students identified. In this scenario, multiple-gating would save six hours (universal 42 hours – multiple-gating 36 hours) of time relative to a universal trauma screening approach.

Although results of cross-tabulation analyses support student self-report of behavior as a first gate given both better agreement and lower proportion of false negative, calculations of efficiency were also performed using teacher-report of behavior. Given that 60% of the 500 student school were identified as at-risk via a teacher-report broadband behavioral screener (SAEBRS-TRF), this would result in 300 students then being administered the TSSCA trauma screener. In this multiple-gating scenario, the total time for screening administration would be roughly 2,500 minutes or about 42 hours—which is 27 hours longer than using data from mySAEBRS as the first gate. This estimate was derived as a teacher-report broadband screener like SAEBRS-TRF would take roughly 2 minutes per student to administer if each student were rated by only one teacher (1,000 minutes or about 17 hours total). The remaining time would be devoted to one-on-one administration of the trauma screener with the 300 students who were identified as at-risk which would be roughly 1,500 minutes or 25 hours. Using only the Emotional Behaviors subscale of the SAEBRS-TRF as a subscale (85% identified at-risk) would clearly increase total time of administration.

Together, the findings from the cross tabulation and time analyses indicate that the optimal approach to multiple-gating depends on a several factors. First, while using mySAEBRS total score data as the first gate may be the most time efficient approach, it also is likely to have the highest proportion of false negatives. Second, while using mySAEBRS Emotional Behavior subscale data may be associated with the lowest false

negatives, it does not save as much time compared to a universal trauma screening approach.

Research Question Three: Stakeholder Perceptions of Trauma Screening

Research question three asked: Do key stakeholders (educators, students, and caregivers) perceive trauma screening administration procedures and instruments as feasible, acceptable and appropriate for use in schools? To accomplish this, mixed-method focus groups methodology was used to elicit feedback directly from participants about (a) the feasibility, acceptability, and appropriateness of trauma screening, (b) comparisons between two different trauma screening instruments (i.e., TSSCA and CTS), and, (c) recommendations for improving school-based trauma screening. Data were analyzed and findings are reported below according to each of these sub-aims. While mandated reports to child welfare resulting from screening procedures were initially included as a factor relevant to both acceptability and feasibility, no reports were made.

Feasibility, Acceptability, and Appropriateness

Feasibility. All staff answered all items on the URP-A domain of feasibility. Overall, staff rated the TSSCA as very feasible (M=5.56, SD=0.36 on a six-point Likert scale). The items with the highest rated mean score were "The total time required to implement the assessment procedures would be manageable," (M=5.88, SD=0.35) and, "Preparation of materials needed for this assessment would be minimal," (M=5.88, SD=0.35). The item with the lowest rated mean score was, "Material resources needed for this assessment are reasonable," (M= 5.25, SD=0.71). Ratings for all participants across domains reported are included in Table 8.

On the TSSCA/CTS comparison worksheet, staff rated the TSSCA as much more feasible than the CTS (M=8.37, SD=0.74, on a nine-point Likert scale). An average of 8.36 indicates that staff rated the TSSCA as more feasible than the CTS, as higher values indicate ratings favoring the feasibility of the TSSCA relative to the CTS. Staff reported that they like the brevity of the TSSCA relative to the CTS. For example, one participate wrote that the other instrument was, "too long and too wordy. I could see some students "giving up" on the items and not really reading/listening to them." Participants also noted that the TSSCA looked easy to administer and score. One participant noted that they preferred the answer choices on the TSSCA because, "having questions all framed w/in the last month is easier to understand…"

Students were given four of the eight possible items on the CURP querying feasibility. All students responded to all items yielding a mean item rating of 3.67 (SD=0.25) on scale with a maximum of four, suggesting that they perceived the TSSCA to be feasible. The items with the highest mean score were, "The TSSCA was too much work for me," (M=3.83, SD=0.41) and, "The TSSCA took too long to do," (M=3.83, SD=0.41). Both items were reversed scored, meaning higher scores indicate disagreement with the item and thus, greater implementation viability. The items with the lowest mean scores were, "Doing the TSSCA got in the way of doing other things," (M=3.5, SD=0.84) and, "This method focused too much attention on me," (M=3.5, SD=0.84). Again, both items were reverse scored. Despite the fact that these two items had the lowest mean score relative to the domain, results still suggested that students found the TSSCA feasible.

On the TSSCA/CTS comparison worksheet students overall rated the TSSCA more feasible (M=7.5, SD=1.64) than the TSSCA. Students who preferred the TSSCA noted that they liked the brevity of the instrument, with comments such as “less questions” and “I think the TSSCA is easier based on the length.”

Caregivers were given two items from the feasibility domain of the URP-A. On the item, “Material resources needed for the TSSCA are minimal,” results yielded a mean score of five (SD=0.82) on a six-point Likert scale. On the item, “The TSSCA is too complex to be carried out accurately,” caregiver responses yielded a mean score of four (SD=1.83), suggesting that they did not find it too complex (reverse scored).

On the TSSCA/CTS comparison worksheet, caregivers preferred the TSSCA to the CTS (M=8.25, SD=0.96). Caregivers noted that they believed the TSSCA might provide better answers because, “You have a better shot at honest answers when keeping in vague.” They also noted that they liked the brevity of the TSSCA, writing that it was “not overwhelming” and “easy to complete.” However, one respondent noted that the item values under the answer options might confuse some children who associate numbers with points or grades in school.

Overall, across all three stakeholder groups, ratings indicated that they perceived the TSSCA as feasible. Additionally, feasibility ratings favored the TSSCA relative to the CTS. Most staff, student, and caregiver participants noted aspects of the TSSCA that they perceived as feasible, including its brevity and how easy it is to complete.

Acceptability. On the URP-A domain of acceptability, staff rated the TSSCA as moderately acceptable (M=4.62, SD=0.93 on a six-point Likert scale). All staff answered all nine items in this domain. The item with the highest rated mean score was “I would be

committed to carrying out this assessment," (M=5.13, SD=0.64). The item with the lowest rated mean score was, "This is a good way to assess the child's behavior problem," (M=3.28, SD=1.06).

On the TSSCA/CTS comparison worksheet, staff ratings indicated that they perceived the TSSCA as more acceptable than the CTS (M=6.75, SD=0.89). Staff noted concerns that the CTS could be "triggering" or cause "anxiety" given the specificity of the questions asked. Other comments included an appreciation of the TSSCA's focus on symptoms over exposure, but concerns about whether children would have the self-awareness to identify "bad or upsetting events" as trauma. Staff also reported that they liked the appearance of the TSSCA relative to the CTS, with one individual noting that they, "think the graphics are helpful." However, another participant noted that the format could be more "kid friendly in terms of format i.e. bigger font…"

Student ratings of acceptability were evaluated using the CURP domain of Personal Desirability. All students answered all six items in this domain with an average score of 2.73 (SD=0.014) on a four-point Likert scale, suggesting that the students found the TSSCA moderately acceptable. The item with the highest rated mean score was "I could see myself doing the TSSCA again," (M=3.17, SD=0.75). The item with the lowest rated mean score was, "I was excited to do the TSSCA," (M= 2.17, SD=0.98).

On the TSSCA/CTS comparison worksheet, students rated the TSSCA as more acceptable, but to a lesser degree than staff (M=6, SD=1.55). Students noted that, "Certain things are easier to talk about," and that the CTS might, "bring back memories." Students also noted that they found the TSSCA simpler, shorter, and easier. One student noted explicitly that they preferred the CTS, but did not provide additional information.

Caregiver ratings of acceptability were evaluated using four items adapted from the URP-A (M=4.19, SD=0.40 on a six point Likert scale), with results revealing that caregivers perceived the TSSCA to be moderately acceptable. The item with the highest mean rating was, “Use of the TSSCA would not be disruptive to students,” (M=4.75, SD=0.96). The item with the lowest mean rating was, “The TSSCA is a fair way to evaluate a child’s behavior problem,” (M=3.67, SD=0.58).

On the TSSCA/CTS comparison worksheet, caregivers rated the TSSA as more acceptable than the CTS (M=6.5, SD=1.29). Caregivers wrote that the TSSCA was “less intimidating,” easier to complete, and more child friendly than the other instrument.

Taken together, results of acceptability ratings suggest that the TSSCA was perceived as a moderately acceptable instrument across all participants and more acceptable than the CTS. Across participants, analysis of the qualitative comments suggested that the TSSCA’s emphasis on symptoms (over events) and brief format made it more acceptable than the CTS.

Appropriateness. There is no appropriateness domain on the URP-A or the CURP. However, given Proctor et al.’s (2010) definition of appropriateness as, “The perceived fit, relevance, compatibility of the innovation or evidence based on practice for a given practice setting, provider, or consumer; and/or perceived fit of the innovation to address a particular issue or problem,” several items were selected from other domains of the URP-A and CURP relevant to this construct.

Among staff the entirety of the domains of System Support, System Climate, Home School Collaboration, and Understanding domains were evaluated as indicators of

appropriateness. One item was not completed by one of the staff participants on the home-school collaboration subscale.

For the domain of System Climate, staff ratings indicated a high level of support for items suggesting a good system climate fit for implementation of the TSSCA (M=5.19; SD=0.46). This domain had the highest staff ratings among indicators of appropriateness. The items with the highest mean ratings were, “My work environment is conductive to implementation of an assessment like this one,” (M=5.25, SD=0.46) and, “Use of this assessment would be consistent with the mission of my school,” (M=5.25, SD=0.46). The item with the lowest mean rating was, “These assessment procedures are consistent with the way things are done in my system,” (M=4.75, SD=0.71).

In the domain of Understanding, staff ratings indicated that they perceived the TSSCA to be straightforward to use (M=5.13, SD=0.47). The items with the highest meant ratings were, “I understand how to use this assessment,” (M=5.25, SD=0.71) and “I understand the procedures of this assessment,” (M=5.25, SD=0.46). The item with the lowest mean score was, " I am knowledgeable about the assessment procedures,” (M=4.88, SD=0.83).

In the area of System Support, staff ratings indicated moderate agreement with items supporting the compatibility of the TSSCA with existing system structures (M=4.56; SD=1.09). The item with the highest mean rating in system support was, “I would need additional resources to carry out this assessment,” (M=5.00, SD=1.06), reverse scored. The item with the lowest mean rating was “I would need consultative support to implement this assessment,” (M=3.75, SD=1.75). Both items were reverse scored.

In the domain Home School Collaboration, staff ratings indicated that they perceived Home School Collaboration to be necessary for effective implementation of the TSSCA (M=2.96; SD=1.63). This domain had the lowest ratings among all of the indicators used as proxies for appropriateness. The items with the highest mean ratings were, "Parental collaboration is required in order to use this assessment," (M=3.13, SD=1.89) and "Regular home school communication is needed to implement these assessment procedures," (M=3.13, SD=1.64). The item with the lowest mean score was, "A positive home-school relationship is needed to use this assessment," (M=2.57, SD=2.07). All items were reverse scored.

On the TSSCA/CTS comparison worksheet, staff rated the TSSCA as more appropriate than the CTS (M=6.88, SD=1.13). While staff rated the TSSCA as more appropriate than the CTS, staff had comments indicating concerns about TSSCA's appropriateness. For example, one participant noted that the, "TSSCA needs more information," and another noted that the "questions/definition of 'the event' is more vague than the CTS."

As with the URP-A, appropriateness is not a domain of the CURP and was therefore not directly evaluated. As a proxy for appropriateness, the Understanding subscale was used. Student ratings indicated at they understood how to complete the TSSCA (M=3.05, SD=0.63). The item with the highest mean score was, "It was clear what I had to do," (M=3.50, SD=0.55). The item with the lowest mean score was "I understand why educators would use the TSSCA with me and other students," (M=2.33; SD=0.82).

On the TSSCA/CTS comparison worksheet, students rated the TSSCA slightly more appropriate than the CTS (M=5.17, SD=0.75). Student comments noted concerns about the sensitive information described in the events section of the CTS, but also that the TSSCA may be too broad. For example, one student wrote that they felt the TSSCA "is, too broad and doesn't separate 'events' from 'reaction'."

As with staff participants, URP-A items from the subscales of System Climate, Home School Collaboration, and Understanding were used as indicators of caregivers' perceptions of appropriateness. In the domain of System Support (M=4.5, SD=0.65), caregivers rated two items, "I would require additional family education in order to consent to the TSSCA" (M=4.50, SD=1) and "I would need additional information before being okay with my child completing the TSSCA" (M=4.50, SD=1.91). In the System Climate domain, caregiver ratings only rated one item, indicating agreement with the statement, "Use of the TSSCA would be consistent with the mission of my child's school indicated" (M=5.00, SD=0.82) This was the item with the highest mean rating among indicators appropriateness overall. The domain of Home School Collaboration (M=3.67; SD=0.35) had the lowest ratings amongst caregivers. The items with the highest ratings were, "A positive home-school relationship is needed to use the TSSCA" (M=4, SD=1.41) and "Regular home-school communication is needed to implement the TSSCA" (M=4.00, SD=0.82). The item with the lowest mean rating was, "Parental collaboration is required in order to use this assessment," (M=3.00, SD=0.82). Caregiver ratings indicated a moderate level of understanding overall (M=4.75, SD=0.37). Interestingly, all three items in this domain had the same mean rating (4.75), suggesting consistency in responding.

On the TSSCA/CTS comparison worksheet, the caregiver group found the TSSCA much more appropriate than the CTS (M=8.00, SD=0.00). In their qualitative feedback in this area, caregivers commented that, again, the TSSCA was easy to understand and complete relative to the other instrument when considering the special needs of children. For example, caregivers wrote that, “Simple wording means children will understand and relate easier,” and, “Easy for kids to understand-- although if they don't know they had trauma they might blow it off as nothing is wrong.”

All participants completed items from a subscale assessing Understanding on the URP. Staff endorsed the highest level of understanding, which is perhaps unsurprising given their familiarity with the language of screening and assessment, as well as specific study procedures. Students endorsed the lowest level of understanding, but their understanding was still relatively high overall. Staff and caregivers both identified System Climate most favorably among indicators of appropriateness. Similarly, both identified need for Home School Collaboration as an area of weakness relative to other ratings. TSSCA/CTS comparisons across respondents favored the TSSCA. However, among student respondents, the preference was weak.

Recommendations and Feedback from the Nominal Group Technique

Across all participant groups, the initial idea generation and sharing steps of the NGT resulted in a total of 92 recommendations to improve trauma screening procedures in schools (see Table 9). The prioritization step of the NGT was used to narrow these recommendations down to the top three recommendations for each group. Below each the results from the NGT are discussed separately for each of the groups.

Staff generated 40 unique recommendations using the NGT. Using an index score that accounted for both frequency ranked and rank order, staff identified the following three recommendations as the highest priority. Items that shared the same index score are grouped by tier and listed without regard to priority:

1. Recommendations tied for the top rank: (a) Concerns about appearance (e.g., “Looks like a screen grab,” “Could be more kid friendly,” “Appears geared toward an adult reader/hospital/not a school.”) and (b) Have a plan for how data will be used.
2. Recommendations tied for the second rank: (a) Need information about what the information will accomplish; (b) Provide a tool-kit for follow-up; and (C) Develop in the moment follow-up questions to evaluate (from the student) what additional supports they already have or need.
3. Recommendations tied for the third rank: (a) Doesn't capture current crisis; consider adding an "I need help now" box and (b) Consider including trauma screening at specific points in tier 2 and 3 to problem solve rather than universal administration.

Based on these prioritized recommendations, themes emerged regarding the importance of proactively providing clear guidance on how data from the TSSCA will be used and how best integrate the TSSCA within the flow of service delivery. Also, consistent with Proctor (2010) definitions of feasibility, acceptability, and appropriateness, the majority of recommendations (n=22) shared by staff concerned appropriateness, while the fewest concerned acceptability (n= 7).

Student participants as a whole generated 23 unique recommendations during the idea generation step of the NGT. During the prioritization process, students identified the following items as most critical:

1. Top ranked recommendation: Students need to know their answers will be confidential, even from parents in case something is happening at home.
2. Recommendations tied for the second rank: (a) Might be too much for people who don't want to share what they are going through and (b) Peer support groups are nice for kids who need extra help after trauma.
3. Third ranked recommendation: Don't like scores as they are easily understood as bad or good [e.g., the numeral scores seen under the answer options on the TSSCA form and the boxes indicating that scores will be totaled may cue students to make associations to academic grades and may therefore produce stress or anxiety, especially for students who struggle academically].

Additional recommendations generated by student participants that did not fall in the top three ranks included: (a) would help educators understand what students are going through; (b) appropriate for all ages because the questions are easy to understand and answer; and (c) use peer support groups first and then do the screening because when someone feels in community they are more likely to open up. When examining themes in the recommendations according to the implementation-relevant outcomes, student responses pertained most to issues of acceptability (n=12) and least to issues of feasibility (n=1).

For the initial idea generation step of the NGT, caregivers provided 29 unique recommendations. Caregivers then prioritized these recommendations. The following emerged as the most critical across participants:

1. Top ranked recommendation: Results can be used to inform district demographic and need data.
2. Second ranked recommendation: Parents would feel comfortable with a social worker or mental health person completing, but not a teacher or administrator.
3. Recommendations tied for third rank: (a) Appropriate and relevant for IEP planning; (b) The form is simple and quick, so kids won't get overwhelmed completing it; and (c) All students in the district should take it.

Other caregiver recommendations included, (a) concerns that children would not be able to recognize their own symptoms and, (b) that screening would be very helpful in general education to help teachers develop their knowledge about how trauma and past experiences affect today. The majority of parent responses reflected concerns with acceptability (n=14) although responses concerning appropriateness were also high (n=13). The fewest responses (n=2) reflected concerns with feasibility.

Overall, across all stakeholder groups, the majority of recommendations fell under the categories of acceptability and appropriateness, while the fewest pertained to feasibility. These findings suggest that while trauma screening using an instrument like the TSSCA may be perceived as feasible (e.g., brief and easy to complete) there are specific issues that must be addressed to ensure that is perceived as acceptable and appropriate by key stakeholders involved in the screening process.

Chapter 5: Discussion

In recent years, there has been a push from the public, policymakers, and educators to provide more trauma-sensitive and trauma-responsive supports to students. This push has been met by tremendous innovation under the auspice of trauma-informed schools (for review see, Thomas et al., 2019). A key aspect of trauma-informed schools is to increase children's access to evidence-based trauma-informed intervention through systematic detection efforts, such as screening. However, the research to support the implementation and outcomes of trauma screening in schools is still in its infancy (Chafouleas, Johnson, et al., 2016). Specific concerns facing schools around universal trauma screening include the availability of reliable and valid screening measures for the school context, the time and resources required for administration, and linking children in need to appropriate care (Eklund & Rossen, 2016). The purpose of this study was to address these critical gaps in the literature to inform future research and practice as it relates to trauma screening in schools. To accomplish this, a mixed qualitative and quantitative study was designed: First, to examine whether the psychometric properties of a brief trauma-screening measure, the TSSCA, are generalizable to the school context. Second, to examine whether multiple-gating is a viable and efficient procedure for school-based trauma screening. Third, to gather input from key stakeholder groups (staff, parents, and youth) regarding their perceptions of the feasibility, acceptability, and appropriateness of trauma screening procedures and instruments.

TSSCA as Psychometrically Sound Screening Tool

This study's findings confirmed those from the initial validation study for the TSSCA (e.g., underlying factor structure and reliability estimates; Donisch et al., in

press) as results were found to generalize to the school context. Confirmatory analyses confirmed that the TSSCA has a unitary factor structure with items that demonstrate adequate internal consistency reliability. This finding is noteworthy as tools that are developed and validated in certain contexts may not generalize to other contexts, rendering interpretations based on the scores invalid (Chafouleas, Johnson, et al., 2016).

Convergent and divergent validity evidence also provided support for the construct validity of the TSSCA as relationships and were generally consistent with theory. A couple of key findings were the significantly stronger correlations between the TSSCA and mySAEBRS, which is consistent with what would be expected via findings from the informant discrepancies literature (De Los Reyes et al., 2019). In particular, there tends to be weak to moderate agreement between teacher and student self-report ratings of behavior. These differences do not represent measurement error but rather differences in the contextual expression of behavior or symptoms across different settings (De Los Reyes et al., 2019). While teachers observe student behavior in certain settings in school, students are privy to their behavior across multiple settings in school and beyond (e.g., home and community settings). Another key finding was the non-significant relationship between the TSSCA and certain demographic variables. While previous research would suggest that trauma is correlated with race (due to exposure to systemic racism and discrimination; (Andrews et al., 2015) and disability status (Jaudes et al., 2008; Milot et al., 2010; Sullivan & Knutson, 2000), this study did not find a significant relationship between the TSSCA and these demographic variables. This was anticipated due to the nature of the sample which provided a restricted range resulting in

less variability in these demographic variables than what would typically be observed when using a more diverse sample of students.

Viability of a Multiple-Gating Approach

This study explored the viability of a multiple-gating approach to trauma screening and uncovered some interesting findings. First, the viability of multiple-gating depends on the nature of the broad behavior screening at the first gate. False negatives are likely to fluctuate depending on the metric being used. For example, using data from the mySABERS, false negatives decreased from 11 (14% of the total sample) students being missed who ultimately were detected as at-risk via the TSSCA to 1 (1% of the sample) depending on whether the total score or Emotional Behavior subscale score were used, respectively. Second, time calculations suggested self-report measures were more efficient than teacher-report measures at the first gate. However, a definitive "best choice" for screening procedures is context dependent. Findings point to several options, each with benefits and drawbacks, for trauma screening procedures.

The first option prioritizes identification of students who may benefit from trauma specific intervention by emphasizing sensitivity to trauma symptomology at the first gate. In this study, the Emotional Behavior subscale of the mySAEBRS demonstrated a moderate correlation and agreement with the TSSCA. Unsurprisingly given the association between these measures, the mySAEBRS Emotional Behavior subscale also resulted in the smallest number of students who would benefit from trauma screening being "missed" by the first gate (n=1). This is a promising finding, however, given the high proportion of students identified as at-risk at the first gate (86%), this scenario would not result in as much saved time relative to the universal trauma screening with all

students. In school district serving a different group of students, the proportion of students identified as at-risk at the first gate may be lower resulting in fewer students who are then administered a targeted trauma screener and, thus, providing greater benefits as a multiple-gating procedure.

The second option prioritizes time efficiency. In this sample, approximately 27 hours would be saved via a multiple-gating approach as compared to universal trauma screening using the mySAEBRS total score as a first gate. However, this option has the highest proportion of students who would be "missed" at the first gate with 11 false negative scores, despite moderate agreement between measures. Further, this method would likely underestimate total levels of trauma symptomology in the school population. However, this may be sufficient evidence for a school district with more limited capacity for both screening and service provision. Only students with the higher levels of need, those demonstrating risk for both emotional problems and trauma symptomology, would receive prioritized access to specialized trauma interventions using these results. Further, if first-gate measures are administered using passive consent practices, having a higher bar for second-gate measures requiring active consent may increase trauma screening feasibility and acceptability for reluctant stakeholders.

A third option is to opt out of a multiple-gating procedure in favor of universal administration of trauma screening. Results from this study demonstrate that no first-gate measure captures *all* students at-risk for trauma symptomology. Further, given high rates of risk overall as measured by broadband behavioral screeners, estimates of time saved do not suggest a dramatic benefit. However, it is important to remember that the nature of the sample was a higher risk population of students receiving special education services

who are more likely to exhibit elevated social, emotional, and behavioral needs than a student population from a traditional comprehensive school serving both general and special education students.

The systemic context into which trauma screening procedures will be adopted will ultimately help to determine which option a school or district might use. Results from this study provide an important demonstration of how variations of a multiple-gating procedure might play out. Findings from this study also raise questions about the use of teacher ratings of behavior as an option for the first gate. Both the total score and emotional risk on the SAEBRS-TRF evidenced poor agreement with the TSSCA; a higher proportion of false negatives relative to proportion of students identified as at-risk at the first gate; and given that teacher ratings preclude group administration, provide little benefit in regards to time efficiency. Additionally, TSSCA data demonstrated non-significant associations with other teacher-report measures (i.e., the BAT and the SEI). It is important to note the TSSCA is a self-report measure, which research suggests will demonstrate higher associations among other self-report measures than measures using a different informant (Podasckoff et al., 2003).

All options require a nuanced perspective on the relative importance agreement between measures used at the first and second gates. Not all students identified via a broadband screener have needs due to trauma, yet all students identified with trauma related symptoms should be detected as having a need for intervention via the broadband screener. It is critical that measures at the first gate show some degree of agreement with second gate trauma screening measures in order to ensure the first gate captures the subset of students in need of trauma services; thus, minimizing false negatives at the first

gate. However, total agreement between the broadband screener and trauma screener would negate the function of multiple-gating, as there would be complete overlap. In this study, it was expected that TSSCA would detect a smaller proportion of students who are at-risk due to the narrower nature of the construct, while the SAEBRS should detect a larger number of students who are at risk behaviorally due to trauma and a multitude of other reasons. Thus, strong agreement was not expected. Multiple-gating procedures that involve honing in on specific needs for specialized intervention should prioritize moderate (not necessarily strong or weak) levels of agreement between first and second gate instruments, with a preference for false positives over false negatives. The first gate screening measure is likely to capture the presence of other root malleable causes that can be the focus of second gate screening, such as anxiety disorders, learning disorders, or substance abuse, leading to differential decisions with regard to the most precise and likely effective intervention for the student.

Finally, it is also important to note that although using the TSSCA within a multiple-gating procedure provides a potentially efficient approach to trauma screening, results of the TSSCA would need to be confirmed with a more robust trauma instrument that confirms whether the symptoms are due to trauma. This is consistent with recommendations in the broader trauma literature that instruments such as the UCLA-PTSD-RI (Elhai et al., 2013; Steinberg et al., 2013) and Trauma Symptom Checklist (Briere, 1996) should be used as the final gate to determine eligibility for a specific clinical trauma intervention, if needed (Donisch et al., in press). If this is the case, then a multiple-gating approach would involve three gates with each gate involving a progressively more intensive and narrow assessment with a smaller subset of students.

Stakeholder Input on Implementation-Relevant Outcomes

Results from the focus groups with stakeholders found that in general, all participants perceived the TSSCA to be feasible, appropriate, and acceptable for use in schools. Ratings on the URP suggest that across participants, a major strength of the TSSCA is its feasibility. This is an important finding as the TSSCA was developed in large part as a more feasible alternative to extant trauma screening instruments, with development prioritizing ease of use, brevity and data interpretation (Donisch et al., in press). An area of relative weakness in regards to ability for the district to independently implement screening was Home School Collaboration. Staff members and caregivers indicated that good home-school relationships must be present to make trauma screening using the TSSCA an appropriate choice. This recommendation is consistent with guidance in the literature (Eklund & Rossen, 2016) on the appropriateness trauma screening in schools broadly, and do not necessarily reflect a problem unique to the TSSCA.

When comparing the TSSCA to another brief trauma screening instrument, the CTS, nearly all participants preferred the TSSCA. In particular, many participants noted that they liked the brevity of the TSSCA and the fact that the TSSCA did not ask specific trauma exposure questions. This is an important finding as the TSSCA was adapted for use in this study to minimize the extent of disclosure about traumatic experiences required based on feedback during the initial planning phases of this research study. However, there were also comments concerning the broadness of the language of a "bad or upsetting event," used in the TSSCA and the possibility students over-identifying minor stressors, for example a break-up with a romantic partner, as traumatic. This is also

a valid concern as vague wording regarding exposure may increase the likelihood of false positives. However, within the screening literature false positives are typically more acceptable than false negative, as it is better to false identify someone who may be in need of an intervention rather failing to detect a person with a need for support. Results suggest that adapting of the TSSCA exposure question to avoid the risk of eliciting sensitive information from the child improved stakeholder perceptions of trauma screening processes and instruments, particularly with regard to acceptability.

A number of important recommendations emerged from the focus groups that pinpoint directions for future trauma screening efforts in schools:

Looks Matter

First, the importance of acceptability was reflected in in stakeholders' recommendations. Teachers prioritized concerns about the appearance of the TSSCA (e.g., "Looks like a screen grab," "Could be more kid friendly," "Appears geared toward an adult reader/hospital/not a school"). Students noted that numeric scores could be misinterpreted as good or bad within the context of school, where grades and scores are often used evaluatively. However, there were no studies at the time of writing that explicitly evaluate perceived acceptability of trauma screening instruments from key stakeholders. Findings from this study suggest that the appearance, layout, and content of the instrument impact perceptions of the acceptability of trauma screening instruments. Future research should continue to assess stakeholder perceptions of acceptability to ensure that key stakeholders involved in trauma screening are not dissatisfied with the way the trauma screening instrument looks.

Have a Plan for How Information will be Used

Concerns about data utility were categorized under the auspice of appropriateness (Proctor et al., 2010). Stakeholders found the TSSCA feasible in regards to administration, but emphasized the importance of clarifying how the data will be used once they have been collected. For example, staff recommended to use, "trauma screening at specific points in tier 2 and 3 to problem solve rather than universal administration." Conversely, caregivers recommended being clear with parents about how the trauma screening data would be used prior to having them complete it. These findings support the need for continued research examining specific aspects that impact the appropriateness of trauma screening in schools to ensure that stakeholder groups perceive screening to fit and to be suitable with delivery of services in schools

Caregivers also supported use of the data for purposes beyond just identification, namely, to inform district demographic and need data and to inform IEP planning. Indeed, surveillance level data of student needs can play a critical role in resource allocation (Saunders & Adams, 2014). Better understanding the prevalence of trauma, using trauma screening data may help district direct funds to needed services, for example peer support groups (a recommendation from students) or dialectical behavior therapy (Lineham, 1993; a recommendation from caregivers). A cursory search of the literature suggests that guidance on trauma-informed IEP planning or special education evaluation is scant. As trauma-informed service provision expands, a likely consequence will be increased attention to how data from trauma assessments can be incorporated into special education services as supplementary aids and services or related services. This is a promising avenue for future research.

Teachers Need to Understand and Respond to Trauma

Caregivers were particularly concerned about the knowledge and skills of general education teachers to understand and support children affected by trauma. Students also noted a desire for their educators better understand their needs more holistically, i.e., "what students are going through." These recommendations reflect that although teachers may be seeking to build their repertoire of objective practices, students and caregivers see need for better understanding and competency in this area. The call for deepened understanding and skill building around trauma among educators is widely acknowledged (Chafouleas, Johnson, et al., 2016). In fact, in describing steps to build trauma-informed service delivery in schools, professional development was identified as a foundational activity (Chafouleas et al., 2016). Results from this study contribute to the available information regarding stakeholder preferences regarding training goals.

The above findings are consistent with literature, as others have suggested that schools are not adequately supporting the needs of traumatized children in the classroom (Porsche et al., 2011). The need to trauma-informed services has also played out in the courts. For example, Peter P., et al. v. Compton Unified School District, et al. (2015), students and teachers sued their school district for allegedly failing to respond appropriately to students who experienced trauma (Reisbergs & Fefer, 2018). A suggestion relevant to staff development includes providing teachers who participate in trauma screening with a tool-kit for follow-up. This would include specific and actionable strategies and practices to support students with trauma symptomology.

Safety Should be Priority when Trauma is Disclosed

Staff recommended that the TSSCA could be improved by adding an, "I need help now" box that would trigger immediate follow-up. Students suggested that they need to know their answers will be confidential, even from parents in case something is happening at home. In the parent group, concerns were voiced regarding mandated reporting, but were not rated as a high priority. These concerns were also salient in planning prior to the study and accounted for in study procedures. One important finding of this study is that no disclosures were made requiring a mandated report to child protection. However, little information is available in the literature regarding the significance of increases in mandated reports to child welfare when using specific trauma screening instruments. Regardless, there are ethical and legal responsibilities that will inevitably get activated when exploring trauma and finding that children have or continue to be exposed to abuse and neglect.

Participant feedback elicited using NGT revealed concerns about trauma screening questions “re-traumatizing” or otherwise upsetting students. However, anecdotally, students did not report or express distress following screening with the study author. Further, no focus group participants reported concerns regarding upset during Phase One data collection. In fact, results overall suggest that all participants found the TSSCA acceptable. This is supported in the research (e.g., Finkelhor et al., 2014; Skar et al., 2019; Zajac et al., 2011) which has found that querying about trauma is not necessarily retraumatizing for children.

Administration Context is Important

Caregivers reported that they would feel comfortable with a social worker or mental health professional completing trauma screening with their child, but not a teacher or administrator. They cited concerns related to school staff without adequate knowledge of trauma "pigeon holing" students. For example, failing to recognize and support the needs of a student with a specific learning disability, who also has a trauma history. This concern plays out in the literature on co-occurring conditions, when one condition is more salient, for example behavioral disorders, the contribution of other co-occurring conditions to symptom presentation tend to be overlooked (De Young & Kenardy. 2017).

Students emphasized a need for safety and support in regards to trauma screening administration. They specifically noted that administering trauma screening within the context of peer support groups might be helpful because, "when someone feels in community they are more likely to open up." Students also noted peer support groups are beneficial for students who need extra help after trauma, a recommendation supported by the research literature (Yearwood et al., 2019).

Trauma Screening within the Context of Systemic Oppression

The topic of social justice with regard to trauma-informed practice was not assessed directly in this study. Regardless, it is important to acknowledge that this study was designed within a social-ecological orientation that recognizes the dynamic influence of personal and environmental factors on individual outcomes. Within this framework it is critical for educators to conceptualize trauma screening within the broader social context in which trauma occurs.

This is a subject of growing conversation in the field. For example, Winninghoff (2020) argued against screening for ACES pointing to the threats of emphasizing negative trajectories without viable solutions as well as assumptions and bias within the ACE framework that may perpetuate the systemic marginalization of specific groups, particularly students of color. In an editorial from teachingtolerance.org, a project of the Southern Poverty Law Center aimed at supporting social justice and anti-bias action in schools, a teacher points to gaps in the research writing that, “Children living in poverty, children of color and LGBTQ children tend to have more child- and household-centered ACEs. But childhood trauma resulting specifically from racism, homophobia or other systemic injustices that weren’t articulated when the 10 ACEs were established more than 20 years ago still go uncounted in a student’s ACE score. The next logical step—ACEs centered on society—was never established” (Gaffney, 2016, para.7). These critiques of screening for ACES in schools may be generalizable to trauma screening more broadly and are deserving of more attention.

Using screening information to devise individual interventions that aim to "fix" the problems a child is having, runs the risk of perpetuating further harm (Gorski, 2019) without careful consideration of the broader systemic issues that represent the actual root causes for why group differences in PTE and symptomology persist. As such, an ethical and effective approach to trauma-screening and service provision in schools must attend to system level assessment and interventions to dismantle things like racism, gender discrimination, and poverty. Continued research into the appropriateness of trauma-screening within the context of systemic oppression is a rich avenue for future inquiry.

Trauma Screening Administration Method

The existing guidance for the TSSCA describes one-on-one administration (Donisch et al, 2017). Recommendations from teachers and students elicited using NGT point to the promise of incorporating group administration of trauma screening into the social-emotional learning curriculum (e.g., “Prep whole classes/school like you would for a fire drill so kids will be prepared and don't feel singled out,” and “this could be a SEL lesson.”) Students also pointed to the potential benefits of screening “in community” with other students. Additionally, high ratings of usability amongst students suggested that they understand how to complete the form. While additional research is needed to establish the validity of group administration, it may provide a more time efficient strategy for screening administration than one-on-one administration and normalize the process of trauma screening.

Trauma Informant

The findings in this study raise interesting questions regarding who should be the informant to compete trauma measures. Within the broader measurement literature, there have been efforts to identify the optimal informant of particular constructs. Thus, the aim is to identify who provides the best data by ruling out those informants whose data is less dependable. This notion has been applied to trauma screening as generally youth are considered to be the optimal informant (Stover et al., 2010). However, the informant discrepancy literature suggests that although different informants tend to disagree that those disagreements reflect meaningful information—not measurement error—about the contextual expression of symptoms in different contexts and the potential severity of the problem or need (De Los Reyes et al., 2019). When viewed in this way, synthesis of

informant ratings or risk (rather than selection of a "best indicator") may produce the most thorough data for decision making regarding referral for trauma specific intervention.

Self-report appears to be important for purposes of detecting certain emotional and behavioral needs that are otherwise unnoticed and detected by adult informants (Stover et al., 2010). Others would argue that a multi-informant approach may serve as a more accurate method to detect students, but this would also likely complicate the screening process as more data results in more challenging synthesis, interpretation, and use of the data. Additional research into these important issues is warranted.

Limitations and Future Directions

Results of this study attempt to address critical gaps in the research literature. This study, however, had several limitations that are important to be cognizant of when interpreting findings. These limitations can help to illuminate additional avenues for future research.

First, this study included a relatively small, unique sample of students. Recommendations for conducting CFA typically include having a larger sample of participants (Hoyle, 2000; Wolf et al., 2013). Although the sample was below these recommendations, adequate model fit was obtained. Moreover, although intermediate service districts serving students with unique needs are not rare, the population of students served does not mirror the characteristics of students on a comprehensive campus. Thus, findings may not generalize to more typical school settings. These limitations suggest that future research should include large samples of students that are more representative of the general population of students.

The measures used to examine evidence of convergent and divergent validity could have been more robust. For example, the data from the BAT and SEI were not ideal, as the school system only provided total scores and domain level scores, rather than item level scores. Moreover, this study included limited measures assessing constructs that the TSSCA should be less theoretically associated with, for example. Future research can continue to add to the construct validity of the TSSCA through the inclusion of a more comprehensive set of measures that theoretically the TSSCA should have convergent and divergent relationships with.

No anchor trauma measure was administered to perform ROC analyses and confirm classification accuracy estimates and the cut score from the initial validation study of the TSSCA (Donisch et al., in press). Future research should establish the classification accuracy of the TSSCA cut score relative to a gold measure criterion in schools and with a non-clinical population of participants.

As trauma screening procedures are not currently part of everyday practice in schools in the state the study was conducted, active consent for participation was needed to meet ethical standards for research and practice. Therefore, there was likely be selection bias in the sample and no estimate of the "true" prevalence of trauma among the population of students in the intermediate school district. Current perspectives in the field generally support active consent for trauma screening, as well, which will invariably result in some legal guardians refusing to have their child participate in the trauma screening process. Future research evaluating the relative acceptability of a passive screening procedure is warranted.

Finally, although sequencing of activities during stakeholder focus groups attempted to ameliorate bias towards the TSSCA, the focus group participants were not blind to the study goals and, having participated in Phase One data collection to some extent, were familiar with the TSSCA, study procedures, and the focus group administrator (the study author). These factors may have biased participants' responses during the focus group. Future research with participants blind to study goals and using novel focus group administrators may lead to different and important findings.

Implications for School Psychology Research and Practice

This study was conducted in cooperation with a school district that had been actively seeking to establish a systematic approach to identifying children in need of school-based trauma interventions. Results from this study will hopefully support to the district's ability to make a data-informed decision regarding the implementation of an effective trauma screening procedure. Although results from are not designed to be directly generalizable to other school contexts, there are several implications for school psychological research and practice.

First, with the availability of effective trauma-informed interventions, schools represent an important avenue for services. However, having trauma-informed interventions available is insufficient to provide early and timely access to them. There is a need for research to better understand how to allocate these resources. Screening is produces actionable data that practitioners can use to drive decisions regarding supports. As such, screening is a core feature of trauma-informed service delivery. However, brief, technically adequate, accurate, and usable screeners to identify traumatized children, particularly as part of school-based service delivery, are lacking (Eklund et al., 2018).

This study provides evidence to support use of the TSSCA as a psychometrically sound trauma screening instrument within the school setting.

Second, having trauma-informed interventions available is insufficient to provide early and timely access to them. There is also a need for school psychologists to broaden the approach to school-based screening to include trauma screening. The findings suggest that a multiple-gating approach is likely the best way to go about trauma screening rather than universal trauma screening. However, school psychology researchers should continue to explore the viability of and most effective way to conduct multiple-gating.

Finally, to be incorporated as part of routine practice in schools, screeners must have certain characteristics to be deemed suitable. Common implementation-relevant outcomes include feasibility, acceptability, and appropriateness. However, there is little research describing stakeholder perceptions of these factors in regards to trauma screening in schools. The current study provides qualitative data describing stakeholder perceptions that educators can use to guide their implementation considerations and to guide their own efforts when administering trauma assessments.

Conclusion

In closing, this study provided preliminary evidence of the technical adequacy, feasibility, acceptability, and appropriateness of the TSSCA in a school setting. It also provided insight about the viability of a multiple-gating approach to trauma screening. Last, useful feedback and recommendations were derived from key stakeholders. It is hoped that this study will stimulate future research that continues to establish evidence supporting particular trauma screeners and developing more precise guidelines that inform how schools can integrate trauma screening as part of routine practice. It is

imperative for schools to play a part in addressing trauma, and to do so will ultimately require usable and valid trauma screeners that activate early and timely intervention.

Tables

Table 1.
Characteristics of Study Sample (Compared to the District)

Variable	In the Sample (N=78)		In the District (N=1214)	
	n	%	n	%
School/Program Enrollment				
ALC	50	64.1	622	51.2
Not ALC	28	35.9	592	48.8
Special Education Category				
None	33	42.3	367	30.2
Emotional/Behavioral Disorder	17	21.8	248	20.4
Other Health Disabilities	12	15.4	123	10.1
Autism Spectrum Disorder	8	10.3	231	19
Specific Learning Disability	5	6.4	32	2.6
Severely Multiply Impaired	1	1.3	69	5.7
504 only	1	1.3	10	<0.1
Developmental Cognitive Disabilities: mild-moderate	1	1.3	60	4.9
Gender				
Male	47	60.3	812	66.9
Female	31	39.7	402	33.1
Age				
18	35	44.9	205	16.9
17	14	17.9	147	12.1
16	3	3.8	111	9.1
15	8	10.3	88	7.2
14	6	7.7	55	4.5
13	8	10.3	37	30.4
12	3	3.8	31	25.5
11	1	1.3	46	3.8
Grade				
12^{th}+	39	50	NA	NA
11^{th}	11	14.1	NA	NA
10^{th}	5	6.4	NA	NA
9^{th}	8	10.3	NA	NA
8^{th}	6	7.7	NA	NA
7^{th}	7	9	NA	NA
6^{th}	2	2.6	NA	NA
Race/Ethnicity				
Black/African American	33	42.3	502	41.4
White	33	42.3	457	37.6
Hispanic/Latino	6	7.7	131	10.8
White and Hispanic/Latino	3	3.8	26	2.1

Asian	2	2.6	53	4.4
American Indian/Alaska Native	1	1.3	33	2.7
Homeless/Highly Mobile				
Homeless	8	10.3	114	9.4
Not homeless	70	89.7	1100	90.6
Home Language				
English	73	93.6	1038	85.6
Somali	1	1.3	35	28.8
Spanish	4	5.1	105	86.5
Migrant Status				
Migrant	0	0	0	0
Non-migrant	78	100	1214	100

Note. Age prior to data collection 5/9/2019

Table 2.
Outcomes of Risk Screening

Instrument	Total N	Number at Risk (%)	Mean Score	Standard Deviation	Range
TSSCA	78	27 (35%)	4.19	2.968	0-10
Exposure					
Item 1		--	0.88	0.79	0-2
Item 2		--	0.88	0.72	0-2
Item 3		--	0.77	0.85	0-2
Item 4		--	0.78	0.696	0-2
Item 5		--	0.87	0.827	0-2
mySAEBRS	78	28 (36%)	39.06	6.48	19-55
Social Behaviors		9 (12%)	15.05	2.284	9-20
Academic Behaviors		21 (27%)	11.26	3.21	3-17
Emotional Behaviors		67 (86%)	12.76	3.88	2-21
SAEBRS-TRF	75	45 (60%)	33.36	8.617	11-54
Social Behaviors		40 (53%)	11.01	3.80	3-17
Academic Behaviors		43 (57%)	9.19	3.751	0-17
Emotional Behaviors		64 (85%)	13.16	3.234	3-20

Table 3.
Extant Risk Screening Summary

Instrument/subscale	Summary Statistics				Ordinal Ratings Count (%)				
SEI	N	Mean	SD	Range	1-10%tile	11-25%ile	26-75%ile	76-90%ile	above the 90%ile
Total	65	2.91	0.98	1-5	6	11	36	7	5
control and relevance of school work	64	3.16	1.00	1-5	5	5	36	11	7
future goals and aspirations	65	2.49	0.99	1-4	14	14	28	9	0
intrinsic motivation	65	3.18	1.14	1-5	7	4	36	6	12
teacher-student relationships	65	3.54	1.08	1-5	4	3	26	18	14
peer support for learning	65	2.38	1.00	1-4	17	13	30	7	0
family support for learning	65	2.51	0.90	1-5	11	15	36	1	2
BAT	N	Mean	SD	Range	Initial	Emerging	Developing	Intermediate	Proficient
Self-awareness	46	3.39	0.86	2-5	0	6	21	14	5
Self-management	46	2.96	0.97	1-5	2	13	19	9	3
Social Awareness	46	3.09	0.87	1-5	1	9	24	9	3
Relationship Skills	46	3.15	0.92	1-5	1	10	19	13	3
Responsible Decision Making	45	2.84	1.00	1-5	3	15	15	10	2

Table 4.
Spearman Correlations between TSSCA Items

Factor	1	2	3	4	5
TSSCA 1	1.000	.719**	.475**	.568**	.497**
TSSCA 2	.719**	1.000	.471**	.659**	.574**
TSSCA 3	.475**	.471**	1.000	.369**	.451**
TSSCA 4	.568**	.659**	.369**	1.000	.456**
TSSCA 5	.479**	.574**	.451**	.456**	1.000

Note. ** Correlation is significant at the 0.01 level (2-tailed).

Table 5.
Fit Indices for Confirmatory Factor Analysis

Model	X^2	X^2 P-value	DF	CFI	TLI	RMSEA	RMSEA p-value
1	3.966	0.554	5	1.00	1.00	0.00	0.654

Note .x ^{2} (chi square) = difference between model and data, DF = degrees of freedom (indication of the complexity of the model), CFI = comparative fit index (fit index that takes sample size into account), RSMEA = root mean square error of approximation (takes error of approximation in the population into account), TLI=tucker-lewis index
*** p<.001

Unstandardized Loadings and Standardized Loadings with Standard Error for Single Factor Model

Item	Unstandardized	Standardized
TSSCA 1	1.00	0.857
TSSCA 2	1.117 (0.109)	0.958
TSSCA 3	0.752 (0.122)	0.645
TSSCA 4	0.914 (0.093)	0.784
TSSCA 5	0.838 (0.103)	0.719

Table 6.
Convergent and Divergent Validity of TSSCA Relative to Other Data and Measures

Variables	Correlation Statistic	
TSSCA	Risk	Total
Risk	1.00	.803**
Total	-.803**	1.00
mySAEBRS		
Risk	.354**	.351**
Total Score	-.388**	-.524**
Social Behavior	-.230*	-.310**
Academic Behavior	-.188	-0.185
Emotional Behavior	-.367**	-0.548**
SAEBRS-TRF		
Risk	0.041	0.053
Total Score	0.032	-0.005
Social Behavior	0.049	0.015
Academic Behavior	0.136	0.188
Emotional Behavior	-0.132	-0.248*
BAT		
Self-Awareness	0.089	0.035
Self-Management	0.028	-0.077
Social Awareness	0.074	0.026
Relationship Skills	0.030	-0.010
Responsible Decision Making	-0.124	-0.233
SEI		
Total Score	-0.126	-0.161
Teacher-Student Relationships	-0.127	-0.103
Peer Support for Learning	-0.029	-0.095
Family Support for Learning	-0.165	-0.202
Control and Relevance of School Work	0.059	0.026
Future Goals and Aspirations	-0.192	-0.158
Intrinsic Motivation	-0.058	-0.098
Student Demographics		
Gender	-0.235*	-0.302**
Grade	0.089	-0.024
Age	0.008	0.020
Home language	-0.190	-0.337*
Race	-0.031	-0.094
Homeless/Highly Mobile	0.109	0.064
Migrant Status	--	--
Special Education Status	-0.086	-0.016
Emotional/Behavioral Disorder Classification	0.013	0.048
ALC	0.059	-0.016

Note. Pearson correlations were calculated between continuous variables, including sum scores. Point-biserial correlations were calculated for correlations that involving data coded dichotomously such as risk and continuous variables. Spearman correlations were calculated for correlations involving ordinal data (such as the BAT and SEI scores). **Correlation is significant at the 0.01 level (2-tailed), *Correlation is significant at the 0.05 level (2-tailed).

Table 7.

Agreement between TSSCA and the mySAEBRS

		mySAEBRS (n=78)	
		At-Risk	Not At-Risk
TSSCA (n=78)	At-Risk	16	11
	Not At-Risk	12	39

Note. 70.51% agreement; Kappa= 0.3542, (p=0.002)

Agreement between TSSCA and Emotional Behavior Subscale of the mySAEBRS

		Emotional Behavior (n=78)	
		At-Risk	Not At-Risk
TSSCA (n=78)	At-Risk	26	1
	Not At-Risk	41	10

Note. . 46.15% agreement; Kappa=0.018

TSSCA and the SAEBRS-TRF

		SAEBRS-TRF (n=75)	
		At-Risk	Not At-Risk
TSSCA (n=75)	At-Risk	17	9
	Not At-Risk	30	19

Note. The three missing matched-cases were eliminated from the analysis; 48% agreement; Kappa= 0.035

TSSCA and the Emotional Behavior Subscale of the SAEBRS-TRF

		SAEBRS-TRF (n=75)	
		At-Risk	Not At-Risk
TSSCA (n=75)	At-Risk	22	4
	Not At-Risk	42	7

Note. The three missing matched-cases were eliminated from the analysis; 22.09% agreement; Kappa= 0.008

Table 8.
Results of Usage Rating Profiles

Subscale/Item	Staff			Caregiver			Student		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Overall	4.62	0.93		4.34	1.22		3.12	0.93	
Acceptability (Personal Desirability)	4.32	0.56		4.19	0.40		2.72	0.14	
This assessment is an effective choice for understanding a variety of problems	4.13	0.83	3-5	4	1.41	2-5	--	--	--
The assessment is a fair way to evaluate the child's behavior problem.	3.75	0.46	3-4	3.67	0.58	3-4	--	--	--
I would not be interested in implementing this assessment. *	4.75	1.28	2-6	--	--	--	--	--	--
I would have positive attitudes about implementing this assessment.	4.63	1.19	2-6	--	--	--	--	--	--
This is a good way to assess the child's behavior problem.	3.38	1.06	1-4	4.33	0.58	4-5	--	--	--
I would implement this assessment with a good deal of enthusiasm.	4.38	1.06	2-5	--	--	--	--	--	--
Use of this assessment would not be disruptive to students.	3.75	1.04	2-5	4.75	0.96	4-6	--	--	--
I would be committed to carrying out this assessment.	5.13	0.64	4-6	--	--	--	--	--	--
The assessment procedures would easily fit in with my current practices.	5	0.53	4-6	--	--	--	--	--	--
I could see myself completing the TSSCA again.	--	--	--	--	--	--	3.17	0.75	2-4
The TSSCA is a good way to get students help	--	--	--	--	--	--	2.83	0.98	1-4

If my friend was having trouble, I would tell him/her to try the TSSCA.	--	--	--	--	--	--	2.83	0.75	2-4
I was excited to do the TSSCA	--	--	--	--	--	--	2.17	0.98	1-3
I would volunteer to do TSSCA again.	--	--	--	--	--	--	2.83	0.75	2-4
I liked the TSSCA	--	--	--	--	--	--	2.5	1.05	1-4
Feasibility	5.56	0.36		4.5	0.71		3.67	0.25	
I would be able to allocate my time to implement this assessment	5.63	0.52	5-6	--	--	--	--	--	--
The total time required to implement the assessment procedures would be manageable.	5.88	0.35	5-6	--	--	--	--	--	--
Preparation of materials needed for this assessment would be minimal.	5.88	0.35	5-6	--	--	--	--	--	--
Material resources needed for this assessment are reasonable	5.25	0.71	4-5	5	0.82	4-6	--	--	--
This assessment is too complex to carry out accurately. *	5.38	0.74	4-5	4	1.82	2-6	--	--	--
The amount of time required for record keeping would be reasonable.	5.38	0.52	5-6	--	--	--	--	--	--
The TSSCA was too much work for me. *	--	--	--	--	--	--	3.83	0.41	3-4
The TSSCA took too long to do. *	--	--	--	--	--	--	3.83	0.41	3-4
Doing the TSSCA got in the way of doing other things. *	--	--	--	--	--	--	3.5	0.84	2-4
TSSCA questions focused too much attention on me. *	--	--	--	--	--	--	3.5	0.84	2-4
Understanding	5.13	0.47		4.75	0.37		3.05	0.63	

I understand how to use this assessment.	5.25	0.71	4-6	4.75	1.26	3-6	--	--	--
I am knowledgeable about the assessment procedures.	4.88	0.83	3-6	4.75	1.89	2-6	--	--	--
I understand the procedures of this assessment.	5.25	0.46	5-6	4.75	1.26	3-6	--	--	--
It was clear what I had to do.	--	--	--	--	--	--	3.5	0.55	3-4
It was clear what the adult had to do.	--	--	--	--	--	--	3.33	0.82	2-4
I understand why educators would use the TSSCA with me and other students.	--	--	--	--	--	--	2.33	0.82	1-3
Home School Collaboration	2.96	1.63		3.67	0.35		--	--	--
Parental collaboration is required in order to use this assessment.*	3.13	1.89	1-6	3	0.82	2-4	--	--	--
A positive home-school relationship is needed to use this assessment.* (one participant skipped this question)	2.57	2.07	1-6	4	1.41	2-5	--	--	--
Regular home school communication is needed to implement these assessment procedures.*	3.13	1.64	1-5	4	0.82	3-5	--	--	--
Climate	5.19	0.46		5	0.82		--	--	--
Use of this assessment would be consistent with the mission of my school.	5.25	0.46	5-6	5	0.82	4-6	--	--	--
These assessment procedures are consistent with the way things are done in my system.	4.75	0.71	4-6	--	--	--	--	--	--
My work environment is conductive to implementation of an assessment like this one.	5.25	0.46	5-6	--	--	--	--	--	--
My administrator would be supportive of my use of this assessment.	5.5	0.53	5-6	--	--	--	--	--	--
Support	4.56	1.09		4.5	0.65		--	--	--

I would require additional professional development in order to implement this assessment.*	4	1.60	2-6	4.5	1	3-5	--	--	--
I would need consultative support to implement this assessment.*	3.75	1.75	2-6	4.5	1.91	2-6	--	--	--
I would need additional resources to carry out this assessment.*	5	1.07	3-6	--	--	--	--	--	--

Note. See Appendix D to see parallel item structure for the caregiver URP-A. *Indicates reverse scoring.

Table 9.
Recommendations and Feedback from the Nominal Group Technique

Staff	Index Score	Caregiver	Index Score	Students	Index Score
Looks like a screengrab, could be more kid friendly, , appears geared to an adult reader or hospital, not a school	11	[Screening information]can inform district demographics and need information	7	Students need to know their answers will [be] confidential, even from parents in case something is happening at home	8
Have a plan for how the data will be used	11	Only feel comfortable with a social worker/mental health person completing, NOT a teacher or administrator	6	Might be too much for people who don't want to share what they are going through	7
What now? What do we do with this information?	10	[Screening information] is appropriate and relevant for IEP planning	5	Peer support groups are nice	7
Providing a tool-kit for follow-up	10	The form is simple and quick, kids won't get overwhelmed	5	Don’t like score, numbers easily understood as bad or good [e.g., connected to grades]	6
Develop in the moment follow-up questions to evaluate (from the student) what additional supports they already have or need	9	All students at #[school district] should take it	5	Use peer support groups first, then do screening .When someone feels in community they are more willing to open up. If they're going to [peer support] they're struggling so they might need [more] support	5

Doesn't capture current crisis, consider "I need help now" box	9	Trauma changes the brain and the symptoms could feel normal, dysregulated is normal	4	Would help educators understand what students are going through	5
Consider including at specific points in tier 2 and 3 to problem solve rather than universal administration	9	Helpful for general education./mainstream teachers and others to develop a knowledge of how trauma and past experiences affect today	4	Appropriate for all ages because easy to understand and answer	5
What are the logistics of administration?	7	Would love to see DBT at district	4	Word symptom questions so they are yes or no	4
Consent from parents could be a barrier, the student needs to feel safe	7	Doesn't feel too detailed -> not too invasive	3	Add more questions to id severity of problems; too simple	4
Consider a separate form for young readers	6	Liked the visual, helpful for understanding scaling	3	The description of bad or upsetting events isn't broad enough, it might not be life threatening but still bad	4
A nightmare in terms of prioritizing who gets support	5	Problems with picking one event	3	Don't call it "Trauma" screening, maybe mental health check-in	4
Some students, for example limited vocab, reading skills, less emotional intelligence might not be able to id feelings -> add images or examples	5	Would not be comfortable having child complete on intake as they are already dysregulated from transition or there could be a "honeymoon;" pigeonholing could happen	3	Check-in before giving the survey to make sure students are mentally prepared to take it, ask ,how they are doing, also preview the topic	4

Could be triggering for some students	5	Results could be misunderstood or lead to a call to child protection or other repercussions	3	Too broad, questions are not organized enough	3
Why? All students have trauma	5	Fear of law and requirement to report	3	[TSSA] is simple and to the point	3
Could be overwhelming for teachers who do with no support and resources	5	important to show that students aren't asked to elaborate or give details about their trauma	3	Split in half to avoid overwhelm, for example questions 1 and 2 then 3, 4, 5	3
Family/school partnership is critical to ensuring family understanding, to make screening effective (families need to accept why we are collecting this info)	5	Want more on the clock in school counseling	3	Screening for behaviors versus screening for trauma, not everything is trauma, definitions differ	3
Concerns about collection with no plan for action	5	Concerns about attention seeking and embellishing responses	2	Quick, only 5 questions but you get a lot of information	2
We focus on trauma but have no trauma specific tools for response	4	Once at [school district] trauma already identified, screening is not necessary	2	Prepare whole classes/school [for screening] like you would for a fire drill so kids will be prepared and don't feel singled out	2
This information could be redundant	4	Pigeonholing as a result of positive result, losing track of other issues (ex. ASD)	2	Add more visuals to describe emotions	2

Liability around reporting and safety and timeliness	4	How do we capture attachment disorders, trauma that can't be remembered, and ongoing trauma?	2	Good for students because there is a lot going for in and out of school	2
Hard to read; visually hard to look at/parse	4	Liked the wording, makes it easy to get help	2	Knowing someone's trying to help and cares can be helpful, reduce stress, feel good	2
Bad or upsetting events is broad and could be mean so many things	3	Could create misunderstanding about what the child is reporting	2	Cups are good for little kids' understanding	1
Auditory processioning and vocabulary challenges could make this hard for some students.	3	[The TSSCA] could be useful for seeing where a student is at in processing trauma (progress monitoring)	1	Questions are easy to understand	1
Like that there are only 3 answer options	3	Could be triggering, asking students to think about something scary	1		
Cups don't reflect frequency of symptoms	3	A starting point to seeing where kids are at, would be more helpful in general education for early intervention	1		
The word "problems" and "bad" have connotations that might make students less willing to try	3	Many parents aren't ready to face things that could be considered trauma, especially if it happened at home	1		

Students will want to know why they are doing this; staff need to have an answer	3	Could increase teacher awareness of “trauma brain” and informing classroom planning in addition to information about other diagnoses and special education classification	1
Needs to be connected to district goals for funding; can help demonstrate need	3	Measuring anxiety, not trauma	0
Requires few resources	2	Results of screen should be used to inform IEP goals	0
We don't get student input on their own trauma, so that’s a benefit of the self-report. This could be a SEL lesson.	2		
Trauma occurs inside school, so what do we do in those cases and differentiate that in terms of severity?	2		
Too much data in a specialized system	2		
Consider sans serif font to increase readability and larger font (14)	2		

Don't like cups, What is the connection between image and trauma?	2
Like language [of TSSCA], not triggering	1
Cups might not be universally understood	1
More useful in general education	1
How does this fit in MTSS?	1
Cup visual is good	0
having a social worker in the room	0

Note. Responses have been edited for clarity.

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APPENDIX A

TSSCA (Original)

University of Minnesota's Traumatic Stress Screen for Children and Adolescents (TSSCA)

Name of Child/Adolescent: _____DOB: _____ Gender: ☐M ☐F
Interviewer Name/ID: _____Assessment Date: _____

Below is a list of problems that people sometimes have after experiencing a bad or upsetting event. Bad or upsetting events might include being threatened or hurt, seeing someone else threatened or hurt, or feeling like your life was in danger.

Have you ever experienced a bad or upsetting event? ☐Yes ☐No

If yes, what was the bad or upsetting event? Feel free to list more than one.

_____
_____
_____

When thinking about your bad or upsetting event, how often have the following problems happened to you during the past month?

DURING THE PAST MONTH, HOW OFTEN HAVE YOU…	 **Never**	 **Sometimes**	 **Often**
1. Had upsetting thoughts, images, or memories of the event come into your mind when you didn't want them to?	☐$_0$	☐$_1$	☐$_2$
2. Felt afraid, scared, or sad when something reminded you about the event?	☐$_0$	☐$_1$	☐$_2$
3. Tried to stay away from people, places, or activities that reminded you of the event?	☐$_0$	☐$_1$	☐$_2$
4. Had trouble feeling happiness, enjoyment, or love?	☐$_0$	☐$_1$	☐$_2$
5. Been on the lookout for danger or other things that you are afraid of (for example, looking over your shoulder when nothing is there)?	☐$_0$	☐$_1$	☐$_2$
		+	+
TOTAL			

Administration and Scoring Guidelines for the University of Minnesota's Traumatic Stress Screen

SCORING: Sum the scores from Questions 1 through 5 to yield the "TOTAL" score:

- ☐ A score of 6 or higher indicates moderate to severe traumatic stress symptomatology. This is a likely referral for a trauma assessment.

PURPOSE: The TSSCA is intended to assist child-serving professionals in using a trauma screening approach with children ages 5 to 18, who have exposure to a known or suspected traumatic event. The screen provides information for individuals considering a referral for a trauma assessment or additional services. The screen is not intended to assess for posttraumatic stress disorder (PTSD), or to make a clinical diagnosis.

PREPARATION

- ☐ TSSCA users should have a basic understanding of trauma, its symptoms, and resulting behaviors. Clinicians should also be familiar with the difference between trauma screening and trauma assessment.
- ☐ Identify a timeframe for administering the screening instrument to your client. Screening should occur as early as possible in the assessment and treatment process.
- ☐ Identify who will administer the screen to the child (for example, the intake worker, the case manager, etc.).
- ☐ Prior to giving the screen for the first time, pilot test with a colleague.

SCREEN ADMINISTRATION

- ☐ Build rapport with the child by asking a few non-threatening warm-up questions such as: *Where do you go to school? Who brought you here today? What is on your cool t-shirt?*
- ☐ Determine if you want to give the screen to the child in the presence of the caregiver. Children may respond differently in front of an adult, even an adult they trust. Other children may need encouragement to answer.
- ☐ Explain the reasons for the screening to the child, or both the child and caregiver, using simple language such as: *Sometimes I ask some questions to help me understand you and what you may need.* With caregivers, you could say: *This is a screening instrument to assess for the impact of traumatic events. The score helps to determine whether your child may benefit from a more thorough trauma assessment.*
- ☐ Emphasize the brevity of the screening instrument to the child. If a child identifies a bad or upsetting event, state that you will not ask for a lot of details, but just enough to understand what they are thinking about. State that for each of the questions, you are just looking for a number, and that they do not have to explain why they answered in a particular way.
- ☐ For younger children, establish that they understand the scaling idea. You can use sample questions such as: *How often do you brush your teeth? How often do you have ice cream for breakfast?*
- ☐ Explain who will know about the results and why.

POST SCREEN AND REMINDERS

- ☐ Follow-up with the child to assess the effects of the screening instrument by asking a question such as: *What was that like for you?*
- ☐ Document the results. Establish follow-up plans, which may include a referral for an in-depth trauma assessment.
- ☐ Reminder: If you approach the screen without anxiety, the child will be less anxious. Remember, what happened to the child has already happened. Therefore, the screening questions are not re-traumatizing.

BACKGROUND NOTES: The cutoff score was developed using a sample of 130 youth seen in community mental health settings. Performance of the screening instrument was assessed in relation to the UCLA PTSD-RI for *DSM-5* (Pynoos & Steinberg, 2014). A cutoff score of 6 or higher yields 83% sensitivity and 85% specificity. The results are based on a preliminary study and may or may not change in the future depending on further studies.

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APPENDIX B

TSSCA for Schools

University of Minnesota's Traumatic Stress Screen for Children and Adolescents (TSSCA)

Name of Child/Adolescent: _____ DOB: _____ Gender: ☐M ☐F
Interviewer Name/ID: _____ Assessment Date: _____

Below is a list of problems that people sometimes have after experiencing a bad or upsetting event. Bad or upsetting events might include being threatened or hurt, seeing someone else threatened or hurt, or feeling like your life was in danger.

Have you ever experienced a bad or upsetting event? ☐Yes ☐No

When thinking about your bad or upsetting event, how often have the following problems happened to you during the past month?

DURING THE PAST MONTH, HOW OFTEN HAVE YOU…	 Never	 Sometimes	 Often
1. Had upsetting thoughts, images, or memories of the event come into your mind when you didn't want them to?	☐0	☐1	☐2
2. Felt afraid, scared, or sad when something reminded you about the event?	☐0	☐1	☐2
3. Tried to stay away from people, places, or activities that reminded you of the event?	☐0	☐1	☐2
4. Had trouble feeling happiness, enjoyment, or love?	☐0	☐1	☐2
5. Been on the lookout for danger or other things that you are afraid of (for example, looking over your shoulder when nothing is there)?	☐0	☐1	☐2
	+	+	
TOTAL			

APPENDIX C

URP-A

URP-Assessment

Directions: Consider the described assessment when answering each of the following statements. Circle the number that best reflects your agreement with the statement, using the scale provided below.

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1.	This assessment is an effective choice for understanding a variety of problems.	1	2	3	4	5	6
2.	I would need additional resources to carry out this assessment.	1	2	3	4	5	6
3.	I would be able to allocate my time to implement this assessment.	1	2	3	4	5	6
4.	I understand how to use this assessment.	1	2	3	4	5	6
5.	A positive home-school relationship is needed to use this assessment.	1	2	3	4	5	6
6.	I am knowledgeable about the assessment procedures.	1	2	3	4	5	6
7.	The assessment is a fair way to evaluate the child's behavior problem.	1	2	3	4	5	6
8.	The total time required to implement the assessment procedures would be manageable.	1	2	3	4	5	6
9.	I would not be interested in implementing this assessment.	1	2	3	4	5	6
10.	My administrator would be supportive of my use of this assessment.	1	2	3	4	5	6
11.	I would have positive attitudes about implementing this assessment.	1	2	3	4	5	6
12.	This is a good way to assess the child's behavior problem.	1	2	3	4	5	6
13.	Preparation of materials needed for this assessment would be minimal.	1	2	3	4	5	6
14.	Use of this assessment would be consistent with the mission of my school.	1	2	3	4	5	6

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
15.	Parental collaboration is required in order to use this assessment.	1	2	3	4	5	6
16.	Material resources needed for this assessment are reasonable.	1	2	3	4	5	6
17.	I would implement this assessment with a good deal of enthusiasm.	1	2	3	4	5	6
18.	This assessment is too complex to carry out accurately.	1	2	3	4	5	6
19.	These assessment procedures are consistent with the way things are done in my system.	1	2	3	4	5	6
20.	Use of this assessment would not be disruptive to students.	1	2	3	4	5	6
21.	I would be committed to carrying out this assessment.	1	2	3	4	5	6
22.	The assessment procedures easily fit in with my current practices.	1	2	3	4	5	6
23.	I would need consultative support to implement this assessment.	1	2	3	4	5	6
24.	I understand the procedures of this assessment.	1	2	3	4	5	6
25.	My work environment is conducive to implementation of an assessment like this one.	1	2	3	4	5	6
26.	The amount of time required for record keeping would be reasonable.	1	2	3	4	5	6
27.	Regular home-school communication is needed to implement these assessment procedures.	1	2	3	4	5	6
28.	I would require additional professional development in order to implement this assessment.	1	2	3	4	5	6

APPENDIX D

Parent TSSCA Usage Questionnaire

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1	The TSSCA is an effective choice for understanding a variety of problems	1	2	3	4	5	6
2	I would need additional information before being okay with my child completing the TSSCA	1	2	3	4	5	6
3	I understand how to complete the TSSCA	1	2	3	4	5	6
4	A positive home-school relationship is needed to use the TSSCA	1	2	3	4	5	6
5	The TSSCA is a fair way to evaluate a child's behavior problem	1	2	3	4	5	6
6	The TSSCA is a good way to asses a child's behavior problem	1	2	3	4	5	6
7	Use of the TSSCA would be consistent with the mission of my child's school	1	2	3	4	5	6
8	Parental collaboration is required in order to use the TSSCA	1	2	3	4	5	6
9	Material resources needed for the TSSCA are minimal	1	2	3	4	5	6
10	The TSSCA is too complex to be	1	2	3	4	5	6

	carried out accurately						
11	Use of the TSSCA would **not** be disruptive to students.	1	2	3	4	5	6
12	I understand how the TSSCA is used	1	2	3	4	5	6
13	I understand the procedures of the TSSCA	1	2	3	4	5	6
14	Regular home-school communication is needed to implement the TSSCA	1	2	3	4	5	6
15	I would require additional family education in order to consent to the TSSCA	1	2	3	4	5	6

Directions: Consider the following statements. Circle the number that best reflects your agreement with the statement, using the scale provided below.

APPENDIX E

Child TSSCA Usage Questionnaire

Directions: Think about the TSSCA. After reading each sentence, circle the number that matches your belief about it. For example, if the sentence was "I like chocolate ice cream," you might circle "4" for "I totally agree."

		I totally disagree	I kind of disagree	I kind of agree	I totally agree
1	The TSSCA was too much work for me	1	2	3	4
2	I understand why educators would use the TSSCA with me and other students	1	2	3	4
3	I could see myself completing the TSSCA again	1	2	3	4
4	The TSSCA is a good way to get students help	1	2	3	4
5	It was clear what I had to do				
6	I would not want to complete the TSSCA again	1	2	3	4
7	The TSSCA took too long to do	1	2	3	4
8	If my friend was having trouble, I would tell him/her to try the TSSCA	1	2	3	4
9	I was able to answer every question on the TSSCA	1	2	3	4
10	Doing the TSSCA got in the way of doing other things	1	2	3	4
11	Answering the TSSCA questions focused too much attention on me				
12	I was excited to do the TSSCA	1	2	3	4
13	I would volunteer to do the TSSCA again	1	2	3	4
14	It was clear what the adult needed to do				
15	I liked the TSSCA	1	2	3	4

APPENDIX F

CTS/TSSCA Comparison Form

Description:									
Acceptability of TSSCA relative to Other Instrument (satisfaction, likeability)	**1 Not at all acceptable**	**2**	**3 Somewhat acceptable**	**4**	**5 Moderately acceptable**	**6**	**7 Acceptable**	**8**	**9 Very acceptable**
Feasibility of TSSCA relative to Other Instrument (ease, time, resources required)	**1 Not at all Feasible**	**2**	**3 Somewhat Feasible**	**4**	**5 Moderately Feasible**	**6**	**7 Feasible**	**8**	**9 Very Feasible**
Appropriateness (do you think it is suitable, fits well)	**1 Not at all Appropriate**	**2**	**3 Somewhat Appropriate**	**4**	**5 Moderately Appropriate**	**6**	**7 Appropriate**	**8**	**9 Very Appropriate**
Please respond to the below questions based on your rating.									
Why I gave it the acceptability rating I gave it?			Why I gave it the feasibility rating I gave it?			Why I gave it the appropriateness rating I gave it?			

Additional Notes/Comments

APPENDIX G

Focus Group Record Form

Worksheet 1: TSSCA Form

Please take five minutes to give your feedback about the TSSCA form. Some things to think about are:

- Feasibility- How usable is this form?
- Appropriateness- How good of a fit is this form for the students at my school?
- Acceptability- Would people be ok with this form?

Write your ideas in the box below:

Please write down the 5-8 ideas you think are most important. Feel free to list by letter instead of writing the whole phrase. Next, rank the items from most important (1) to least important.

Rank Order	**Idea**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Additional questions, thoughts or comments? Please write them in the box below.

APPENDIX H

The Child Trauma Screen

CTS
Child Report (Age 7+)

Child ID: _____ Date Completed: _____ Administered By: _____

Gender: ☐ Male ☐ Female Age: _____

EVENTS: Sometimes, scary or very upsetting things happen to people. These things can sometimes affect what we think, how we feel, and what we do.	**Yes**	**No**
1. Have you ever seen people pushing, hitting, throwing things at each other, or stabbing, shooting, or trying to hurt each other?	☐	☐
2. Has someone ever really hurt you? Hit, punched, or kicked you really hard with hands, belts, or other objects, or tried to shoot or stab you?	☐	☐
3. Has someone ever touched you on the parts of your body that a bathing suit covers, in a way that made you uncomfortable? Or had you touch them in that way?	☐	☐
4. Has anything else very upsetting or scary happened to you (loved one died, separated from loved one, been left alone for a long time, not had enough food to eat, serious accident or illness, fire, dog bite, bullying)? *What was it?* _____	☐	☐

REACTIONS: Sometimes scary or upsetting events affect how people think, feel, and act. The next questions ask how you have been feeling and thinking recently.

How often did each of these happen in the last 30 days?	**Never/ Rarely**	**1-2 times per month**	**1-2 times per week**	**3+ times per week**
5. Strong feelings in your body when you remember something that happened (sweating, heart beats fast, feel sick).	0 ☐	1 ☐	2 ☐	3 ☐
6. Try to stay away from people, places, or things that remind you about something that happened.	0 ☐	1 ☐	2 ☐	3 ☐
7. Trouble feeling happy.	0 ☐	1 ☐	2 ☐	3 ☐
8. Trouble sleeping.	0 ☐	1 ☐	2 ☐	3 ☐
9. Hard to concentrate or pay attention.	0 ☐	1 ☐	2 ☐	3 ☐
10. Feel alone and not close to people around you.	0 ☐	1 ☐	2 ☐	3 ☐

Notes:

APPENDIX I

Student Assent Form

Assent to Participate in Research

Title of Research Study: An Exploratory Study of Trauma Screening Procedures and Instruments in Schools

Researcher: Clayton Cook, PhD, LP and Sophia Frank, MA

Sponsor: University of Minnesota

What is research? The goal of research is to learn new things in order to help groups of kids in the future. Researchers learn things by asking a question, making a plan, and testing it.

Why am I being asked to take part in this research study? A research study is usually done to understand how things work. You are being asked to take part in this research study because you attend school at [redacted]and in grades 6-12.

What should I know about being in a research study? You do not have to be in this study if you do not want to do so. It is up to you if you want to participate and if you want to, talk to your parents about any questions or concerns you have about the study. You can choose not to take part now and change your mind later if you want. If you decide you do not want to be in this study, no one will be mad at you. You can ask all the questions you want before you decide.

Why is this research being done? In this study, I want to find out more about how to best find kids who may have experienced bad or upsetting events and are having problems to help them cope, heal, and do the best they can in school. Bad or upsetting events could include things like bullying, a death in the family, experiencing a natural disaster, serious illness or accidents, or seeing something violent in real life. Research suggests that the best way to find kids who need extra support is to ask them directly. We also hope that this research will help [School District] and all schools do a better job of supporting children who've experienced bad or upsetting events.

How long will the research last? I expect that you will be in this research study for one session that will last about thirty minutes.

What happens if I say "Yes, I want to be in this research"? If it is okay with you and you agree to join this study, you will complete two short questionnaires with me. I will read all the questions out loud and you will tell me your response. It should take no more than thirty minutes. Your answers will be shared with the school and with your caregivers**.**

Is there any way being in this study could be bad for me? There is a risk that your information may accidently get out, but we will do our best to make sure that everything stays private except for the school and your family. There is a risk that some of these questions might make you uncomfortable. You don't have to answer any questions you don't want to and we can be done at anytime. If you feel upset or

concerned about any of these questions, you can talk to your teacher, your parents, or the school psychologist about it.

What happens to the information collected for the research? The researchers will share your information, including research study records, to only people who have a need to review this information. For example, sometimes researchers need to share information with the University or other people that work in research to make sure the researchers are following the rules.

What else do I need to know? If you agree to take part in this research study you will receive some school swag as a thank you for your time and effort.

Who can I talk to? For questions about research appointments, the research study, research results, or other concerns, call the study team at:

Researcher Name: Sophia Frank

Researcher Affiliation: University of Minnesota

This research has been reviewed and approved by an Institutional Review Board (IRB), a group of people that look at the research before it starts. This group is part of the Human Research Protection Program (HRPP). To share concerns privately with the HRPP about your research experience, call the Research Participants' Advocate Line at [redacted]. You are encouraged to contact the HRPP if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team or your parents.
- You have questions about your rights as a research participant.
- You want to get information or provide feedback about this research.

Signature Block for Child Assent

Signature of child Date

_____

_____

Printed name of child

_____

_____

Printed name of person obtaining assent Date

_____

_____

Signature of person obtaining assent Date

_____

_____

APPENDIX J

Sample Consent

Key Information About This Research Study

We are asking permission for your child to participate in a school-based research study. The purpose of this form is to give you information that will help you decide whether or not to allow your child to participate in this study. More detailed information is listed later on in this form.

What is research?
The goal of research is to learn new things in order to help people in the future. Investigators learn things by following the same plan with a number of participants, so they do not usually make changes to the plan for individual research participants. You, as an individual, may or may not be helped by volunteering for a research study.

Why am I being invited to take part in this research study?
We are asking your child to take part in this research study because they are in grades 6-12, are between 11 and 17 years old, and are enrolled in [redacted.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide. If you have any questions about or do not understand something in this form, you should ask [redacted] more information. You can call or email us. You can also reach out directly to the school psychologists at [redacted] with any questions or concerns: [redacted]

Why is this research being done?
The purpose of this research is to learn how to best support children who may have experienced bad or upsetting events and might benefit from additional supports to cope, heal, or excel in school. Bad or upsetting events could include things such as bullying, a death in the family, experiencing a natural disaster, serious illness or accidents, or seeing something violent in real life. Research suggests that the best way to determine whether kids need extra support is to ask them directly. We hope that the results of this study will help [redacted] provide supports to children who need it. We also hope that this research will help all schools do a better job of supporting children who've experienced bad or upsetting events.

How long will the research last?
If you agree to give permission for your child to participate in this study, a time during the school day will be identified in collaboration with their teacher to have them complete the study questionnaires. These questionnaires are estimated to take no more than thirty minutes to complete.

What will I need to do to participate?
If you agree for your child to be in this study, a researcher will complete two questionnaires with your child about their feelings, behavior, and whether they've experienced a bad or upsetting event. We will

not ask your child to name, talk about, or describe any bad or upsetting events. The researcher will also ask your child's teacher about their behavior in the classroom.

More detailed information about the study procedures can be found under "What happens if I say yes, I want to be in this research?"

Is there any way that being in this study could be bad for me?
There is a risk of breach of confidentially. However, we will make every effort to respect you and your child's privacy. No identifiable student or family information will be reported in the study. We will keep all study information in locked files and password-protected computers that only the researchers can access. All identifiable materials will be destroyed after the study is complete.

There is a risk that your child may find the study questions upsetting. However, these questions were designed to be simple and non-distressing. Children will not be asked to describe or explain the bad or upsetting events or any of their answers and study personnel are all trained and have experience working with children. Children's participation is entirely voluntary and they can opt out of the questionnaire or stop the interview at any time.

There is a slight risk that your child may disclose information that staff, mandated reporters, may be required to report to child welfare. Reportable disclosures include any information that would lead the interviewer to suspect that the child is experiencing abuse or neglect. However, these disclosures are unlikely, as the researchers will only ask the questions on the questionnaire. These questions require a simple yes or no answer or a numbered rating. The child is not asked to describe any bad or upsetting experiences.

Will being in this study help me in any way?
We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include access to services and resources in the school to best meet their needs and support well-being. Further, results from this research study will benefit all students at [redacted] by helping to identify the best way to connect children to the services and resources they need.

What happens if I do not want to be in this research?
There are no alternatives, other than deciding not to participate in this research study.

Detailed Information About This Research Study

How many people will be studied?
We expect about 100-150 students here will be in this research study out of [redacted] students in grades 6-12 served by [redacted]

What happens if I say "*Yes, I want to be in this research*"?
If you agree for your child to participate in this study, a researcher will schedule a time with their teacher to pull them from class for no more than thirty minutes to complete the two questionnaires. The questionnaires will be read aloud by the researcher to your child in a quiet and private setting. Teachers will also be completing a brief questionnaire about participating students' social, emotional, and academic behavior in the classroom.

If your child reports that they've experienced a bad or upsetting event AND that they are having problems because of it, we will contact you. At that time, we will describe the results, answer any questions you may have, and ask your permission to provide follow-up testing.

We will select a random group of students and their caregivers to participate in an optional follow-up feedback group to give their opinions about the procedures used in this study. Participation in these feedback sessions will be voluntary and compensated.

If you say yes, you are agreeing to:
1. Your child completing two questionnaires about their feelings, behaviors, and bad and upsetting events with a trained interviewer.
2. Permission to view your child's school records.
3. Follow-up communication in the case that your child reports experiencing problems related to bad or upsetting events.
4. Possible follow-up communication with an opportunity for you or your child to participate in a brief focus group about your experiences in this study.

What happens if I say "Yes", but I change my mind later?
You can leave the research study at any time and no one will be upset by your decision.

What happens if I do not want to be in this research?
Taking part in this study is completely voluntary. You or your child do not have to participate in this study. You may decide not to participate at any time and it will not be held against you or your child by [redacted].

Will it cost me anything to participate in this research study?
Taking part in this research study will not lead to any costs to you.

What happens to the information collected for the research?
Efforts will be made to keep you and your child's personal information confidential. However, results of the questionnaires will be shared with [redacted] and protected using procedures standard to the district. In addition, organizations that may inspect and copy your information include the Institutional Review Board (IRB), the committee that provides ethical and regulatory oversight of research, and other representatives of this institution, including those that have responsibilities for monitoring or ensuring compliance. We will not ask your child about abuse, but if they tell us about child abuse or neglect, we may be required or permitted by law or policy to report to authorities.

Will I receive research test results?
YES. If your child's results indicate that they may have experienced a bad or upsetting event and are having problems related to that event, you will be notified of those results. If this happens, you will be connected to resources and services to help confirm the results and provide support if needed.

Whom do I contact if I have questions, concerns or feedback about my experience?
This research has been reviewed and approved by an IRB within the Human Research Protections Program (HRPP). To share feedback privately with the HRPP about your research experience, call the Research Participants' Advocate Line at [redacted] You are encouraged to contact the HRPP if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.

- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Will I have a chance to provide feedback after the study is over?
The HRPP may ask you to complete a survey that asks about your experience as a research participant. You do not have to complete the survey if you do not want to. If you do choose to complete the survey, your responses will be anonymous.

If you are not asked to complete a survey, but you would like to share feedback, please contact the study team or the HRPP. See the "Investigator Contact Information" of this form for study team contact information and "Whom do I contact if I have questions, concerns or feedback about my experience?" of this form for HRPP contact information.

What happens if I am injured while participating in this research?
This research study does not involve potential for injury.

Will I be compensated for my participation?
If you returned notification flyer previously or this consent form, you will be entered in a random drawing to win a one of five $20 gift cards. Your child does not need to complete the study for your entry in the random drawing. The odds of winning a gift card in this random drawing are approximately 1 in 100 or greater. If your child, with your permission, agrees to take part in this research study, they will receive a voucher for a treat worth up to $2.50 at the school café.

CONSENT STATEMENT
This study has been explained to me. I give my child permission to take part in this research. I have been provided with a chance to ask questions. If I have questions later about the research, I can contact the Project Coordinator, [redacted]. Their contact information is also listed at the top of this form. I can also reach out directly to the school psychologists for my child's school (listed above). If I have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), I am encouraged to contact the Research Subjects' Advocate Line, [redacted].

_____ _____
Signature of Participant Date

_____
Printed Name of Participant

_____ _____
Signature of Person Obtaining Consent Date

_____
Printed Name of Person Obtaining Consent

APPENDIX K

Focus Group Script

Note This Script is intended to serve as a general model for the specific materials that will be used to guide each focus group/interviews. The script will be modified to emphasize specific aspects of feasibility, appropriateness, and acceptability as they apply to each group. For the purposes of this study, feasibility, acceptability, and appropriateness have been defined using the definitions provided by Proctor et al. 2010:

- **Feasibility-** the extent to which a new treatment, or an innovation, can be successfully used or carried out within a given agency or setting.
- **Acceptability-** the perception among implementation stakeholders that a given treatment, service, practice, or innovation is aggregable, palatable, or satisfactory.
- **Appropriateness-** the perceived fit, relevance, compatibility of the innovation or evidence based on practice for a given practice setting, provider, or consumer; and/or perceived fit of the innovation to address a particular issue or problem.

Specific examples may be added to help guide recommendations around key questions including:

- Recommendations for improving obtaining active parental consent
- Recommendations to increase student comfort with and participation in trauma screening
- Recommendations for school staff to administer trauma screening (when, where, and how)

Materials

- Flip charts
- Stop watch
- Markers and pens
- Copies of worksheets one and two
- Copies of the TSSCA
- Gift cards for participation

Introduction (5 minutes)

Hello and welcome! Thank you for taking the time to participate in today's focus group. I'm going to start with a short introduction of myself and this project and then we'll get into our two discussion topics for the day. There will be a short break around halfway through.

My name is Sophia Frank. I'm a doctoral student in School Psychology at the University of Minnesota and I've been working with [School District] over the last year to help build systems to support students. I've been doing this through a practicum, which is like an on-the-ground training experience for learning more about school psychology and in my dissertation research.

As a part of this work, Dr. Clayton Cook and I have been working with [***school name***] and [***school psychologist's name***] to help pilot, or "test drive," some strategies to best match students with the school support services related to mental health and well-being that they need.

A lot of children have some challenging behaviors and thoughts that can make it hard to do their best work in school and reach their full potential in all areas of life. Figuring out the root causes of these problems can help schools figure out how to best address them. One root cause of problems for ***some*** children (not all) can be bad, upsetting, or even traumatic events. This is because experiencing bad or upsetting events can cause kids to learn behaviors to survive that don't work in other places, like school. Sometimes these experiences can even change how the brain processes information and responds stimuli. However, these changes do not have to be permanent. If we know that kids are experiencing problems related to bad or upsetting events, we can create custom problem-solving plans to help them cope and heal as well as, hopefully, experience more success in school.

My goal today is to chat with you, as members of this school community, and collect your input about how to help find kids who need extra support after experiencing a bad or upsetting event.

During this focus group you're going to use a special process to discuss two topics: the feasibility, acceptability, and appropriateness of 1) trauma screening instruments (the TSSCA) and 2) trauma screening procedures. I'll guide you through the process and talk more about what these things mean.

Results from this focus group will be used to help understand how to best use trauma screening in schools. The information I receive from you will be aggregated into a report and shared with [redacted], included in my dissertation, and possibly shared in other ways such as in conferences or published papers. Your identity will remain private and your name will not be attached to any comments you make. There are no right or wrong answers in this focus group. Please feel free to bring up your own ideas, ask your own questions, and talk between each other. I hope you'll be comfortable speaking honestly and sharing your ideas!

Topic 1: Feasibility, Acceptability, and Appropriateness of Trauma Screening Instruments

Stage 1: Topic Presentation and Questions (5 minutes)

This is the University of Minnesota's Traumatic Stress Screen for Children and Adolescents, which I'll call the TSSCA from now on, that [***you, your child, your student***] completed as a part of this study. ***Distribute form.*** This form was used to identify kids who may have experienced a bad or upsetting event and are having problems because of it. Each item 1-5 is scored, and a score of six or higher means that they might need some additional testing or support.

Feasibility means how doable something is. For example, how practical do you think the TSSCA is for people to use or how easy or hard were the questions for you to answer? Appropriateness means how good of a fit something is for a specific group of people or place. So, for example, how good do you think these questions are for the kids at [redacted]? Acceptability is how satisfied or "ok" you are with something. So for example, how comfortable were you answering questions on the TSSCA? Or how comfortable would be with your child or student answering these questions? Please when thinking of feedback responses, focus your ideas on only the form in front of you.

These terms are just here to guide you, please don't feel limited by them or like you have to use them when discussing your thoughts and experiences with the TSSCA. Are there any questions? ***Continue discussion until all participants understand the discussion topic.***

Stage 2: Individual Written Reflection (5-10 minutes)
At this stage, participants will be provided worksheets (included at the end of this script). I'm handing out a worksheet that and I want you to spend five minutes responding to the prompts. Think of this as a brainstorm. I want you to have an opportunity to think about the discussion topic on your own and come up with some ideas before sharing out to the group. Each of you will be asked to share ideas out with the group after this reflection time is over.

Stage 3: Share Out (10 minutes)
Thanks for taking time to think through your responses using the worksheet. Now we're going to go around the room and I want you each to share one of the responses you developed. I'm going to write them down on this flip chart as your share. Everyone needs to share at least one response and then we can go around again as needed. If you think of an idea that you didn't write down or you have additional comments or remarks based on someone else's response, please feel free to share that as well! ***Responses are shared round robin style starting with a volunteer and recorded on flip chart paper.***

Stage 4: Consolidation and Review (2 minutes)
Review responses compiled in stage 3 and eliminate duplicates. Assign each of the remaining responses a letter from the alphabet.

Stage 5: Rank Ordering (8 minutes)
Ask participants to list the 5-8 responses that they thought were the most important or critical on worksheet 1. They should then number rank those responses in order of importance with one being the most important. After participants have completed their rank order list, they should add any additional questions, comments, or thoughts in the indicated box.

Break with snacks (10 minutes)

<u>Topic 2: Feasibility, Acceptability, and Appropriateness of Trauma Screening Procedures</u>

Stage 1: Topic Presentation and Questions (5 minutes)
During the last discussion I asked you for your feedback on the TSSCA. Now, I want your feedback on the idea of trauma screening and the parts that you got to experience as a part of this project. Just like last time, I'll provide you same guiding language, feasibility, appropriateness, and acceptability but you don't need to make your responses fit those buckets. These terms are just here to guide your thinking. Some questions to consider might be, will this process help kids here in [redacted]? How might this process cause problems for kids, families, or school staff?

Are there any questions? ***Continue discussion until all participants understand the discussion topic.***

Repeat stage 2-5 above for second topic

APPENDIX L

De-Brief Script

Hi, my name is Sophia Frank and I'm calling on behalf of [school name] and the University of Minnesota to share results with you related to a screening project that your child participated in. As a component of this study, your child completed a brief questionnaire about bad or upsetting events and their thoughts, feelings, and behaviors related to those events. Bad or upsetting events could include being threatened or hurt, seeing someone else threatened or hurt, or feeling like your life was in danger. On this questionnaire, your child indicated that they had experienced a bad or upsetting event and that they might be having some problems because of it.

This questionnaire, called the TSSCA, was designed to identify kids who might have experienced a bad or upsetting event and might benefit from extra support, but it does not tell us for sure. The results of the screen **do not mean** that your child has post-traumatic stress disorder or any other mental health problem. These results are intended to be a starting point for finding out more information.

In order to find out more about what support your child might need, it might be helpful to have a trained clinician, for example a social worker or a psychologist, talk to your child about what happened. They will be able to provide more in-depth testing to help determine what will best help your child get what they need.

There are resources in your child's school and in the community that I want to share with you today so you can make the best decision for your family regarding next steps. This includes information about how to talk about your child about bad and upsetting events; information about how bad or upsetting events can affect learning,

development, behavior and other areas of life; information about how to help children cope, heal, and excel; as well as supports available at your child's school and in the community.

This information is being shared with you and will also be shared with [child's school] to help the school psychologist plan with teachers and other staff how to best support all children, including those who may be having problems related to bad or upsetting and traumatic events. If you have questions for the school psychologist, their information is provided in the resource document I described earlier.

Do you have any questions about any of this that I can answer at this time?

In addition to sharing this information, I also want to ask if you would be interested in participating in the second part of this study, which would involve you giving consent for your child to complete a follow-up questionnaire about what kind of bad or upsetting events they've experienced and more detailed information about their thoughts, feelings, and behaviors. There is a separate consent form that I'll go over with you if you're interested. The results from this part of the study will help us check the accuracy of the questionnaire your child already completed. Results will be kept confidential and will only be used for this study. They will not be shared with you or the school. Is this something you'd be interested in?