A Selected Review of Trauma-Informed School Practice and Alignment with Educational Practice

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In the past five years, there has been an explosive expansion of interest in how an understanding of adverse childhood experiences (ACEs) and resulting trauma can improve educational practice. 'Trauma-informed schools' is an umbrella term for several different approaches which share some core proposals for change but otherwise can vary widely. The foundational concepts of good trauma response- that compassion has the power to heal, that placing a priority on the power of relationships is essential for change, and that assuring safety should be a right of childhood- all create hope for better outcomes and point to the kinds of immediate actions that make change a realistic possibility for many.

The rapid growth of interest in the role of adversity and trauma in childhood is as much a popular cultural phenomenon as it is a process of translating science into better practices. The call to action is compelling. Adversity in the lives of children is both awe-inspiring in its scope and confirming as description of risk to anyone who has worked closely with children. However, the scientific rigor that describes the scope of risk and mechanisms for risk is not matched currently by equivalently strong scientific evidence about what defines necessary and sufficient interventions.

Because trauma-informed practice in schools is new, we don't know much yet about what works. The need to develop a coherent framework to support high impact practice is increasingly part of the national discussion on trauma-informed schools (Chafouleas et al., 2016). However, at the moment, emerging trauma-informed school practices are scattered along a continuum from locally defined actions to more formal programs. While there are good resources available for aspects of this work (e.g., Cole et al., 2005), one barrier to this developing field of work is that key literatures that could help inform strong trauma-informed practices are not often organized in a systematic discussion of trauma-informed school practices. This paper is intended to introduce some key bodies of research that inform the CLEAR model, could be helpful to others, and are not routinely included in many discussions of trauma-informed practice in schools. Specifically, I address:

- How distinguishing ACEs from cumulative risk models helps clarify what is shared across people and settings and what needs to be addressed as the consequences of ACEs which add to cumulative risk.
- How the concept of complex trauma extends the ACEs framework with evidence-based intervention methods for recovery.
- Why adopting a trauma-informed schools approach requires a movement away from an over-reliance on a mental illness model to describe challenges from trauma due to ACEs.
- Why social emotional learning practices and intentional efforts to increase resilience in children are both integral to trauma-informed school practices.
- Why staff development in the 'deeper practice' of trauma-informed work is the foundation for change.
- Why implementation science and an understanding of change in complex systems offers practical program design goals to improve the potential for sustainable trauma-informed school practice.

Popular enthusiasm about trauma-informed practices is increasingly challenged by the need to establish what strategies produce durable change and replicable results. The risk is that well-intended but incomplete and ineffective practices may result in disenchantment with trauma-informed practice. We have reason to hope that we will effectively address outcomes because trauma-informed practice can draw upon a strong research base detailing good practice. Aligning trauma-informed practice with this larger research foundation is essential to assuring we build from current practice to strong, sustainable, and replicable practices integrating trauma-informed principles across diverse settings.

This paper is organized in three parts. First, I discuss some of the key research areas supporting emerging trauma-informed practices in schools. This includes a review of recent findings about emerging adverse childhood experiences (ACEs) in childhood, and how ACEs are most effectively distinguished from the large literature addressing cumulative risk. I then introduce the concept of complex trauma as an empirically supported framework for trauma-informed supports. I then address how social emotional learning provides a universal foundation for action that is supplemented by an understanding of trauma. Specific to social emotional learning success, I also address the critical role staff characteristics play in the success of these programs. I end this section with a discussion of implementation science and how trauma-informed school practice has to address adoption of innovation in schools as complex systems. Second, I briefly review the current status of trauma-informed school efforts generally Third, I present how our model, Collaborative Learning for Educational Achievement and Resilience (CLEAR), serves as one practice to guide trauma-informed whole school practices and its alignment with as well as differences from other trauma-informed school practices. In the discussion of CLEAR, I describe how the California adaption of CLEAR, CLEAR California (CLEAR-CA), aligns with key California educational initiatives and merges CLEAR with the closely allied work developed in San Francisco through Healthy Environments and Response to Trauma in Schools (HEARTS).

Three interlocking questions need to be answered to build on the promise of trauma-informed practice.
- What is the theory of change guiding different trauma-informed practices? Any intervention has a more or less explicit theory of change to guide selection of interventions. Presently, well-articulated theories of change are not common at the current stage of trauma-informed schools work. This lack of clarity about why and how a specific trauma-informed schools approach is expected to work is a significant challenge to the field. Well-articulated theories of action are necessary to guide strong planning and essential if our goal is to replicate and scale-up effective trauma-informed practices.
- Can we confirm the core components that must be in place to support trauma-informed practices?
- Can we specify our interventions so what works can be replicated and tested?

A. Scope of Adverse Childhood Experiences and Trauma as a Public Health Crisis.

The scientific findings linking ACEs and resulting health and social costs provides the common starting point for most trauma-informed practices. There are few examples of science capturing popular attention more significantly than the implications from the ACEs research. However, it remains the case as I write this review in early 2016 that ACEs remain the most significant

scientific advancement the overwhelming majority of professionals in education and social services still don't know. As a result, how we disseminate information about ACEs, the biological risk resulting from ACEs, and the neurodevelopmental changes that create the risk to leverage these concepts in systems change remains a crucial body of work to be done.

The large and growing peer-reviewed literature on ACEs drives home three key findings:

- Accumulative chaos and distress in childhood is common in any community.
- Despite how common adversity is, many exposed to multiple ACEs continue to prosper because they have offsetting experiences that buffer the effects of ACEs by supporting resilience. Resilience, the capacity to grow despite adversity, is built through meaningful positive relationships, social support, and the opportunity for children to meaningfully master skills.
- When unaddressed, increasing ACEs in childhood are associated with lifelong social costs, poor health, and loss of opportunity for so many that all of us have a stake in finding solutions.

While broad public awareness still is building, in the last 10 years the ACEs framework has been an engine for community-building through efforts such as ACEsConnection (http://www.acesconnection.com/); served as a framework for philanthropic investment; and increasingly provides dominant concept in policy discussions about health, youth wellbeing, and successful transitions throughout childhood.

This engagement work with people and institutions to have ACEs become a broad-based conceptual tool for change is complicated by the fact that our national conversation is using different language to describe aspects of the same shared challenge. The four overlapping camps currently influencing the national discussion are whether advocates in this work ally primarily to ACEs, toxic stress, trauma because of the development impact of adversity and neurodevelopmental risk, or resilience as the principal organizing tool for action. This is further complicated by the degree to which individuals view action principally through the lens of professional response or community and individual empowerment models.

Let me state my own organizing framework to make clear the perspective I bring to this review. ACEs describe a public health crisis involving social and familial chaos in the lives of children on a scale that means no sector or community is unaffected. Toxic stress describes the biological mechanisms of how ACEs create levels of persistent and overwhelming stress that place neurodevelopment at risk. Trauma, specifically complex trauma, resulting from toxic stress describes the neurological changes and behavioral coping mechanisms that if uncorrected can lead to persisting challenges with navigating life successfully at all ages. Resilience describes the personal, familial, community, and cultural assets surrounding any individual that allow us to

continue to grow despite challenges but particularly can help protect against and/or offset exposure to ACEs and create the critical conditions of believing in ourselves and others even when bad things happen to us. As living beings, this process is dynamic and the way our history affects us is constantly transformed by the opportunities and challenges we face today. This dynamic process is why we can have hope that recovery from trauma due to adversity is real and within our reach as communities.

Despite the dominant role ACEs now play in our understanding of population risk, our understanding of how to use ACEs effectively in practice and policy development remains an active area of development work. Key among the development needs are (1) how flexible are we in what we include as ACEs, (2) to what degree ACEs have immediate effects in childhood, and (3) how we can improve the use of ACEs by understanding both context (i.e., family, culture, and community) and consequences (i.e., distinguishes the emerging problems resulting from ACEs in contrast to the costs individuals begin to experience because of ACEs).

Now supported by several hundred studies conducted by multiple teams, adult's retrospective report of adversity has been associated with elevated risk for a variety of health and social problems across the lifespan (Anda et al, 2006). In the original study, 41% of adults reported experiencing two or more childhood ACEs with associated meaningful increases in health and social risks. Nearly one in five adults report experiencing four or more ACEs. With increasing ACEs exposure, the risk for major life disruptions increases in a largely linear manner.

A major implication of the adult ACEs literature is how common adversity, including very high levels of exposure, is in childhood. These results are routinely validated as we increase the use of ACEs as a way to describe risk. In California, combined results from the Centers for Disease Control Behavioral Risk Factor Surveillance System (BRFFS) survey including 27,745 California residents confirmed the original study's findings with 40% of adult respondents reporting two or more ACEs and demonstrating the increasing health and social problems associated with increasing ACEs (Center for Youth Wellness, *A Hidden Crisis: Findings on adverse childhood experiences in California*, http://www.centerforyouthwellness.org/resources/).

1. Real time impact in the lives of children.
While the evidence for ACEs scope and impact in adult populations is well-established, until recently we had little information on ACEs exposure and their immediate consequences in childhood. This has been an important gap in applying ACEs as a tool for understanding the real-time response to risk in children. Specifically,
- We have until recently needed the evidence that focusing on cumulative adversity in childhood is more effective as a guide to services than responding to single dimension risks.
- At a policy level, understanding the nature of ACE exposure and the emergence of risk can help to focus the timing of prevention and remedial activities.
- At a practice level, being able to document the real time costs of ACEs in children is a mobilizing call for child and youth serving agencies. If management of resulting trauma from ACEs can be demonstrated to be a useful tool for these over-taxed systems, ACEs may signify a new focus for improvement of services.

Fortunately, recent information from several teams using the ACEs framework has begun to fill this gap in our understanding while confirming an earlier research literature specifically addressing child maltreatment. Three lines of research- child maltreatment and academic effects,

violence exposure in childhood, and emerging screening results using ACEs- give us a basis now for focusing more specifically on ACEs starting at birth.

Using child maltreatment as the most extensively studied indicator of complex trauma exposure, numerous studies link child maltreatment to poor academic outcomes. The impact of child maltreatment on academic success and social adjustment is direct and causal. Maltreated children demonstrate increased absenteeism, decreased cognitive functioning, low academic achievement, and increased use of special education services (Leiter & Johnsen, 1997; Crozier & Barth, 2005). Specific behavioral and emotional challenges in maltreated children include significant increased risk for substance abuse, disruptive classroom behavior, emotional problems, and conduct issues. Unaddressed, these behavioral challenges contribute to poor academic performance and low school achievement (e.g. Hawkins et al., 2001; Wilson et al,, 2001). These same negative academic outcomes, as well as a number of family characteristics identified as risk factors for violence, maltreatment, and other family disruption have also been demonstrated as the most significant risk factors for school dropout (Alexander et al., 2001). In Crozier and Barth's (2005) large-scale predictive study, academic performance in maltreated children deteriorated as the number of risk factors associated with children increased. This finding is consistent with the complex trauma proposition that is the persistence and complexity of risk that is a critical predictor of developmental risk.

With respect to violence exposure, Finkelhor et al. (2009) conducted one of the few population studies of recent violence exposure in children and adolescents. The results confirm an older literature documenting how violence is a common experience in childhood (Baum, 2005). Direct or indirect victimization during the past year occurred in 60% of their sample of over 4,500 participants. Exposure to multiple forms of victimization in the past year was reported for 39% of children while 11% of children reported five or more victimizations in the past 12 months.

More recently, information from several teams using the ACEs framework now confirm the scope of ACEs exposure in childhood and the real-time predictive value of ACEs in understanding academic and social risk in children. While we have known for some time that high ACEs exposure is common in children involved with treatment systems (e.g., Briggs et al., 2012), the following studies are significant because they reflect the experiences of children and adolescents in the general population. The findings confirm that ACEs exposure is common and has immediate social and academic costs in childhood.

- Bethell et al. (2014), using the 2011–12 National Survey of Children's Health's modified version of the ACEs survey, reported that 23% of children 0-17 years of age and 31% of children 12-17 experienced two or more ACEs. Compared to children with no reported ACEs, children with two or more ACEs were 2.7 times more likely to repeat a grade in school and were comparably likely to have low school engagement. The researchers also found that children with two ACEs compared to children with none were significantly more likely to be identified with special health care needs (32% v. 15%).
- In a high risk pediatric practice, Burke et al. (2011) reported on patients from birth to 20 years of age. The authors found that 36% of children reviewed had experienced at least two ACEs. Academically, children with four or more ACEs compared to children with no ACEs were significantly at greater risk for learning and school behavior problems (51% of children with four or more ACEs compared to 3% of children with no ACEs). With

respect to academic problems, risk increased progressively as ACEs increased. Children with four or more ACEs compared to children with no ACEs were also significantly more likely to be obese.

- Blodgett and colleagues (reports available at http://ext100.wsu.edu/cafru/research/) have conducted a series of studies from 2010-2015 addressing ACEs exposure and impact on academic success.
  - o In a random sample of 2,101 elementary aged children grades K-6 with school personnel reporting known ACEs exposure in students, 22% of children had two or more ACEs. As ACEs increased, there was increased risk for academic failure, chronic attendance problems, persistent school behavior problems, and poor reported health (Blodgett & Lanigan, 2015).
  - o Based on parental report in a voluntary sample of 1,066 children enrolled in an urban Head Start program, 55% of children had experienced two or more ACEs and 25% had experienced four or more ACEs. Children with four or more ACES, were rated by Head Start teachers as significantly delayed on multiple cognitive and social emotional development indicators at enrollment and again one year after enrollment (Blodgett, 2014).
  - o In a high risk population of 5,443 children 5-17 served in student support programs in Washington State, 81% of students had two or more ACEs. Students with four or more ACEs compared to students with no ACEs were five times more likely to have poor attendance, three times more likely to have school behavior problems, and 6.5 times more likely to have an identified behavioral health problem (Blodgett, 2012).
  - o In a large secondary review of academic data, academic success based on standard academic test pass rates decreased with both youth reports of ACE exposure and the percent of adults in the schools' communities with three or more ACEs.

2. Intergenerational ACEs as an area of needed development.

A key implication of the ACEs findings is that if we are to help children we have to help the adults who care for children. Adults in any setting bring to the setting their own history of the traumatic consequences of ACEs on their beliefs and behaviors. As a result, we need to organize our actions not solely for the most vulnerable children and adults but to recognize that scale of ACEs in the general population assures that trauma from ACEs in interwoven through our work and relationships across all settings.

Most of our understanding of risk due to ACEs focuses on the experience of individual children and adults. Few studies using the ACEs framework have examined the intergenerational nature of ACEs in families. This is an area of needed research development. Parental distress is the common thread across most of the ACEs survey items, and parents have the primary role in defining the safety and resources children experience. In a clinical services population, screening work conducted by the National Crittenton Foundation in 2014 (http://www.nationalcrittenton.org/wp-content/uploads/2015/10/ACEs_Toolkit.pdf) found that sixty percent or more of young mothers in services reported four or more ACEs.

In the Head Start research by Blodgett and colleagues summarized above, paired parent-child ACE scores were reported for more than 1,000 families. The authors found that children's ACEs

were predictive of teacher developmental ratings such that increasing child ACEs were associated with greater developmental risk. However, the authors also found that children's ACEs exposure accelerated dramatically as a function of their parents' own ACE history. Two-thirds of the Head Start children with four or more ACEs had parents with a history of four or more ACEs. Families where both the parent and the child had four or more ACEs accounted for one in seven of the families screened in this general Head Start population. For parents with no reported ACEs, 17% of their children had four or more ACEs. By contrast, for parents with four or more reported ACEs, 36% of their children had experienced four or more ACEs early in life. Parents' ACEs scores did not directly predict teachers' rating of child development; rather, children's ACEs scores predicted teacher ratings. However, children's ACE risk was highly associated with parents' ACEs indicating that we can't address children's trauma without understanding the contributing effect of parents' histories. Blodgett's findings suggest that there is a strong inter-generational risk pattern that requires a family-focused strategy to reduce risk from ACEs. Specifically, it may be useful to recognize in working with populations of children that ACEs exposure in childhood is common across a variety of families but there is a particularly vulnerable set of children and their families where risk is accelerated because of the impact of adjustment for both parents and children.

In summary, ACEs represent a specific constellation of cumulative risk factors occurring early in life that are linked by their potential to increase allostatic (cumulative wear and tear on the body due to stress) with immediate consequences for the success of the natural systems that support children. Increasing ACEs are highly associated with persisting academic and school behavior problems in both general and high risk student populations. The available research indicates that roughly one in five children in the general population may be at risk using two or more ACEs as a marker of increased health, educational, and social risk. The evidence also confirms that as we engage at-risk populations and communities the rates of multiple ACEs increase sharply and presents often as a multi-generational pattern of risk requiring attention to the family system and not solely the individual child. As a result, evidence demonstrates we need a continuum of response recognizing both the scope of need in the general population and that multi-generational ACEs risk may demand distinctly higher levels of support in the most vulnerable families.

3. Placing ACEs in context with the larger research literature describing risk.
Attention to the impact of cumulative adversity in childhood is not new with ACEs. The Cumulative Risk model (CR; Evans, et al., 2013; Rutter, 1979; Sameroff et al.,2004) predicts increasing numbers of concurrent risk factors are associated with a higher prevalence of negative developmental outcomes in children and across the lifespan. The CR model has received robust empirical support for its predictive ability to address the same array of health and social ills identified in the ACEs literature (see Evans et al., 2013).

The CR framework shares a great deal with ACEs: cumulative risk has a dose dependent relationship to children's mental health and general development problems often extend across the lifespan; risk factors emerge in early in childhood; CR risks as dichotomous variables (present/not present), and are summed to create a cumulative risk score. While attention to the discrete types of adversity can be helpful in understanding individual issues in recovery, multiple studies have found that for both the CR and the ACEs models, the sum of risks provides greater predictive power for subsequent adjustment problems than do the individual types of risk alone (Evans et al., 2013).

> ACEs are well-aligned with the larger cumulative risk literature. Because ACEs focuses on a set of discrete risks, ACEs may be more effective than the Cumulative Risk model in guiding the focus for intervention.

The concept of ACEs is most accurately situated within this older tradition although ACEs and resulting trauma have clearly captured popular imagination in a way the CR framework has not. This common framework is not typically acknowledged in discussion of ACEs and trauma-informed practice. Indeed, the two literatures do not routinely reference each other. But, by situating ACEs in the larger CR model tradition, we significantly increase the research base for understanding how adversity impacts our lives, can assess the distinct predictive benefit of ACEs over other means of addressing cumulative risk, and can have a more targeted exploration of what key factors mediate how adversity challenges develop.

Although risks included in the CR framework overlap significantly with ACEs, CR candidate experiences include a broader range of risks. Importantly, CR can involve both risk and the developmental and social consequences of adversity to develop measures of cumulative burden. CR model risk factors often are organized into broad stressor categories (Evans et al., 2013) including physical (e.g., housing quality, disruption in meeting basic needs), psychosocial (e.g., child separation, violence), and home environment and personal characteristics (e.g., poverty, single parenthood, maternal high school dropout status). Despite its predictive power, the CR model has been criticized as being atheoretical – lacking the power to explain the pathways for observed effects (Evans et al., 2013). Echoing the linkage made in the ACEs literature, this critique of the CR model has been in part addressed by the work of McEwen and others linking increasing allostatic load (i.e., the cumulative wear and tear on the body because of repeated exposure to high levels of stress) with cumulative risk.

By contrast, ACEs involve a more restrictive set of risks that can occur to children but more clearly separates risk from consequences of risk exposure. ACEs as conceived in the original research and as widely used today involves a focus on three principal types of disruption (Ford et al., 2014): risk to caregiver attachment because of disruptions in core relationships (incarceration, divorce, caregiver mental health problems); neglect and emotional abuse; and physical abuse and sexual abuse. Adopting an ACEs framework at least in theory points to more precise mechanism for the association of risk and biological changes. ACEs disrupt typical neurodevelopment specifically related to *threat-safety perception,* disruptions in the *self-regulation of emotions*, and disruption in the *smooth integration of limbic system and prefrontal cortical functions* critical for learning (Danese & McEwen, 2012).

Because ACEs have been adopted often without an understanding of the CR literature or complex trauma, we risk re-inventing work already done and not specifically associating our intervention strategies with an explicit understanding of developmental trauma resulting from high ACEs. The CR Framework allows us to consider how cumulative burden in life arises from both causes and consequences while the more targeted focus on ACEs and complex trauma provides the specific intervention targets. Key implications that follow from this distinction are:

- We are still at a stage of development where language and definitions are unsettled and greater specification of how we use ACEs as a concept can help with common language. ACEs offer a highly inter-correlated subset of risks that are nearly universal in their potential for harm across people.
- ACEs alone do not describe all the types of adversity in children's lives and using the CR framework can help describe the individual and community contexts that either mitigate or complicate the impact of ACEs. Specifically, using CR to describe the social context of risk may help describe situational risk in ways that more accurately reflect the scope of challenges to be confronted without complicating our understanding of what ACEs signify. A school in a neighborhood with high rates of community violence has a greater level of cumulative risk than other schools but this risk is distinct from the impact of ACEs children bring to school. By using the CR Framework to include the broader set of consequences (e.g., low academic skills) from contextual risks that affect groups of children (e.g., community violence, staff quality and retention in a school), we can develop more sensitive assessments of current need in individuals while maintain a clear focus on the impact of ACEs and resulting complex trauma.
- The CR framework can be used in coordination with ACEs to identify the cumulative burden from the consequences of adversity that are complementary to ACEs and can help our understanding of the additional significant burdens in individual and community experiences that more completely help explain what conditions need to be addressed to mitigate the specific effects of ACEs alone. Poverty, low teacher achievement, lack of high quality instructional practices are all examples of physical and social factors that contribute to cumulative risk but are discrete from the effects of ACEs.

Two recurring issues in the discussions about ACEs and trauma exemplify the potential benefit of clearly integrating ACEs in a broader CR framework. There is an active debate if the adversities included in the original ACEs scale are sufficient for capturing risk, particularly in diverse populations. For example, Cronhom et al. (2015) argues that, to accurately reflect the experience of urban low income youth, the concept of ACEs needs to be expanded. The authors argue that the inclusion of risks such as unsafe neighborhood, witnessing violence, and foster system involvement as ACEs is necessary to accurately reflect the experience of youth. Finkelhor et al. (2012) made comparable proposals for expanding the ACEs scale. In both instances, the authors included some elements such as repeating a grade or being in foster care which certainly add to cumulative burden but confound the definition of risks and their serious consequences. This conflation of risk and consequence complicates language critical for planning interventions and communicating results.

> Integrating the use of ACEs in a broader adoption of cumulative risk can help to clarify an intervention framework based on disruptions in safety, self-regulation, and quality of relationships which provide specific skills that can mitigate the effects of early adversity.

As a specific implication, as the outcomes research addressing trauma interventions in schools becomes more rigorous, it may prove that ACEs are best thought of as the core set of risks whereas consequences and other cumulative risks more appropriately either mediate or moderate the impact of ACEs. This also provides a potentially cleaner way to understand how resilience indicators (e.g., having a significant adult mentor for a child) are part of the mediating/moderating experiences which help determine if or to what degree the risk from ACEs actually impacts on development.

Second, sorting through the relationship of poverty and ACEs and racism and ACEs are examples of how situating ACEs in the broader cumulative risk framework can be helpful. Childhood poverty and racism can be contributors to cumulative developmental risk. However, many people growing up in poverty or with racism do not demonstrate developmental problems as a consequence of exposure although clearly poverty and racism are powerful factors to consider if we are to reduce health disparities. For both poverty and racism, the negative effects are strongly associated with compromised ability to influence experiences or to escape the effects (e.g., Williams & Mohammed, 2009) which places the impact of poverty and racism squarely in line with the concepts of cumulative risk and allostatic load as contributors to health risk. Brooks-Gunn and Duncan (1997) note in their review of poverty and children's outcomes that poverty's effects are not universally detrimental but significantly mediated by the timing, duration, and severity of the poverty. Two recent literature reviews (Pascoe & Richman, 2009; Schmitt et al., 2014), as well as articles addressing models for understanding the relationship of racism and health (e.g., Smedley, 2012), confirm the negative effects of racism but conclude that the relationship between racism and health is significantly influenced by the context and the personal experience of discrimination. As a result, separating and examining the distinct as well as potentiating interactions of ACEs, poverty, and racism may increase our success in addressing these health risks by treating them as independent but often converging influences under the broader CR framework.

In summary, by placing ACEs in context within the CR Framework, we can better address the specific effects of ACEs and their interaction with other social and environmental effects that uniquely contribute to health and social risks. This also allows us to better integrate how we address the protective assets and resilience building resources available to individuals affected by ACEs by addressing a range of risk and protective factors and mediators or moderators of the relationship between ACEs and the range of child and adult social and health outcomes. Finally, placing ACEs in the context of cumulative risk in turn can have significant implications with how we conceptualize research on outcomes and more usefully assess risk and the focus of our intervention in both individuals and settings like schools. While this level of specification in getting started with trauma-informed schools work is not necessary, as the field matures and we begin to develop more sophisticated outcome studies how we understand the common characteristics of risk (ACEs) distinct from the factors that mediate the success of interventions will increasingly be essential to determine what works and why.

4. Complex trauma as the framework for action to address the results of adversity.
Complex trauma (also sometimes referred to as complex posttraumatic stress disorder or developmental trauma disorder) encompasses the dual dimensions of exposure to adverse events and the biological, cognitive, and behavioral adaptations resulting from persistent exposure.

Complex trauma involves exposure to multiple forms of adversity early in life with resulting risk to neurodevelopment and success in mastery of age appropriate developmental tasks (Spinazzola, et al., 2005). While not currently integrated in formal diagnostic systems, complex trauma is a concept widely employed in addressing trauma and a framework for multiple promising and established mental health interventions.

As described by the National Child Traumatic Stress Network (http://www.nctsn.org/trauma-types/complex-trauma), complex trauma describes both children's exposure to multiple severe traumatic events (ACEs) and adaptations that can compromise typical development. Exposure usually begins early in life interfering with the capacity to form a secure attachment bond which in turn is crucial for the foundational developmental assets of stable relationships and a reasonable expectation the world and other people are safe. Complex trauma is used as a specific description of the adaptions to chronic disruptions related to ACEs and helps distinguish ACEs from acute traumatic events which carry comparatively lower risk for persisting developmental complications.

Where ACEs describe the nature of the risks, complex trauma describes the developmental compromises and compromised skills children experience as they cope with disruptions in key relationships and the positive self-regulatory learning experiences needed to support typical development. Brain development is placed at risk because of hyper-sensitization to potential threats resulting in overwhelming levels of fear and/or aggression which interrupt smooth integration of feelings and thoughts, compromise the encoding of new information into memory, interrupts access to higher cortical structures necessary for executive functions, and disrupts progressive mastery of self-regulation of emotions as a core developmental skill. Each of these characteristics of complex trauma in turn describe how ACEs interfere with learning and school adjustment. Adopting a complex trauma framework provides a focus for how we understand how a child expresses risk and where we need to invest efforts to mitigate the development disruptions that result from ACEs.

Complex trauma is distinguished by two broad areas of adversity: severe, persisting disruptions to caregiver relationships and threats to basic emotional and physical safety. Complex trauma is a psychobiological process of adaptation to overwhelming levels of persistent stress. These adaptations are functional in the face of overwhelming stress but are often disruptive and ineffective coping strategies as children face typical developmental transitions. The goals of any response to complex trauma are creation and maintenance of high quality relationships, age-appropriate regulation of emotions, and progressive mastery of age appropriate developmental skills.

> Adopting the frame of complex trauma and its lessons for recovery, provide the means to integrate our understanding of ACEs risk with an understanding of how trauma can change us and what are tested principles for trauma recovery.

Drawing heavily from the chronic stress and attachment literatures, complex trauma has emerged in the last 20 years as a new model for understanding how children exposed to ACEs express biological and behavioral adaptations that in turn result in developmental threats. Unpredictable stress and compromised adult supports directly threaten learning and development by threatening

optimal brain development and producing compromised behaviors specific to trauma exposure. As a result, complex trauma is a complement to the ACEs findings that completes our understanding of adversity by offering a significant reformulation of the pathways to poor developmental outcomes. By understanding the pathways that result in developmental challenges due to complex trauma, we can specify the targets for intervention that aligns the importance of ACEs as a description of risk with interventions to reduce risk and mitigate the consequences of ACEs.

Complex trauma involves several factors which distinguish it from conventional risk/protective and mental health definition of risk:
- Complex trauma is established early in life and involves disruptions in the basic safety and healthy attachment expected in caregiver relationships. As a result, these two factors significantly drive struggles to adapt as the child grows, and addressing safety and quality of relationships provide the foundation for interventions intended to support recovery.
- Complex trauma reflects post-traumatic adaptations to intolerable conditions of stress. As adaptive efforts, the response were functional in surviving the traumatizing experiences but become maladaptive in meeting continuing developmental demands in life. Courtois (2004) and Cook et al. (2003) argue complex trauma involves distinctive areas of struggles with adaption to traumatizing conditions that become barriers to optimal growth:
  - Alterations in developmentally appropriate affective self-regulation.
  - Alterations in attention and consciousness including dissociative experiences that interfere with full awareness of immediate circumstances and one's own immediate experiences. Hyper-vigilance, heightened reactivity to environmental changes, and irritability are examples of these shifts in attention and consciousness.
  - Distorted self-perception including persistent sense of shame and lack of worth.
  - Biological adaptions resulting in sensory-motor development and sensory integration difficulties that result in lack of a sense of wellbeing, sensitivity to environmental stimuli, coordination, and somatization of stress in a variety of poor health experiences.
  - Persistent struggles with intimate relationships resulting from among other concerns a lack of models of healthy relationships, trust and fear of rejection, limited awareness of one's own and others' emotional needs, and poor skills in managing conflict.
  - Poor behavioral regulation reflected in impulsivity, lack of planning, and coping strategies that are self-defeating and disturbing to others such as self-injury, aggression, and self-medication with drugs and alcohol.
- Complex trauma persists over time. Trauma exposure is typically persistent but episodic. The result is that the victim endures high levels of unpredictability and recurrent exposure to risk.
- Complex trauma's impact is often progressive over time if not interrupted. The adaptive struggles with safety and intimacy resulting from complex trauma increases risk of ongoing exposure to a range of new injurious experiences resulting in psychological loss and the denial of basic conditions of health and wellbeing. The scope of experiences that define contributors to complex trauma includes ACEs as originally defined but also includes the broader array of experiences like community violence, racism, and historical trauma. As a result, while aligned wholly with ACEs, complex trauma incorporates the broader range of experiences and consequences under the Cumulative Risk Model. For example, punitive disciplinary actions by schools for children with complex trauma can become so persistent

that they appropriately need to be considered as an additional traumatizing pattern of experience.

- There is a high probability that core social resources for recovery (caregiver capacity, social connections, material assets) are often part of the barriers to recovery from complex trauma. As a result, effective supports for recovery have to address family and contextual supports that go beyond a focus on the skills and understanding of the individual.

A number of specific mental health interventions for the treatment of complex trauma have evolved with a strong set of shared recommendations for effective treatment. These common elements include (adapted from Courtois & Ford, 2009):

- Interrupting or minimizing continuing traumatic experiences for children and their caregivers
- Creation of supportive relationships for the child and the child's caregivers
- Placing the maintenance of high quality continuing relationships as the foundation for care
- Building affect recognition and self-regulations skills to allow for ongoing corrective experiences and recovery, and
- Support for the management of new developmental challenges and crises such that key relationships remain strong resources to the child.

In summary, we propose that adopting a complex trauma framework as the guide to trauma-informed school response provides a conceptual model that integrates ACEs, neurodevelopmental risk, and tested intervention principles that can support a continuum of response for educators aligned both with routine educational practice as well as the more specialized treatment responses for the most vulnerable children.

B. Integrating trauma-informed school interventions with allied education improvement efforts.

The urgency for educational improvement is driven by a number of related issues including: frustration with the consequences of educational policies emphasizing high stakes testing, the consequences of zero tolerance disciplinary practices, disproportionate suspension and expulsion among students of color, and the fact that schools often feel ill-prepared for the many students coming to schools with limited or absent social supports and high academic and emotional needs. Collectively, these issues contribute to the high stress/low efficacy climate that is too common in many schools.

Trauma-informed education practices are part of a broader debate about what are the necessary educational practices and policies to support student success. Trauma-informed practices exist in a crowded field of initiatives because school improvement efforts respond to overlapping needs and draw from similar development concepts. Principal allied education improvement efforts that predate but are integral to trauma-informed practices include: social emotional learning as a core academic practice, restorative practices to address discipline and school climate, high quality teacher instructional and management supports, systematic efforts to reduce racism and implicit bias, and efforts to promote mental health services in schools. The result is that trauma-informed efforts usually exist alongside or integrated with other efforts to improve educational outcomes.

In such a crowded field, it is important to define the distinctive value and role of a trauma-informed approach in context with other educational practices.

Either directly or indirectly, the unifying issue for most of these educational improvement efforts is the effect of emotional and behavioral problems in children both on the student and educators. Emotional and behavioral problems in children are primary predictors of school dropout, academic failure, and school discipline problems (Alexander et al., 2001; Loeber & Farrington, 2000, Kutash et al., 2006). Schools are the principal provider of mental health services to children in the United States with 70-80% of services delivered in school-based programs (Burns et al., 1995). As a result, addressing emotional and behavioral development and improving the quality of response to children in distress are essential elements of a comprehensive school improvement effort. However, there is no general consensus across schools that this focus is part of their primary mission, and the nature and quality of response varies widely across the nation.

A consistent finding in studies addressing academic success is that the individual and family characteristics of students play a significant role in determining their school performance. For example, Krieg and Storer (2006) compared student and family characteristics in schools meeting or failing to meet adequate yearly progress goals in Washington State. The authors found that student demographic and family characteristics were the principal predictors of academic performance in Washington State schools. Further supporting the significant role of student and family characteristics as predictors of school-wide success, students' peer characteristics are associated in multiple studies with academic performance, rates of school behavior problems, and dropout risk (Alexander et al., 2001). The more a student affiliates with peers who have behavior and academic concerns, the more likely the student will in turn have academic problems. What students bring to schools and how schools adapt to these student, family, and cultural characteristics critically define the conditions for schools' success in efforts to improve student adjustment and academic outcomes. Student and familial risk in schools is modifiable by programmatic and school culture change, which can support the prevention of progressive developmental complications and more effective response to student needs often resulting from factors commonly associated with complex trauma (e.g., Christle et al., 2010; Nation et al., 2003). The research demonstrates that programs intended to reduce social and behavioral risk have to both address at-risk students and create the culture that increases the resiliency and developmental success of all students.

There is a growing consensus in the student support literature that services to at-risk students need to occur as logical extensions of school improvement planning benefitting all students. In 2004, with the reauthorization of Individuals with Disabilities Education Act, this comprehensive planning value was formalized in the concept of Response to Intervention (RTI) or what recently has been more often referred to as Multi-Tiered Systems of Support (MTSS). The two terms often are used interchangeably but the primary distinction appears to be that in MTSS there is a greater emphasis on whole school strategies to increase success for all students whereas RTI has its foundation more in individualized educational supports. MTSS/RTI models borrow from the well-established principles of public health response where interventions operate from a common conceptual framework of health that supports preventive, early intervention, and treatment responses in a unified system of care. MTSS/RTI approach supports phased responses to performance problems with eligibility, scope, and intensity of services being determined by how

the individual student responds to interventions; more intensive services emerge as less intensive interventions are demonstrated to have not benefitted the student. MTSS//RTI has been used to guide academic support intervention strategies to address the social emotional needs of children in schools. As a result, American education increasingly recognizes the need to have integrated strategies to address the social and emotional needs of students, has access to promising practices, but often struggles with implementing these strategies effectively.

The purpose of this section is to identify key considerations in aligning trauma-informed practices in schools with existing school improvement initiatives. I begin with a discussion of how the continuum of trauma effects challenges the most common response to traumatized children which is the use of mental health services. I then move to a discussion of a number of issues related to social emotional learning practices and its effects in education. Social emotional learning practices in schools are the single most widely deployed example of school programs intended to increase resilience of all students while creating strategies to identify and respond to children who can't benefit from these universal support strategies. I provide a review of key practices and characteristics of schools and educators that moderate the success of social emotional learning. While emerging from distinct traditions, I also incorporate restorative practices and interventions to increase emotional intelligence in children under the umbrella of social emotional learning practices.

1. The graded impact of trauma in children and the trap of over-relying on a mental health treatment response by schools.

A clear conclusion from the ACEs literature in adults and children is that there is an 'ACE dose effect' where risk in groups reflects a gradient of effects such that the development costs of trauma resulting from ACEs is along a continuum. The direct implication is that as significant as the risk from ACEs is, risk is not destiny. Temperament, social resources, intellectual capacity, and the presence of protective factors like strong social relationships are among the counter-balancing individual and social conditions that mediate the impact of adversity and critically contribute to individual resilience. As a result, we are more than our ACE score and risk and resilience in individuals will vary widely. The practical effect is we have to have frameworks for action that allow for graded responses to individuals, that support interventions to enhance developmental success, and which can support effective identification and access to formal care when needed.

> The risk of complex trauma in children occurs along a continuum due to individual differences and the emerging nature of adversity and developmental impact. We need an expanded framework for understanding risk and the need for intentional interventions that expand upon the capacity provided by formal mental health interventions.

ACEs research has shifted our understanding of adversity and trauma as a public health crisis. But, it is the mature understanding of the treatment of trauma as a mental health disorder that provides the principal body of research about what we can do to address the effects of ACEs. These two research areas have developed largely in isolation from each other. Indeed, there is currently an active policy debate among well-intended people that suggests these are competing frameworks for moving to better outcomes for children. This division is not helpful. Simply stated, ACEs research helps us understand the scope of risk and that the developmental costs are along a continuum while the trauma treatment literature provides tested principles for what are the strategies to help heal from trauma due to ACEs. We

need to integrate these two arguments to get to practical solutions for what are not only individual tragedies but barriers to the success of entire communities and their hopes for their children. We also need to recognize that too great an emphasis on mental health treatment can result in limited solutions despite our best intentions.

The use of a mental illness schema to address trauma from adversity has resulted in great success in the development of a range of evidence-based treatments for both children and adults. For example, the National Child Traumatic Stress Network's review of evidence-based treatments for trauma in children and adolescents identifies over three dozen specific treatment methods. These evidence-based interventions include treatments for specific trauma types, age levels, and racial and cultural groups. Critically, these different strategies are based on a core set of common principles that not only provide coherence to the trauma treatment field but also provide tested intervention strategies that can be used in non-treatment settings including schools.

Thinking of trauma through a mental health disorder lens is the mostly widely deployed framework schools currently use but with this framework comes several costs.
I will return to the role of mental health services in schools as one of the principal models for trauma-informed services later. In this section, I want to emphasize how conceptualizing trauma as a type of mental health disorder shapes how trauma is approached by many educators and policy makers.

Not all children needing mental health treatment do so because of adversity. Mental illnesses like bipolar illness, other affective disorders, and emergent psychotic conditions have their origins in biological processes that occur regardless of adversity exposure. Adversity, however, often co-occurs and complicates living with these conditions and an understanding of the resulting trauma risk may help improve care. But many of the most common diagnostic conditions in children and adolescents- anxiety disorders, attention deficit disorders, adjustment disorders, oppositional-defiant disorders, conduct disorders- share adversity as routine contributors to the presenting problems (Greeson et al., 2014). As a result, while trauma from ACEs does not explain all mental health problems schools must address, complex trauma either is a principal etiological factor or a common complicating set of concerns to be addressed.

> While formal mental health services for the most vulnerable students are a tremendous resource, over-reliance on diagnosed mental health interventions can be a barrier to effective responses because of service capacity barriers and the fact that many children impacted by trauma will not meet formal diagnostic criteria but still face significant developmental and academic challenges that need intervention.

While unevenly distributed and most common in urban/suburban schools, we have for many years seen the successful deployment of community mental health services either by close referral relationships or co-located mental health services in schools. This has been a significant strategy for increasing access to care for many vulnerable students. However, the preeminence of mental health services has helped reinforce the belief for many educators that their responsibility for trauma is principally identification of need and referral. While high quality *integrated and co-located* mental health services engage educators in coordinated care, often response to

significant emotional and behavioral problems for educators ends once the referral has been made successfully.

An over-reliance on the mental health framework also is confronted by three realities of mental health services: access to care; the emergent, often complicated nature of mental health problems in childhood; and the evidence that early identification and support can stop progression into greater levels of mental health need. Significant mental health problems in childhood typically reflect a progression into disability over time rather than an abrupt break from health. Particularly in young children, symptom presentation is often diffuse and changes over time often until the child hits the developmental challenge that overwhelms. As a result, when we have an over-emphasis on formal mental health services, early intervention is often deferred until the conditions for formal diagnosis and treatment access are met.

Sugai et al. (2000) reports an estimated 10-20% of enrolled children in any year demonstrate emotional and behavioral barriers to learning significant enough to warrant formal behavioral interventions. However, in addition to children with a diagnosable mental disorder, a larger number of children experience psychosocial problems that place them at risk of not maturing into healthy and successful adults. Some of these children may progress to formal mental health disorder but many more are at risk of academic failure and poor developmental outcomes including substance abuse risk and criminal justice involvement. Adelman & Taylor (2008) estimate the need may be as high as 30% of enrolled children overall and in low-income districts this percentage likely exceeds 50% of enrolled children.

Even when the need for a mental health referral is clear cut, school personnel will routinely be blocked by the capacity in mental health systems. Despite the high incidence of mental health disorders in children, only 10-20 percent of seriously impacted Severely Emotionally Disturbed (SED) children receive specialized mental health services (Buckner & Bassuk, 1997; Colpe, 2000; Leaf et al., 1996; US DHHS, 1999). In fact, only 6-8 percent of these children who are ages 6-11 access any services to address their mental health needs (National Workgroup, 2001, p.34). The scope of care for less severely affected children is unknown. The problem of access to care is greatest in rural and diverse communities where often the need to address trauma is highest. The result is that we often deferred interventions that could interrupt the progression into disability for traumatized children and can demoralize teachers when the solution they are counting is the solution not available to them.

The next challenge associated with viewing trauma primarily as a mental health is that most children with trauma can suffer great development costs without ever demonstrating the symptoms that align with mental health conditions. Rather, trauma behaviors routinely are addressed as discipline violations, bad behavior, and academic failure due to not working to individual capacity. Emphasizing formal mental health disorders underestimates the scope of need from trauma and other mental health problems in the general population (Sugai et al., 2000).

Angold and Costello (1996) confirmed that while many children can suffer developmental consequences that progress to formal diagnoses, many more children suffer from the developmental consequences of trauma without ever meeting formal diagnostic standards that

result in treatment referrals. Adelman and Taylor (2008) promote a public health approach to addressing the mental health needs of children in schools, using a comprehensive, integrated approach to address the full continuum of emotional, behavioral, and learning problems. They argue that addressing mental health needs of students is not solely about providing interventions for children with diagnosed mental disorders or identified pathology; it is instead about both, "(1) promoting healthy development as one of the keys to preventing psychosocial and mental health problems and (2) focusing on comprehensively addressing barriers to development and learning" (p. 295). This approach allows schools to address the needs of all students, while promoting a mechanism for more formal and sustained engagement for children with progressively greater and more complex need.

While targeted remediation efforts are needed to help our most vulnerable children, adjustment problems from adversity occur along a continuum of severity and many children either will never meet the criteria for formal mental health treatment or access to care is effectively nonexistent. The result is that schools often are the first and last site of response to the mental health needs of children. Effective trauma response in the general population needs to support a continuum of responses including prevention, early intervention, and diagnostically driven trauma treatments.

2. Social emotional competence and social emotional learning.
Social emotional learning is an umbrella term for activities in schools intended to help students' development of social emotional competence and to create civil and safe school environments. Social-emotional competence is the capacity beginning at birth to form close and stable relationships with adults and peers; express and regulate our emotional states in support of meeting needs and maintaining relationships; and develop the confidence and awareness of self to explore, learn, and persist in the face of barriers. Social emotional competence involves the quality of regulation of emotional arousal (including our reactivity and the intensity of perceived events) and the development of effective regulatory/coping skills (Eisenberg & Fabes, 1992).

The social emotional competence of children is well-established as a principal predictor of academic success and adjustment across the lifespan (Durlak et al., 2011; Elias et al., 2007; Gabrieli et al., 2015; Payton et al., 2008; Suido & Shaffer, 2008; Weare & Nind, 2014). Individuals with greater social emotional competence have higher rates of high school graduation and higher academic achievement while in school. Social emotional competence in childhood is also predictive of employment success, higher income in adulthood, lower involvement in health risk behaviors (e.g., smoking, illicit drug use), and lower involvement in the criminal justice system. As a result, addressing the social emotional capacity of all children is foundational to improving educational success of both individual children and the educational systems that serve them.

Social emotional competence is demonstrated in cognitive, affective, and behavioral domains by the developmentally appropriate ability to express five critical skills in daily life[1]:
- **Self-awareness**: The ability to accurately recognize one's emotions and thoughts and their influence on behavior.

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[1] Adapted from Collaborative for Academic, Social, and Emotional Learning, CASEL, http://www.casel.org/social-and-emotional-learning/core-competencies/

- **Self-management**: The ability to regulate one's emotions, thoughts, and behaviors effectively in different situations. This includes managing stress, controlling impulses, motivating oneself, and setting and working toward achieving personal and academic goals.
- **Social awareness**: The ability to take the perspective of and empathize with others.
- **Relationship skills**: The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups.
- **Responsible decision making**: The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others.

Social emotional learning (SEL) encompasses decades of work to align practices that build social emotional competence as integral activities in general academic practice. A variety of evidence-based programs focusing on social emotional learning (SEL) are available including both schoolwide supports (e.g., Positive Behavior Interventions for Schools) and more targeted skills building programs often directed at students manifesting specific problems like aggression or bullying. The Collaborative for Social and Emotional Learning (CASEL) serves as a clearinghouse for evidence-based practices and identifies multiple programs appropriate for adoption in general education classrooms. For purposes of this paper, I focus on whole school SEL practices intended to support all students because of the potential of whole school strategies to (1) be integrated in routine academic practices and (2) for their support of universal benefits to students.

Overall, reviews of SEL practice conclude that high quality implementation of SEL interventions can produce meaningful gains in student behavior, attendance, and academic success (e.g., Durlak et al., 2011). However, not all well-designed SEL efficacy studies support SEL benefits because challenges to the quality of SEL delivery interferes with the ability to produce expected benefits (SCDRC, 2010). Zins et al. (2004) reported a typical school delivers on average 14 separate programs or curricula that broadly address social-emotional issues. Most of these programs appear to emerge as a response to a perceived problem instead of as a systematically developed set of interventions integrated to benefit all students. The variety of program offerings and the variability in the quality of implementation often result in fragmented and incomplete delivery of SEL practices (Kress & Elias, 2006) resulting in highly variable SEL program benefits across schools.

Evans et al. (2015) argue that SEL practices often disappoint because of an incomplete understanding of how complex systems adapt to successfully introduce and subsequently sustain innovative practices such as SEL. As a result, failure to fully address cohesive strategies integrating multiple programs with sufficient quality is characteristic of most schools. The consistent result across SEL reviews is that we won't realize the benefits of SEL practices if we do not address the quality of program implementation. Implementation quality refers to the level of skill in program delivery, fidelity to the model with respect to delivery, assurance of sufficient dose for the program, and adaptation to unique local circumstances to address setting and culture barriers to delivery. Program designs with greatest impact meet the standards embodied in the acronym SAFE: **S**equenced step-by-step skills development, using **A**ctive forms of learning, with a **F**ocus on sufficient time for skill development, and having **E**xplicit learning goals for new

social emotional behaviors. I will further elaborate on this issue of high quality implementation below under the section addressing implementation science.

Notably, the teacher behaviors and classroom management practices conditions that support effective SEL practice mirror the evidence for practices that improve overall academic success. Classroom management elements associated with improved student outcomes (adapted in part from Marzano's (2003) meta-analytic review of classroom practices):
- Clear and effective rules and procedures
- Effective discipline and accountability practices supporting learning
- Role appropriate high quality teacher-student relationships
- Mindfulness in assessing, anticipating, and acting to support learning and behavior
- Instruction and management practices that support student responsibility
- Parent engagement and inclusion in learning supports
- Intentional use of physical and social environment to support learning.

Simonsen et al. (2008) conducted a review of the evidence-based classroom literature identify a similar set of core management practices. The five dimensions they identify are: (a) maximize structure; (b) post, teach, review, monitor, and reinforce expectations; (c) actively engage students in observable ways; (d) use a continuum of strategies for responding to appropriate behaviors; and (e) use a continuum of strategies to respond to inappropriate behaviors. I have added parent engagement as a related area of teacher management skills based on evidence of its importance in the literature (e.g., Morris & Taylor, 1998).

The above list of the conditions for effective SEL practice encompasses the elements of self-management and interpersonal relationships that are most likely to be disrupted by trauma. The link between trauma's impact and the conditions for high quality SEL practice reinforces the central contention in CLEAR that high quality SEL practice will benefit all children but creates an essential foundation for children with complex trauma.

In summary, high quality SEL practice in schools addresses the same core skills that trauma from ACEs places at risk. When well-executed, SEL practices have the potential to move whole groups of students to better academic and social outcomes. The challenge is that SEL delivery is often incomplete with the result that hopes for better outcomes are not met and school staff become discouraged about the potential for change. When well-executed, our experience in schools is that SEL practice provides the foundation for effective response to trauma. The strategies help all children's development but for traumatized children provide the critical universal practices to help vulnerable children have consistent and supportive environments.

a. Aligning social emotional learning and trauma-informed school practices.
In a search of the published literature for this paper, I found no articles specifically addressing the distinctions and points of convergence between trauma-informed school practices and social emotional learning. However, a variety of approaches linking the two areas of work are represented in webinars, presentations, news articles and blogs. As a result, there is no currently established practice integrating the trauma-informed practices in schools and social emotional learning practices.

Given the need to conduct trauma-informed practices in context with common educational strategies, the limited attention to alignment of these two practice approaches speaks to the early stage of development of trauma-informed practices in schools. Because in our CLEAR model of trauma-informed schools, the role of social emotional learning is explicitly emphasized, I offer the following arguments to help describe our expectations and provide a bridge between the two approaches.

Trauma-informed practice is about individual, classroom, and building shifts that enhance SEL practice. Reflecting the strong influence of mental illness conceptions of trauma, many available presentations of trauma-informed school practice emphasize individualized response to the most vulnerable students. This individual focus is further reinforced by a common view among educators that referral of children with difficult behaviors is the most appropriate response given lack of preparation and the demands of meeting the needs of entire classrooms of children. While this individual focus can benefit specific children, it is mismatched with what we know about complex trauma and can leave educators with few resources to respond to the impact of unaddressed trauma in classrooms and in buildings as communities.

As discussed previously, the scope of complex trauma in the general population and the graded developmental effects of trauma assure that all educators will have multiple students in classrooms, and many of the challenges these students face will not meet diagnostic criteria or occur in settings where access to mental health care is a realistic option. Because trauma can result in struggles with safety, relationships, and self-regulation, children with trauma often struggle with behavioral expectations and rule compliance including the core elements of SEL practices. As a result, educators in classrooms and other school settings have to manage these struggles while implementing SEL practice not only with the most at-risk students but with some meaningful percentage of any class given what we know about the pervasiveness of adversity and resulting trauma in the general population. In low income and disadvantaged communities, these demands for understanding trauma responses while implementing SEL practice becomes even more likely to be a significant barrier to the potential benefits of strong SEL practice.

SEL programs like Positive Behavioral Interventions and Supports (PBIS) use rule violations and particularly discipline referrals as key indicators for children needing greater support. Providing educators with the skills to recognize trauma responses and individualize supports in the classroom can help the individual child more successfully be part of the classroom experience and reduce the overall level of disruption educators have to manage while implementing strong SEL practices.

Trauma-informed practice and supports help to integrate SEL principles in an MTSS framework. An over-reliance on conventional mental illness models of behavior also makes it more likely that how educators and mental health providers conceptualize the needs of at-risk children will not be aligned. A foundational proposition of MTSS/RTI practice is that instructional and student support practices operate from a common framework to guide practice whether at the universal level of classrooms or more sustained and individualized treatment and student support planning. While some behavioral interventions emphasizing the use of operant conditioning principles may provide common language and methods among educators and treatment providers, often educators' actions are guided by assumptions that are distinct from how treatment is managed. When trauma is a principal component of the challenges facing a child, trauma-informed skills to address safety needs, relationship needs, resilience-building strategies, and the minimization of new triggering events and new distress all provide support objectives and intervention practices that can fully align educator and treatment provider actions in support of effective MTSS integration of SEL practices.

> Trauma-informed practice shares core practice objectives that are wholly allied with social emotional learning models. The opportunity exists to integrate trauma-informed practice with universal social emotional learning goals to address more effectively why trauma-impacted students may not be able to prosper within social emotional learning practices and provide the aligned MTSS responses for the most vulnerable students.

Trauma-informed practices provide specific interventions for the most vulnerable students that reinforce SEL principles. This point extends the previous benefit as a guide to schools about what to require from their community mental health providers. While trauma-specific treatments are now widely adopted in mental health services, our experience is the preparation of any individual mental health provider or his/her agency working with schools can vary widely. In schools with strong SEL practices informed by trauma response principles, school leaders have the opportunity to build their community mental health partnerships with the expectation that providers will also adopt aligned approaches addressing trauma.

b. Shifting to resilience building and strengths-based practice as the second half of a framework for action.

The literature addressing social emotional development and school success is enhanced by linking efforts to the extensive literature addressing the significance of resilience as a principal predictor of developmental outcomes in children (Masten & Curtis, 2000). The resilience and positive psychology literatures reinforce that living well is not only about the cessation or avoidance of pain but about experiencing happiness and gratification through accomplishment. To paraphrase Martin Seligman (2009), living a good life results from using your strengths every day to be authentically happy and able to experience gratification in relationships and through action.

Resilience can be defined as an individual's ability to function competently in the face of prolonged adversity and struggles with resulting trauma (Luthar et al., 2000). While certainly temperament and genetics contribute to individual capacity to be resilient, resilience is best considered as a dynamic process and a capability that can be built up and spent down in the face

of adversity. Rutter (1987) argued that protecting people from the effects of adversity involves four inter-locking areas of intervention: (1) ending continuing exposure and reducing the coping strategies and beliefs that helped in the face of adversity but now function poorly in other settings and relationships; (2) interrupt negative chain reactions (e.g., adversity leads to trauma adaptations that in turn lead to rejection, isolation, and punishment in peer and adult relationships); (3) creating and maintaining realistic self-esteem and self-efficacy; and (4) opening up opportunities to accomplish real things and build a sense of personal mastery.

Ginsberg (2011) has proposed seven "Cs" to capture the resilience goals: Competence, Confidence, Character, Connection, Contribution, Coping, and Control. Three of the seven elements of building resilience- Competence, Confidence, Contribution- specifically are built through supporting active experiences that build realistic experiences of mastery. Mastery implies action and effort and, as Grych et al. (2015) argue in their literature review, concepts pf resilience have focused principally on the avoidance of distress and the assets individuals have without systematically supporting the active engagement in meaningful relationships, play, and work that builds Ginsberg's seven resilience goals. Underscoring the concept that the development of resilience involves active individual effort, Rutter (1987) argued that, "Protection resides not in the evasion of the risk, but in successful engagement with it" (p. 318).

Direct and systematic efforts to develop actions that support resilience are not automatically part of SEL practice. Rather, many SEL practices support more contextual strategies (clear rules and consistency in rewarding rule adherence) to improve overall climate and provide clear rules and self-management skills to support resilience. While these are necessary strategies they don't provide guidance on how to empower children to persist in activities that create meaningful and rewarding lives. There is a need to develop active growth experiences to build resilience and create opportunities for positive development to support growth out of the impacts of trauma. Emphasizing resilience building and happiness in school strategies provides a positive educational message with which to engage teachers, students, and parents. Recreational opportunities, being an active contributor to social groups, caring for others (e.g., mentoring) are all examples of resilience-building activities, and schools, families, and their communities are natural settings for these experiences. To the degree schools can set the positive development goals as enhancements to standard SEL practices, there is the potential that resilience in traumatized children can be more fully supported. At this time, this appears to be a significant gap in the resilience-building literature and an opportunity for testing richer trauma recovery strategies.

There is, however, a large established body of resilience interventions designed for implementation in schools (Ungar et al., 2014). While the focus of intervention in terms of behaviors to be supported and the age of students can vary widely, these programs generally are either supplemental curricula or time-limited interventions added to the school day. Arguably, the best known and most widely employed resilience program in schools is the Penn Resiliency Program (PRP) reflecting the positive psychology work of Dr. Martin Seligman and colleagues at the University of Pennsylvania. The Penn Resiliency Program is a training program addressing social problem-solving skills and self-management using cognitive behavioral techniques delivered in a group setting for 8-12 sessions. The intervention is based on a train-the-trainer model with the program delivered by school personnel. Originally designed as an intervention to

prevent depression, the model supports more general adjustment and tolerance for stress. Multiple rigorous outcome studies of the use of this intervention in schools have confirmed both initial and sustained benefits to participants. Significantly, evidence-based resilience programs like the Penn Resiliency Program often are not incorporated in discussions of trauma-informed school responses. While resilience interventions typically rely on a time-limited curricular or group psychoeducational approach rather than the whole school change approach dominant in much of the current approaches to trauma response in schools, more systematic use of such established resilience interventions as part of whole school trauma response models is an area of development that is completely aligned in terms of goals and offers multiple evidence-based practices to adapt to specific school plans.

There is at least the potential that many established school-based resilience curricula and intervention programs will be limited in their impact because of the emphasis on change in the individual child when much of the resilience-building influences are not internal to the child but external resources in the social and physical environment. Resilience is, "…not just the personal qualities of the child, but how well the child's social and physical environment (including the child's school, family, and community) facilitates access to internal and external resources such as healthy relationships, a powerful identity, social justice, material needs like food and education, and a sense of belonging, life purpose and spirituality (Ungar et al., 2007)." The opportunity exists in trauma-informed school practices to align high quality resilience skills building interventions with the creation of the school culture, relationships, and opportunities for growth in spite of trauma history. Success in mastery of resilience skills still requires access to opportunities, supportive relationships, and avoidance of new adversity that overwhelms if skills are to be established and deepen in practice. While not part of most current trauma-informed school practice and policy discussions, the intentional alignment of resilience building interventions with whole school trauma-informed school practices should be explored as specific, synergistic approaches.

c. Placing teachers at the center of practice: Teachers' instructional and self-regulation skills as foundations for SEL success.

While the focus of SEL practice is on student benefits, teachers and other adult staff in schools are directly affected by SEL practices and are the key to improving SEL program benefits. If we are to move to trauma-informed school systems, building supports for and skills in building's adults is at least equal in importance to the specific supports provided to students. Indeed, because of the central role of high quality relationships in trauma-informed practices, the success of the adults in adopting new practices and deepening their practice is foundation upon which all other actions are built.

A principal focus of whole school SEL practices is to support the quality of the school and classroom experience in order to support individual student development and to support improved academic outcomes. The skills and capacity of individual educators are the principal predictor of the quality of classroom experiences. High quality classrooms are characterized by interactions among students and between students and staff that support mutual respect, fairness in management of rule violations, age appropriate independence in learning, are respectful, youth are granted autonomy in the learning, and teaching practices that are well-organized and effective (Jennings and Greenberg, 2009).

The social emotional capacity of teachers is challenged on three levels. First, teachers reflect the same challenges and risk of multiple ACEs and resulting trauma as any other adults. As a result, for many teachers, how they manage the demands of their work can be significantly impacted by their own struggles with self-regulation in the face of stress. Second, few teachers enter the field from their preservice training prepared to effectively understand and address SEL practice, the nature of trauma, or behavioral health challenges in students. Third, the quality of schools as supportive workplaces is often compromised or incomplete with consequent increases in stress for teachers involved with profoundly demanding day-to-day responsibilities.

Depending on the specific study, estimates of teachers leaving the profession in their first five years of practice range from 20-50% (Ingersoll, 2001; Ingersoll & Smith, 2003; Latham & Vogt, 2007; Perrachione eta al., 2008). The loss of teachers can be particularly significant in urban classrooms where as many as one in every two teachers leave the classroom within three years of entry into the profession (Berry et al., 2002). While some teachers leaving the field do later return to the profession, all analyses of teacher attrition document that a significant minority of teachers leave and never return. Among the primary reasons for leaving the profession, teachers report that student discipline and motivation, a low sense of professional effectiveness, and the perception of poor administrative support are among the most common factors after low salaries. As a result, stress associated with workplace support and personal sense of success working with high need students are among the principal modifiable conditions that could change to improve academic outcomes for individual students and schools as systems. The National Commission on Teaching and America's Future (2007) estimated that loss of teachers from the profession costs more than $7 billion each year due to staff hiring and training demands.

If the classroom environment and teacher-student relationships do not support social emotional competence, social emotional learning is unlikely to succeed regardless of specific program quality. Individual student gains in social emotional competence are significantly affected by school context, specifically by the quality of the classroom management and teacher practices (McCormick et al., 2015). While a core element of most SEL programs is an explicit emphasis on shift of teachers' practices, teachers often are insufficiently prepared or supported to create the conditions for SEL programs to have greatest impact. The optimal social emotional climate in classrooms and buildings is characterized by:

- An emphasis on respectful relationships and communication
- Appropriate expression of emotions and resolution of conflict in adult-student and student-student relationships
- Management of transitions between activities
- High levels of on-task behaviors, and
- Individualization of instruction based on students' developmental level and needs

(Adapted from La Paro & Pianta (2003).

The training, skills, and capacity of school staff as active role models and guides to consistent practice determines if SEL programs are successful. This is not solely the characteristics of individuals but equally applies to the collective preparation and shared response of all adults in a building. Low quality SEL implementation by teachers and school administration is associated with poor student outcomes (Reyes et al., 2012). A minimum level of competency in the delivery of SEL practices is needed to produce the anticipated benefits. Two teacher characteristics directly impact the quality of SEL program implementation: teachers' sense of efficacy in implementing SEL (Larsen and Samdal, 2012) and their attributions about students' behavior and motivation, strongly predict teachers' work stress, perceived teaching efficacy, and job satisfaction (Collie et al., 2011). These individual differences' impact on SEL practices are in turn mediated by the level of perceived peer and administrative support (Jennings et al. 2013), and teachers' capacity to make the adaptations needed to engage high need students in strong SEL practice. Recognition of the central role of educators in the success of SEL practices and we argue adoption of trauma-informed practices, is of such significance that widely used the widely used SEL program RULER (Recognizing, Understanding, Labeling, Expressing and Regulating emotions; Maurer & Brackett, 2004) addresses building leadership and staff competencies as the precondition to moving to program implementation for students.

> Teachers' personal capacity and preparation are foundational to the success of all aspects of school improvement. However, most teachers enter the workforce with little preparation to address social emotional development and the impact of trauma. The evidence on the benefits of strong teacher practice underscores the need for systematic skills development embedded in daily school practices.

d. Secondary traumatic stress and compassion satisfaction.

Teachers and other professionals who work routinely with people with significant trauma are susceptible to development of secondary traumatic stress. Secondary traumatic stress involves the experience of significant stress responses by indirect exposure to the traumatic experiences and responses of another person. The experience is often persisting and associated with personal distress that can reflect levels of distress akin to post traumatic stress disorder (Cieslak et al., 2014). Vicarious trauma is often used as a term interchangeable with secondary trauma but may constructively refer to internal changes in hope, trust, sense of safety, motivation, and self-concept resulting from exposure to the trauma experience of others (Pearlman, 1996). The closely related concept of compassion fatigue refers to the loss of empathic capacity and disengagement as response to secondary trauma exposure. Secondary traumatic stress can contribute to job burnout but specifically addresses the impact of indirect trauma exposure whereas job burnout results from non-trauma stress and overload that can be a part of many workplaces.

The available evidence is that secondary traumatic stress is common in helping professions working with trauma and specifically with traumatized children. The National Child Trauma Stress Network (2011) summarizes research indicating 6-26% of mental health therapists and as many as half of child welfare workers may develop secondary traumatic stress responses. Two available reports (Borntrager et al. 2012; Caringi et al., 2015) examining secondary traumatic stress in educators found high levels of exposure in their samples with 75% of the sample

reporting multiple indicators of secondary traumatic stress on a standardized tool. While noteworthy, these two articles are the first of their kind and confirmatory research is needed. While more work is needed, the overall evidence confirms that addressing secondary traumatic stress and its impact on the wellbeing and success of educators and allied school staff is a critical aspect of trauma-informed school work.

Two reviews of the secondary traumatic stress literature (Beck, 2011; Sabin-Farrell & Turpin, 2003) found that individual differences can contribute to relative risk. These factors include poor personal coping strategies, greater risk in female workers, and personal histories of trauma. Cohen and Collens' (2013) review summarized findings that supportive workplaces, opportunities to reflect and process experiences, and support for intentional self-care are organizational characteristics that can mitigate the impact of secondary traumatic stress. However, Bercier and Maynard (2015) found no intervention strategies for secondary traumatic stress have been tested with sufficient rigor to be considered as specific intervention strategies.

Exposure to trauma in others certainly involves risk but can also be the basis of significant personal satisfaction and growth for professionals. Referred to as 'compassion satisfaction' or 'vicarious posttraumatic growth', numerous studies indicate that positive change is often associated with supportive work settings, effective coping skills, experience and sense of personal efficacy in difficult work, and a strengthened sense of purpose (Cohen & Collens, 2013). Taken together, the evidence demonstrates that schools and school staff can do much to buffer the effects of secondary trauma exposure and that for many that having the supports and skills can potentially increase work satisfaction and commitment.

3. Role of leadership.

The nature of school building leadership, particularly the role of the building principal, has been the subject of growing attention in national school improvement discussions. Leadership characteristics are identified as second only to teacher quality as predictors of student achievement (Wallace Foundation, 2013). Nettles and Harrington (2007) in their review identify that leadership practices often operate because they shift climate, provide clarity on mission priorities, and motivational conditions for teacher practices and engagement of parent and student participation.

Seashore et al. (2010) report in their review that leadership characteristics in high performing schools, defined by student academic achievement, are characterized by use of collective leadership practices and the influence of building principals on working conditions and staff motivation. Collective leadership in schools refers to organizational leadership practices that encourage and actively support mechanisms for participation in decision-making by staff, parents, and students. These characteristics are common to the practice of *transformational leadership* defined as the exercise of authority to motivate others to a shared mission or goal (Allen et al., 2015). The Wallace Foundation has made significant investments over many years to support research on school leadership with the following key principal practices found to be associated with increased school success:

- Shaping a vision of academic success for all students, one based on high standards.
- Creating a climate hospitable to education in order that safety, a cooperative spirit and other foundations of fruitful interaction prevail.

- Cultivating leadership in others so that teachers and other adults assume their parts in realizing the school vision.
- Improving instruction to enable teachers to teach at their best and students to learn to their utmost.
- Managing people, data and processes to foster school improvement.

In the current state of trauma-informed schools model development, building leadership is rarely addressed in a systematic manner. An exception to this statement is the work of Cole and colleagues (Cole et al., 2013) which at least identifies the importance of leadership in the shift to trauma-informed school practice. "We have seen groups work with great energy, without involvement from their leadership, and achieve short-term goals. However, sustainability and the capacity to shift the school's ecology require that the principal or headmaster make trauma sensitivity one of the school's priorities and participate as a key member of the coalition. The principal is needed to make sure all the actions related to trauma sensitivity are woven throughout the school and aligned with other ongoing initiatives, such as bullying prevention, dropout prevention, positive behavioral health, social-emotional learning, and others" (Cole et al., 2013, p. 39). In our discussion of the CLEAR model below, we identify engagement and change in building leadership not only as a facilitative condition to be achieved but as an independent focus of support to help leadership integrate trauma-informed practice in all aspects of how they function as transformational leaders. Our experience indicates that the continuing advancement of trauma-informed school practices needs to systematically address leadership development but that this is a critical point of alignment with overall evidence-based efforts if we expect to shift educational success.

4. Multicultural education, teacher-student relationships, and achievement.
The rapid transition in the United States from a predominantly Caucasian to predominantly multi-cultural society is the population framework for improvement efforts in schools. The multicultural education literature overlaps significantly with the independent influences of teacher-student relationship as a principal predictor of academic success. In this section, the principal focus is on the significance of multicultural education practices but I will incorporate the evidence for the universal benefit of high quality teacher-student relationships because of its significance in its own right but also as a major contributor to the success of multicultural education.

An increasingly diverse student population is being educated in predominantly Caucasian, Eurocentric educational institutions. Some of the key demographic facts for schools include:
- In 2015, the school age population of the United State became majority non-white (51.7% non-White; Kena et al., 2015). In 2012, 24% of all students were Hispanic, 16% were African-American, 5% were Asian/Pacific Islander, and 1% were Native American/Alaskan Native.
- Nationally, nine percent of students are English Language Learners. The need for language competencies is not evenly distributed across states and communities (Kena et al., 2015). For example, in California, 23% of students were English Language Learners.
- Using 2011 school year data, 82% of teachers in K-12 education self-identify as non-Hispanic White staff (Goldring et al., 2013).

- The majority (76%) of teachers are female http://nces.ed.gov/fastfacts/display.asp?id=28 based on 2011 school year data.
- The multicultural education debate has been ongoing for nearly two generations with relative modest adoption in U.S. schools.

There remains today a difference in the experiences and cultural identity of students and staff in many schools that requires commitments to addressing the impact of cultural understanding and culturally congruent practice as part of educational experience for all students.

The increasing diversity of America's school population confronts generations of persisting and systematic achievement disparities among Latino, African-American, and Native American/Alaskan Native students compared to White students. This 'achievement gap' has been documented repeatedly (e.g., Condron et al., 2013; Kena et al., 2015; Lee, 2002; Losen & Gillespie, 2012, Olnecck, 2005) and includes academic success on standardized tests, dropout and on time high school graduation rates, rates of suspension and expulsion, participation in academically challenging courses, transition to post-secondary education, and post-secondary graduation rates. The 'culture of poverty' is included by some writers but because of its controversial history, association with classism, and its discredited evidence (e.g., Kozol, 1992), poverty is not included as a cultural factor in this discussion.

The need for multicultural educational competency in schools has been a routine part of educational policy recommendations for more than two generations. While there are examples of successful strategies for multicultural education (Gay, 2000), broad adoption of multicultural education practices has not been realized. Okoye-Johnson (2011) conducted a meta-analysis that concludes that multicultural education is effective across multiple studies in increasing positive racial attitudes when the multi-educational practice is integral to the routine instructional practices and not a discrete supplemental program. Zirkel (2008) provides a detailed selective review confirming broad-based multicultural educational benefits. Jani et al. (2009) found comparable positive effects for cultural adaptations for Latino clients in health, substance abuse, and mental health treatment settings as did Jackson and Hodge (2010) regarding Native American culturally sensitive treatment practices and Huey and Polo (2008) for African-American youth. In both multi-cultural education and the cultural adaptation to services reviews, constraints on the methodological strength of the overall research field are noted (e.g. Huey & Polo, 2008) but the positive evidence for benefit is generally positive despite these limitations (see Jeynes, 2015 for a more negative review of the intervention literature).

Several factors underpin the impact of multi-cultural education including a sense for students of the personal relevance in content and self-identity, increased educational engagement due to adaptations to learning styles, and changes in students' perceptions of teachers' accessibility and quality of relationship. In the related school climate literature reviewed below, the interpersonal disconnection between students of diverse backgrounds, but particularly African-American students, is accelerated when academic content and instructional practices reinforce divergent cultural expectations while changing these points of disconnection are specific targets for change in multi-cultural education.

Whaley & Noel (2012) reviewed the evidence that African-American students with strong cultural identification experience improved academic achievement, with the implication that

educational practices that help promote personal cultural identity through multi-cultural education helps reinforce both self-concept and academic engagement. Citing the work of Spencer (1999), Whaley and Noel write, "…that reducing the causes of African American student achievement to a single component such as race fails to address the context in which these behaviors take place such as underserved neighborhoods, impoverished communities, and severe familial stress. An essential assumption underlying this theory is that Black youth's interpretations of their experiences influences responsive coping methods, self-perceptions and attitudes, and identity development." (p. 28).

Phalet et al. (2004) makes several points about the disconnection for students of color in conventional education settings specifically addressing the issue of having hope in a better future. Having a sense of a future and the belief that education is a significant tool to reach the future goals is a critical predictor of academic engagement and success. While students of color have future goals like any other child, they often do not belief that education is relevant to their success or they may believe in the value of education but don't believe they personally have access to the benefits of education. The result is that the beliefs needed to persevere and succeed in school are disconnected from daily experience in the school.

Phalet and colleagues also report that when students of color perceive ethnic or racial barriers in peer interactions and teaching practices, these perceived barriers often interfere with the school adjustment of affected students. These perceived barriers are often complicated for students of color by disconnections between family and school norms about conduct. An example is collective benefit versus individual achievement is a value for many diverse communities but can be at odds with school expectations about individual mastery of academic content. Using Bank's recommendations to address prejudice reduction and equity pedagogy specifically are intended to address these two themes in developing culturally response learning environments.

There is an extensive literature documenting differences in learning styles within different cultural groups but a detailed review of these findings is beyond the scope of this paper. There is also great risk in falling into overgeneralizations of groups of people and engaging in stereotyping and reproducing the type of bias attention to cultural differences is intended is to address. Several models for multi-cultural education are referenced in the literature but the work of Banks (1997; 2004) has widely informed this discussion. Banks proposes that as important as multi-cultural perspectives in curricular content is, the need is to more fundamentally reframe the learning experience by supporting 'knowledge construction' in which students develop critical thinking skills to explore cultural bias and expand the cultural relevance of content; 'equity pedagogy' which includes teachers using a number of teaching strategies to engage learning styles based on individual and cultural differences; 'prejudice reduction' where an explicit educational goal is addressing bias in students in order to reduce the scope of racism and ethnic bias; and 'empowering school culture' which includes sustained and comprehensive efforts to address equal participation and access for all elements of the school community.

While there is supporting evidence for several of the component goals of multicultural education (ZIrkel, 2008), the role of high quality teacher-student relationships and teacher change is a central theme in the literature. What is explicit in discussions of multicultural teaching practice is the requirement that educators significantly shift practice. For multicultural education practices

to succeed, it is incumbent on the individual teacher to understand potential cultural differences and to adapt key practices in areas such as classroom management, supplements to standard curricula, teacher-student relationship practices, and support for multiple styles of engaging tasks and content as routine practices. As a consequence, there is a highly personal, reflective process for educators that underlies successful integration of effective multicultural practices in schools. Weinstein et al. (2004) identify "…five essential components: (a) recognition of one's own ethnocentrism; (b) knowledge of students' cultural backgrounds; (c) understanding of the broader social, economic, and political context; (d) ability and willingness to use culturally appropriate management strategies; and (e) commitment to building caring classrooms." (p. 25).

What is notable about the personal nature of this process is the level of preparation and embedded skills (self-reflection, communication skills, adaptability and understanding of alternative educational practice and materials) required to engage the objectives of multicultural education. Much like the impact of teachers on social emotional learning success, the research demonstrates that teacher quality and experiences as well as student's perception of teachers' behavior become critical mediators of the effectiveness of multicultural education. Conversely, one of the principal findings from the multicultural education literature is that shifts in teacher-student relationships are primary outcomes resulting from effective multicultural education practices. What is striking in the literature is the minimal attention to how school leadership and systems actually support this complex set of individual practice changes and personal growth.

Independent of the arguments for adopting multicultural educational practices, multiple studies have demonstrated that students 'perception of their teachers' interpersonal behavior is highly predictive of academic achievement and success with specific subject content (Wubbels & Brekelman, 2006). As positive relationship qualities (interpersonal warmth, trust, clear and consistent communication, low interpersonal conflict) and perceived professional competence increase, student behavior improves. Key relationship characteristics include level of warmth, degree student dependency on the teacher, and the level of identified conflict between the student and teacher (Murray et al., 2008). Notably, this is not a discussion about intimacy and likeability but rather interpersonal connection within role, consistency and fairness, and authoritative professional presence. Researchers examining the benefits of positive teacher-student relationships often interpret the effect as the success with which educators serve as secondary attachment figures for children. High quality teacher-student relationships reinforce the benefits when children enter school with secure attachment to primary caregivers but may be the crucial conditions that create motivating and protective effects for children entering schools with insecure attachment (Birch & Ladd, 1997; Murray et al., 2008).

There are additional protective and supportive benefits for students, when teachers are able to establish positive professional connections (Hawkins et al., 2005). With more positive student-teacher relationships, there is a positive spread of effect in peer relationships with increased social connection, peer support, and reduced risk of peer rejection (Hughes et al., 2001). How these relationships are established in primary grades may be particularly important because of how experience early in education establish educational engagement, mastery of core skills, and creation of the reputation of the child with respect to need and difficulties. Among key school dropout risk indicators, patterns established in elementary school are among the most highly

predictive with the combination of problems with engagement, academic failure, and a reputation that a child is a behavior concerns being highly predictive of dropout (Hammond et al., 2007).

When relating to teachers from different cultural group, students of color often encounter challenges establishing positive relationships (Decker et al., 2007; Hughes et al., 2001). The contributors include both teachers' perceptions and actions as well as the perceptions of the students. Teachers rate their relationships with same race students more positively (higher warmth, lower conflict; Saft & Pianta, 2001). Reflecting the findings from the authoritative school climate research discussed below, discipline problems are reduced and academic performance improved when student view rule structures as clear and fair and their relationships with education staff as warm and supportive (Cornell & Huang, 2016; Johnson, 2009). Students of color often struggle with teachers who are seen as interpersonal distant and not authoritative in their professional role (Bondy et al., 2007). However, a principal finding of multicultural education outcomes is that students of color will often develop more positive teacher relationships with increased culturally relevant content and the emphasis on quality of relationship embedded in multicultural education goals (Zirkel, 2008). When the capacity to create these stronger teacher-student relationships is not strong, the conditions for educational success is greatly compromised for students of color. As an example, 12% of African American students and 14% of Native American/Alaskan Native children will be enrolled in in special education services compared to 8% of White children, 9% of Hispanic children, and 5% of Asian-Pacific Islander children (Aud et al., 2010). The decision to refer for special education assessment is significantly mediated by the nature of the student-teacher relationship (Decker et al., 2007).

> The evidence supports the conclusion that multicultural education is critical to creating the conditions of equity and understanding central to improving student-teacher relationships and student-student relationships as foundations for school climate and safety. While the need to address multicultural education is critical to addressing highly stressed schools with diverse student populations, teaching of respect and understanding of diverse experiences is a core democratic value in education.

The quality of teacher-student relationships is particularly important for high risk children and specifically for high risk students of color. While risk is significantly increased for high need students who live in stressed neighborhoods (McLoyd , 1998), multiple studies confirm the protective factors for positive relationships even in high stress communities (e.g., Dubow et al., 1991). What is of concern is that students with behavioral challenges and disabilities are much more likely to establish challenging and less supportive relationships with teacher (Murray & Greenberg, 2001) which uncorrected can lead to persisting academic and social losses (Hamre & Pianta, 2001). Studies do indicate that interventions to increase teacher-student relationship quality can modify academic and social-emotional adjustment for students with emotional and behavioral problems (Murray et al., 2005; Reddy et al., 2003). While other elements of multicultural education such as protective benefits of strong cultural identity are significant, the role of teacher-student relationships globally and as a component of multicultural education is well-supported in the literature.

There are multiple direct points of alignment for trauma-informed practices in schools and empirically supported impact of multicultural education. High quality multicultural education can result in a reduction in the harms caused by implicit bias and explicit prejudice and as a consequence has the potential to directly contribute to sense of individual safety and safety and respect as elements the school climate. The evidence that high quality multicultural education can reinforce positive self-identity for students of color and contribute to future goal orientation (Phalet et al., 2004) directly contribute to belief (hope, self-efficacy) as core component in building resilience. Finally, the evidence is that high quality multicultural education can shift the quality of student-teacher and student-student relationships. High quality relationships are foundational for social emotional development for all students but specifically the essential framework for recovery from trauma. As a result, the alignment of multicultural educational practice with trauma-informed school responses is complementary and potentially integrated approach to modifying core elements of school culture in support of student success.

5. The punishment paradigm and the school-to-prison pipeline.

There is a growing consensus that schools in the United States may be emerging from a failed experiment with the use of punishment as a strategy to address safety and accountability in schools. This policy approach in schools is closely related to comparable shifts in the juvenile justice system and is reinforced by a widespread cultural belief that punishment is an effective strategy for behavior change. Punishment is technique to suppress unwanted behavior, require obedience, and control another being. Punishment does not teach new behaviors; punishment teaches fear while suppressing behavior. The evidence indicates a casual association between school exclusionary practices and the list of negative outcomes; "…above and beyond individual, family, and community risk factors, exclusionary school discipline makes a significant contribution in and of itself to a range of negative developmental outcomes." (Skiba et al., 2014. p. 556).

Punitive actions in schools rely principally on exclusion of children from routine education settings and include detention, diversion to alternative education programs, in school and out-of-school suspension, and expulsion. While there is evidence that we have started to change this conversation (e.g., sharp reductions in disciplinary actions in California with ending use of willful disobedience as a cause for suspension, Losen et al. 2015), these shifts in practice are against the backdrop that use of punitive, exclusionary practices is deeply engrained in school practice. Losen and Gillespie (2012) report that in 2010 more than three million K-12 students in the United States were suspended or expelled annually representing nearly twice the percent of students impacted by these actions compared to the early 1970s (Wald & Losen, 2003).

Mallett (2016) argues that starting in the 1980s, driven by concerns with youth violence, we saw both educational and juvenile justice response to children and adolescents shift from rehabilitation to a focus on punitive responses with the intent of achieving safety and order. This shift was catalyzed as well by high profile school violence incidents. In education, this shift was largely reflected in the widespread adoption of zero tolerance policies enshrined in law and broadly adopted in education practice. A generation later, the evidence is that we have created schools that principally use punitive practices in response to high need children who pose low safety risks (Mallett, 2016). Skiba et al. (2014) conclude that out-of-school suspensions routinely are used for a wide range of rule violations often unrelated to safety considerations. Examples of common behaviors resulting in exclusionary school actions include disrespect, defiance, and

failure to comply with lesser control strategies such as detention. By contrast, the evidence is that expulsion is more narrowly a response to significant safety issues. High need, low risk students who often experience cycles of punitive, exclusionary response from schools can progressively become disconnected from school as a critical resource; often, the result is that schools push children out of school in the name of order and safety.

An extensive literature documents that children who experience punitive, exclusionary school practices are at far greater risk of entering the juvenile justice system compared to their peers who avoid or have limited experiences with these practices. Although juvenile justice involvement rates have dropped in the past decade, it is still the case in the United States that about 80,000 school age children are in juvenile detention programs or adult prisons each day (Mallett, 2015). The majority of youth in the juvenile justice system are there for non-violent crimes, status offenses such as truancy, and violations of court oversight (Mallett, 2015).

While limited, studies examining the school experiences of detained youth strongly correlate juvenile justice involvement and a history of school exclusionary practices. Among detained youth, 60-80% of youth had been suspended or expelled in the year prior to detention (Krezmein et al., 2006; Sedlak & McPherson, 2010). In predictive studies, exclusionary experiences in schools are strong, independent predictors of juvenile justice involvement even after accounting for socioeconomic, academic achievement, community characteristics, and demographic differences including race and ethnicity (Skiba et al., 2014). While the evidence does not establish definitively a causal connection between exclusionary practices and juvenile justice involvement, the research does undo arguments that the connection is only correlational. This strong association between exclusionary practices and involvement in juvenile justice defines the 'school-to-prison pipeline', "…a journey through school that is increasingly punitive and isolating for its travelers—many of whom will be placed in restrictive special education programs, repeatedly suspended, held back in grade, and banished to alternative, "outplacements" before finally dropping or getting "pushed out" of school altogether." (Wald & Losen, 2003, p. 3).

School exclusionary practices are not applied equally across students or schools. The evidence that this is a racial equity issue is unambiguous. African American youth are consistently found to be frequently subjected to these actions with one in six African American students suspended at least one time compared to one in 20 Caucasian students (Losen & Gillespie 2012). The evidence for disproportionality among Latino students is not as consistent but again supports the conclusion that Latino students also face significant levels of disproportionate punitive school actions. Reinforcing the parallels between school punitive practices and juvenile justice involvement, 68% of incarcerated youth are from diverse backgrounds and among these youth of color, 60% are African American and 33% Latino (Office of Juvenile Justice and Delinquency Prevention, 2011). Notably, the differences in exclusionary school responses are not associated with poverty or more severe types of incidents (Bradshaw et al., 2010). As a result, it is not possible to address the school-to-prison pipeline without addressing implicit bias and the potential of overt racism.

In addition to students of color, students with disabilities and LGBTQ youth also experience disproportionately high rates of exclusionary experiences. Among students with disabilities,

estimates are that 13% of disabled students are suspended annually compared to 7% for peers without disabilities, and as a group are significantly more likely to experience multiple exclusionary events in a given year (Losen & Gillespie, 2012). LGBTQ youth are estimated to experience 1.5-3 times the rates of suspensions (Himmelstein & Bruckner, 2011; Poteat et al., 2016).

It is well-established that groups with disproportionate punitive experiences- African Americans, individuals with disabilities, and LGBTQ youth- all are at greater risk for ACEs and resulting trauma. Students with significant trauma histories may be the fourth and frequently co-occurring group of students at risk for disproportionate punitive experiences in schools. Aggression in children, a common reason for disciplinary actions in schools, is more common in children having experienced persisting trauma themselves either through direct victimization or as a witness to violence (Gorman-Smith & Tolan, 1998; McCabe et al., 2005); both types of violence exposure serving as markers of complex trauma risk. The link between trauma and aggression is mediated by the post-traumatic stress reactions common among traumatized individuals (e.g., hyperarousal, emotional dysregulation to objectively minor threats) and increased likelihood among traumatized youth to hold attitudes that accept violence as normative and an acceptable self-protective or problem-solving response (Ozkol et al., 2011).

In the child maltreatment literature, extensive evidence confirms that maltreated children struggle in school with self-regulation, social skill deficits, and truancy that place them at greater risk for exclusionary school responses (Fantuzzo et al., 2011; Veltman & Browne 2001). Increased school suspensions among maltreated children have been confirmed in multiple studies (Ecckenrode et al., 1993; Rouse & Fantuzzo, 2009). Although child maltreatment is a subset of ACEs with resulting complex trauma risk, the maltreatment literature does provide confirmation that traumatized children are at increased risk for disproportionate exclusionary school responses. For the children who enter the juvenile justice system, the central role of high ACEs and resulting trauma is well-established. Mallett (2015) in his review summarizes the available research concluding that in juvenile justice involved youth, significant trauma histories occur in roughly 60% of the juvenile justice population and that formal mental health disorders e.g., Teplin et al. 2006) are twice as likely compared to the general student population. This reinforces the conclusion that at least for the students in the school-to-prison pipeline who progress to juvenile justice involvement, complex trauma and related mental health problems are common.

Shifting from a punishment paradigm to accountability is directly supported by the adoption of schoolwide trauma-informed practices. Definitional to being a trauma-informed organization is the systematic attention to end re-traumatization. The use of punitive and exclusionary discipline involves both the use of shame and isolation as integral responses. Both of these experiences are re-traumatizing. Trauma-informed practice involves adoption of accountability practices in which predictability and consistency is supported by transparent and universally understood and supported rules and associated consequences for violation of the rules. Enforcement of rules and consequences with accountability can be done in the context of caring relationships, permit the child to take responsibility and make amends which supports both sense of self and mastery as elements of building resilience, and includes repair and re-entry into the group which allows for new learning and deepening of relationships. Skiba et al. (2014) summarizes the

recommendations of several groups including the Discipline Disparities Research-to-Practice Collaborative to support interventions that are closely allied to trauma-informed practice:

- Treat disciplinary issues as part of meeting the educational needs of the student with particular focus on equity in student response.
- Focus on improving the quality of student-teacher relationships, respectful and peaceful environments, and cultural understanding to reduce conflict.
- When conflict occurs, have practices in place to guide individual and school community problem-solving and support a process of repair to allow the students to continue as part of the school community.

a. High quality school climate as the strategy to break the reliance on exclusionary school practices.

As significant as the effects of discipline practices are, discipline decisions are one element of the broader set of values and actions that define schools as communities. In education, the health of school communities is often measured by school climate. School climate is defined as the quality of life of a school defined by its organizational structure, physical environment, instructional practices, interpersonal relationships, and overarching values, objectives, and customs (Cohen et al., 2009; Fan et al., 2011).

Despite variations in disciplinary practices, the use of disciplinary data as an indicator of school climate is supported at least as a within-schools change measure (Irvin et al., 2004). School climate is directly influenced by the use of punitive, exclusionary discipline practices such that school climate is low when exclusionary practices are common. Punitive disciplinary practices are associated with students' perceiving the school climate as poor (Koth et al., 2004)   but the evidence also suggests that the school's adoption of these practices in turn can influence staff expectations of students negatively and impact staffs' sense of professional success and school connection (Weinstein et al., 2004).

The impact of punitive discipline on the experience of school climate is particularly disruptive for students of color. White students and students of color routinely report widely divergent experiences of school climate particularly with respect to level of support from staff, the perceived fairness in rule enforcement, equity of discipline as well as the objective experience of disproportional discipline, and reports of experiencing racism on a regular basis (Chang & Le, 2010; Fan et al., 2011; Shirley & Cornell, 2012). The result often is both the reality and the perception of bias and isolation undercuts the connectedness of students of color in a manner that demands specific action. Again, staff adjustment and job satisfaction are critical mediators of the perception of school climate among students of color. For example, several studies point to the importance of supportive, caring relationships for African American students as a buffer to other factors that can compromise school climate quality The positive news is that adopting strong multicultural values and practices in schools as an integral aspect of school culture can shift school climate experiences for students of color meaningful with resulting access to the benefits associated with high quality school climates (Chang & Le,210; Shirley & Cornell, 2012).

The objectives of high quality school climate are to have consistently implemented rules and policies to support high quality relationships, acceptance and tolerance, and social emotional

wellbeing for all in service of learning and teaching success (adapted from the National School Climate Council https://www.schoolclimate.org/climate/documents/PLSept10_cohen.pdf). School climate objectives, reflected in the physical and social nature of the school, share the same objectives as social emotional learning curricula and programs. In effect, most established social emotional learning programs are strategies to support positive school climates but maintain a primary focus on the effects on students. School climate includes a broader set of actions to create the conditions for student and staff wellbeing and educational success including the use of physical space, support of school staff, and leadership practices to create community.

High quality school climate, like high quality social emotional learning practices, is associated with reductions in student behavior problems, student aggression and victimization, improved academic achievement, and increased graduation rates (Brand et al., 2003; Gottfredson et al., 2005; Lo et al., 2011; Wang & Dishion, 2012). Research also demonstrates that educational staff and leadership factors- including low expectations for students, self-efficacy as professionals and job satisfaction, and stereotypes about groups of students- are critical mediators of the quality of school climate.

An additional school characteristic that impacts school climate are the staff attitudes and behaviors reflecting the school's 'organizational health', defined as the adaptability or system resilience in the face of constant change and frequent crisis (Bevaans et al., 2007; Mehta et al., 2013) Reflecting the broader system focus of school climate efforts, high quality school climate, mediated by organizational health as well as individual staff differences, is also associated with improvements in staff safety, personal distress, reduced staff turnover, and burnout (Berg & Cornell, 2016; Brand et al., 2003; Pas et al., 2010). As a result, attention to developing high quality school climates by building system resilience and staff capacity underscores the need to support all members of school community if multiple indicators of success are to improve.

> Consistent with trauma-informed whole school practices, the benefits of high quality school climate arise from practices that support reinforcing high quality relationships, fairness, and challenges to implicit bias. To address school climate, emphasis on the policies of the whole organization have to receive support equal to the specific skills development for staff and the support services for students.

A promising approach defining how positive school climates as response to exclusionary disciplinary practices of are created has emerged in recent years defined by authoritative school climate theory (Gregory 2010). Building from the extensive parenting literature demonstrating the effectiveness of authoritative parenting (Baumrind, 1968), authoritative school climate theory proposes that the distinguishing characteristic of high quality school climates is the combination of (1) strict rule enforcement and high expectations balanced by (2) support defined as warmth and emotional responsiveness. High quality school climate is characterized by broad adoption of clear rules that are consistently enforced with attention to maintaining emotional connection, research. Critically, these practices are not only a characteristic of individual adults in the school but are core values and consistent practices supported by the institution. Authoritative school climate theory is also supported by extensive independent bodies of research confirming that the combination of high teacher supports and consistent rule structure is associated with better

outcomes for students (Gottfredson et al., 2005; Gregory et al., 2010; Gregory et al., 2011; Hung et al., 2015; Wang & Dishion, 2012).

While relatively recently developed as a formal theory, multiple published studies with large samples of schools document that schools scoring high on authoritative school climate experience multiple student and staff benefits compared to schools that are low on authoritative practice. With adoption of high authoritative school climate practices, high school dropout rates are reduced (Jia et al., 2015); student rates of risk behaviors are reduced (Cornell & Huang, 2016); bullying and peer victimization is reduced (Cornell et al., 2015; Gregory et al., 2010); teachers report lower incidence of aggression from students, higher levels of safety, and reduced work stress (Berg & Cornell, 2016); and decreased student suspensions (Gregory et al., 2011).

Authoritative school characteristics are closely allied to SEL practices and trauma-informed school change principles (emphasis on accountability, high standards, quality of relationships, consistency and predictability in rules and relationships). Indeed, SEL and trauma-informed practices can be characterized as specific techniques to achieve authoritative school climates and their associated benefits. For example, reductions in punitive disciplinary practices are among the common anecdotal and uncontrolled case study claims for the benefit of trauma-informed schools practice. While these early results for trauma-informed practices are promising, no published studies specifically address either differential rates of punitive disciplinary principles among traumatized students or reduction of such practices in traumatized students with the adoption of trauma-informed school practices.

In summary, despite a growing debate about the practices, exclusionary and punitive disciplinary practices remain the standard in American education. Resistance to change in such practices persists despite the compelling evidence that all students are disadvantaged by these practices, school performance suffers, students are not more safe, and students of color are systematically subjected to these punitive practices at shockingly disproportionate rates. The positive news is that efforts to maintain high standards and accountability tied to compassionate and consistent responses from adults in schools offer the alternative path to punitive practice. Social emotional learning practices, authoritative school climate, and the core practices associated with trauma-informed school principles offer the measurable characteristics and techniques to support improved student, teacher, and school success as the alternative to the practices defining the school-to-prison pipeline.

6. Restorative practices in schools as a strategy for compassionate accountability.

Breaking the reliance on punitive, exclusionary school discipline, restorative practices in schools has captured significant attention as a school strategy to promote equity, accountability, and stronger school relationships. A specific appeal of restorative practices is this approach is a direct response to punitive disciplinary practices that offers a concrete set of alternatives to exclusion as the primary response to perceived misconduct. Restorative practices include a variety of techniques including talking circles, peer juries, and peer mediation[2], in which students share in

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[2] Restorative Practices: Fostering Healthy Relationships & Promoting Positive Discipline in Schools A Guide for Educators. http://schottfoundation.org/sites/default/files/restorative-practices-guide.pdf

setting school expectations and problem-solving, conflict resolution through restorative conferences. Restorative practices share a great deal with social emotional learning practices and school climate improvement goals but place greater emphasize on student empowerment and conflict prevention and management than do most programs from these related bodies of work.

Restorative practice in schools has its origins in but is distinct from restorative justice practice which arose in criminal justice systems with wide adoption in juvenile justice. Restorative justice practices in the criminal system address rehabilitative goals in system-involved youth with the goals of increasing victim and offender reconciliation, meaningful restitution, and reduced occurrence of new problems. Latimer et al. (2005) support the overall conclusion that restorative justice practices are superior in reaching the identified goals compared to conventional justice actions but notes that the overall results need to be qualified by the significant self-selection bias among victims and offenders predisposing study outcomes to find positive results. Restorative justice practices have also been used extensively in schools to deal with repair and recovery after significant conflict or rule violation in schools. Restorative practices in schools are intended to address both specific interpersonal conflicts and support a culture of respectful relationships that directly impact school climate for all students and staff.

The research addressing system-wide restorative practices in schools currently includes case studies (e.g., Gonzalez, 2012; Ingraham et al., 2016) and a small number of quasi-experimental outcome studies (Gregory et al., 2014). Reported case study results report significant reductions in disciplinary actions and high levels of participant satisfaction (Gonzalez, 2012). Two large district internal implementation reports (McMorris et al., 2013 report of the Minneapolis Public Schools experience; Oakland Unified School District 2014) both found that schools implementing restorative practices compared to schools with limited or no adoption of restorative practices demonstrated improved attendance, lower exclusionary disciplinary actions, increased likelihood of being on track for graduation or improved academic progress, and reduced referrals for disruptive behaviors. Quality of implementation, degree of staff buy-in, and resolution of barriers such as training time are found to mediate restorative practice impact Gregory et al. (2014), for example, found in a small outcome study that the benefits of restorative practices are dependent on the quality of implementation across teachers.
Taken together, the use of both restorative justice and system-wide restorative practices in schools are associated with a growing body of evidence indicating improvements for the most at-risk students as well as more general gains in school climate. Similar to the experience with trauma-informed school strategies, the results are encouraging but tempered by the overall quality of outcome studies given the early stage of adoption and testing for these strategies. However, the targeted intention of restorative practices and restorative justice to provide alternatives to exclusionary discipline practices makes the utilization of these strategies particularly appealing given the pervasively damaging effects of conventional disciplinary responses.

Restorative practice does not have its origins in trauma-informed care but is wholly aligned. Restorative practice's intent is to create a community culture through a family of techniques intended to support safety, relationships, and democratic participation by all members of the community in creating the school culture. Restorative practices have a great deal to contribute to trauma-informed whole school change specifically by its direct focus on how to deal with

conflict and repair as essential elements of healthy relationships. Trauma-informed whole school approaches may contribute to the success of restorative practices by helping all community members understand how trauma can change how we cope and as result how we can participate in restorative practices. A trauma-informed whole school response can also reinforce the same principles not only in the management of rule violations and conflict but also in supporting approaches to academic success, social emotional skills development, and classroom management that reduce the potential for conflict by reinforcing and extending the school climate in ways aligned with restorative practice principles.

7. Section summary: Trauma-informed school practices, allied school initiatives, and the potential for added value.

Trauma-informed school efforts fall squarely in a larger 'whole child' educational approach in which support for the social emotional success of students is foundational to academic success and healthy school environments. With full recognition of differences in methods and specific goals, social emotional learning strategies, school climate improvement proposals, and restorative practice all provide confirming evidence that attention to relationships, mastery of key interpersonal skills, and effective norms and policies supporting these goals are essential to reducing problem behaviors and improving academic outcomes for all students. Rather than considering these approaches as competing strategies, the more relevant questions are about fit, coordination, and sequencing of these approaches to match the capacity of the specific school and the issues that need to be prioritized.

Restorative practices, resilience interventions, social emotional learning strategies, and authoritative school climate approaches all have the potential to mitigate the impact of trauma in affected children. These programs address trauma by meeting many of the core principles of trauma-informed practice[3]: increasing safety, increasing trust among students and between students and staff, empowering individuals to participate in shared values, strengths-based and cooperative problem solving. and specific skills support to improve resolution of conflict and deepen the quality of relationships. Even in the absence of trauma specific responses, it is highly likely that many students receiving these school supports in effectively delivered programs will benefit and be less likely to have trauma distress produce significant social and academic barriers. The potential of these programs to meaningfully address trauma barriers in schools has not been formally tested but is supported by experience that many individuals with significant trauma histories go on to thrive through natural supports. The question is not whether such benefits can occur: but rather, if non-specific responses to trauma are not sufficient, what is the added value of trauma-informed practices?

The case for trauma-informed care as an enhancement to other school improvement efforts. With significant early adversity, trauma changes us. The changes place us at risk for significant development challenges but how we are changed is understandable and recovery is possible. Trauma from adversity changes us through both neurodevelopmental effects and coping strategies that interfere with our experience of safety, our ability to navigate relationships

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[3] SAMHSA Guiding Principles of Trauma-Informed Care
http://www.samhsa.gov/samhsaNewsLetter/Volume_22_Number_2/trauma_tip/guiding_principles.html

effectively, our capabilities to recognize and manage our emotions so that our ability to make good choices is not overwhelmed, and our capacity to believe in ourselves.

Because high levels of adversity are so common in the general population, recognition and effective management of trauma's expression arguably are universally needed educator skills. A conservative estimate in the general population of school age children is that 20% of students have two or more ACEs, and that experiencing two or more ACEs is associated with increased behavioral and academic risk. In neighborhoods experiencing significant social stress, economic dislocation, and bias, high ACE exposure in children is likely to be much higher. As a consequence, trauma in schools is not only a challenge for the most vulnerable, struggling student but a systemic challenge to all aspects of academic and school climate efforts.

School climate improvement efforts, restorative practices, and social emotional learning all rely on students being engaged and capable participants. Trauma can result in skill deficits and risk of being overwhelmed by safety or emotional responses to unmet needs that compromise the ability of the student to participate successfully at least intermittently. Under stress, trauma results in dysregulated brain activity, where emotions override choice and coping skills often cannot be accessed. The case for trauma-informed school practices is that understanding trauma can help scaffold skills development when needed, and that children can be in their 'learning ready brains' with actions that help support high quality relationships, individualize instruction when needed, and manage the social and physical environment to support safety and interrupt events that can result in children being triggered and overwhelmed. With persistence, the trauma-informed school argument is that traumatized children can break the repetitive cycle of behaviors and loss of control and that both the individual and school as a community can be more successful. As the disruptions from trauma's effects are reduced, children more fully can contribute to and benefit from effective practices to increase social emotional success for the individual and the community.

Where emerging trauma-informed school practices diverge is how much new skills development is needed for educators to address trauma. As I will discuss in the next section, many advocates of trauma-informed schools more or less explicitly propose that well-qualified educators with increased awareness of trauma are capable of making the transformational change based on their training and experience. I would not challenge this proposal for many teachers but our experience in doing this work is that as a group educators are not trained in some of requisite skills, that the systems are not designed often to support this shift and practice, and that facilitated learning is needed to transition from awareness to deeper practice. The question of what is necessary and sufficient to drive systemic change defines the debate in the emerging field of trauma-informed education.

C. Approaches to Trauma-Informed Schools- Placing the CLEAR-CA Model in Context.

The goal of this section is to provide a map of school-based efforts adopting ACEs and trauma in schools. There currently is no comprehensive clearinghouse of school practices informed by ACEs and the trauma literature. This lack reflects both the recent expansion of interest in application of these concepts and the strong grassroots approach moving schools to action applying these concepts.

This summary of trauma-informed program approaches in schools is based on a review of the peer-reviewed literature (PSYCHINFO) and internet resources using the search terms of schools, education, academic success, academic achievement, and classroom practices associated with the key words trauma, trauma-informed, trauma-sensitive, compassion, compassionate, resilience, and attachment. Programs identified in this section are limited to efforts that were specific to school settings and specifically addressed trauma or the allied concepts of resilience, attachment, and compassionate care.

Given the rapid emergence of specific trauma approaches and the recent nature of many of these initiatives, this is not intended as a comprehensive review of initiatives but rather as a framework for the principal approaches in schools utilizing these concepts. Trauma-informed school efforts either involve standalone trauma-specific interventions for highly impacted students or whole school reform efforts which may but often do not incorporate trauma-specific interventions. Trauma-informed whole school efforts often incorporate a range of strategies such as restorative practices and social emotional learning programs. A principal purpose of the previous section was to establish how such programs are aligned with trauma-informed school reform efforts. Because of the sheer scope of school based programs for social emotional adjustment (see Ungar et al., 2014 as an example), specific interventions are not included in this review unless they represent a particularly significant approach directly addressing trauma (e.g., Cognitive Behavioral Intervention for Trauma in Schools and school-based resilience programs). Specific interventions are reviewed extensively in clearinghouses such as the National Registry of Evidence-based Programs and Practices http://nrepp.samhsa.gov/01_landing.aspx and the Blueprints Programs for Healthy Youth Development http://www.blueprintsprograms.com/.

While sharing a common set of principles addressing efforts to mitigate trauma from ACEs, there is no consensus on a definitive approach for trauma sensitive or trauma-informed school practices. However, school strategies can be organized on where they fall on the following interwoven continua:
- Locally-initiated v. structured programs intended for replication.
- Mental health focused v. population health focused.
- Student centered v. system centered.
- Trauma-informed v. trauma-specific.

'Local v. structured' distinguishes self-organized individual school building or district efforts from formal intervention models developed for dissemination across multiple implementing sites. The 'mental health v. population health' distinction reflects whether school programs are organized principally for the most distressed students in contrast to approaches that consider trauma as impacting large percentages of students. The 'student v. system' centered distinction reflects the principal focus of the intervention being the individual student or the impact on the entire school community. The 'trauma-informed v. trauma specific' captures a primary distinction between broad integration of trauma knowledge in organizational practices compared to specific interventions to address trauma's effects. Trauma-specific is limited to mental health treatments for trauma but can also include psychoeducational support programs.

I have opted to refer to trauma-informed practice for sake of simplicity given the terms 'trauma-informed' and 'trauma sensitive' often are used interchangeably in practice. However, herein lies

a problem with clarifying potentially important distinctions in approach. There is a case to be made that trauma response moves from trauma awareness, to trauma sensitivity, to trauma-informed practice with progressive shifts the depth of understanding and level of formal change efforts. Trauma sensitive practices may involve a more general appreciation of the impact of trauma and global supportive strategies such as encouraging quality of relationships and promoting safety. In contrast, aligned with the SAMHSA (2014) definition of trauma-informed care, trauma-informed practices may reflect the application of a deeper knowledge of trauma and recovery, include specific practices and policies, and typically involves systemic integration of trauma knowledge and skills into all aspects of organizational practices. Because of the lack of consistency in the use of trauma-sensitive and trauma-informed descriptions, programs vary widely in terms of the scope and intensiveness of response.

As described in the previous section, trauma response in schools exists within a complex environment of closely related strategies and influences. A fifth domain in examining trauma response proposals in education is the degree to which programs explicitly are aligned with other key school improvement practices. These allied efforts include social emotional learning, multi-cultural education, restorative practices, and school climate improvement efforts. Most trauma in school strategies are silent on this issue of alignment despite the common desire among educators to minimize the number of initiatives and overlap in programs. Addressing alignment with other educational practices is a needed corrective if trauma in schools strategies are to become fully integrated in educational practices. In the main, this issue of alignment is only addressed in a few programs.

While recognizing that approaches often borrow from each other, trauma responses in schools can be grouped in three clusters implying shared values and theories of change.
- **Structured, mental health focused, student centered, and trauma-specific**. School-based mental health services using evidence-based trauma treatments comprise this group. CBITS and its companion interventions are examples of a widely deployed intervention representing this cluster.
- **Locally initiated, trauma-informed, population focused, and system centered.** Trauma sensitive schools (Massachusetts Advocates for Children), compassionate schools (e.g., Washington State Office of the Superintendent of Public Instruction, Wisconsin Department of Education), and exemplary case examples such as Cherokee Point Elementary and Lincoln High School are examples of this cluster of approaches.
- **Structured, population focused, trauma-informed, and system centered**. CLEAR and HEARTS are examples of this cluster but the Sanctuary Model, the Neurosequential Model in Education, and are other established approaches in this cluster of school interventions.

CLEAR-CA involves a specific set of decisions for program design, and a primary purpose of this paper is to distinguish CLEAR-CA as a model. Inevitably, this contrasting of CLEAR with other models highlights what may be constraints in other approaches and complete objectivity is not possible when the developer of a specific model summaries the work of allied but competing approaches. However, unless otherwise specified in the following review (most notably for specific mental health services addressing trauma), no trauma in schools approach addressing broader teacher and systematic change, including CLEAR, has evidence to support superior

outcomes at this time. As a result, while I will provide what I consider to be important distinctions and reasons for how CLEAR has emerged, the outcome evidence will eventually determine relative value.
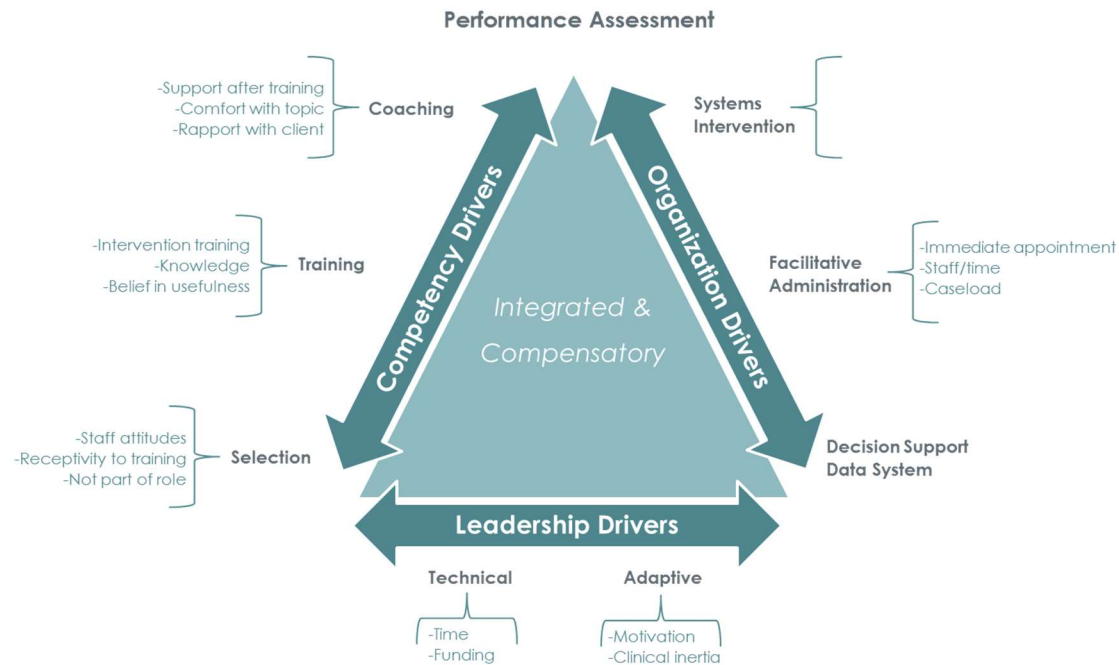
1. Implementation Science and trauma in school responses.
Whether driven principally from a practitioner-defined approach or by a formal theory of change, trauma responses in schools are innovations in practice. Generally, when we discuss trauma-informed practices in schools, we are are addressing the organizational changes needed to support sustainable shifts in practice for all members of the school community. If we accept that effective trauma responses in schools require organizational innovation, how we understand organizational change in complex systems has to be part of the development and program delivery process. The positive news is that we know a great deal about the design of effective change processes in complex systems like education can succeed and why we often fail.

From the extensive evidence based practice (EBP) literature, we know that organizational capacity and management practices are the primary reasons for the failure to adopt EBPs, sustain their use, and replicate their promised outcomes. Indeed, the adoption of EBPs in social services, medicine, and education routinely fails. This gap between promise and reality is so well-recognized that as a companion to EBPs, a new area of research, Implementation Science, developed to address how to improve the success of EBPs. Implementation Science is now integrated into federal science policy and funding decisions.

Implementation Science addresses three broad areas of influence, "… the level and nature of the evidence, the context or environment into which the research is to be placed, and the method or way in which the process is facilitated." (Kitson et al., 1998, p. 149). The nature of evidence is impactful if the scientifically validated practice aligns well with practitioner experience. ACEs and resulting trauma risk has a strong evidentiary base, fit the experience of educators, and meaningfully describe the experiences of the majority of children who challenge the success of schools as systems. Context refers to organizational culture, leadership practices, internal and external demands, and resources. Facilitation refers to the practices and processes that make change easier and relies on leadership qualities of openness, transparency, reliability, and confidence in role. For optimal implementation of new practices, implementation needs to have high evidence value, highly effective management of the context to address barriers, and high quality facilitation as participants learn and develop in the new practices.

An increasingly used framework for addressing implementation is that of the National Implementation Research Network (NIRN, http://nirn.fpg.unc.edu/) based on the seminal work of Fixsen and Blasé (Fixsen et al., 2005). Their work is important both in terms of addressing the 'drivers' that determine the success of innovation uptake (see next figure describing competency, organizational, and leadership drivers) but also their emphasis on the need to manage predictable phases of implementation work including: exploration regarding practices to be adopted, installation of the new practices through training and systems development, initial implementation including management of challenges, full implementation, and finally transition to sustainable practice.

Figure 2: The National Implementation Research Network Framework

The drivers identified in the NIRN Framework become the assessment and action planning elements in a progressive quality improvement practice. There is not the expectation that any system has success in all areas but rather there is a commitment to addressing capacity on each domain as part of an integrated plan leading to eventual sustainable adoption of new practices. While there is no set rule on duration of implementation efforts, it is generally acknowledged that innovation adoption from exploration to sustainable practice needs to be measured over several years. In CLEAR, for example, we employ a three-year timeframe for implementing trauma-informed practices in schools.

In the main, strategies for trauma response in schools do not formally use what we know about organizational innovation adoption and implementation science. CLEAR is currently the only model that formally integrates implementation science principles in its approach although the Sanctuary Model reviewed below draws from related organizational change principles. Given the broad adoption of Implementation Science in health, social services, and education (Blasé et al., 2012), the lack of explicit attention to how organizations adopt innovation is a challenge to the success of the entire trauma in schools movement.

2. Is adoption of a trauma focus necessary to address trauma in schools?

There is every reason to expect that high quality program actions to address school climate, social emotional learning, multi-cultural education, and restorative practices will benefit children with trauma. These school improvement strategies share several elements trauma-informed response approaches including prioritizing quality of interpersonal relationships and relationship skills development, equity and student empowerment, and at least elements of safety in schools. Anecdotally, we know that schools and individual educators have been critical resources in

helping children with significant trauma recover and prosper. It is reasonable to expect that these four school improvement practices when done well only reinforce the school as a resource in the lives of children.

Given the level of interest in trauma approaches to education, it is clear we have an approach that highlights new opportunities for many. The essence of the trauma argument to educators is that trauma is widespread, trauma changes us, and how trauma changes us can be understood and managed to produce better child and institutional outcomes. Assuming we are correct about the hope for change with a focus on trauma, then existing initiatives like social emotional learning, school climate improvement, restorative practices, and multi-cultural education are complemented by trauma expertise. Competent responses to trauma may address the kinds of challenging behaviors and capacity in vulnerable students that often are barriers to the success of these programs. Conversely, if we accept the scope and impact of trauma in the lives of students, then these related improvement efforts are necessary but likely not sufficient to address the distinctive changes that trauma can introduce for many students.

The legitimate research question is, does a programmatic emphasis on trauma add unique capacity and more effectively support whole school improvement? Adherents to trauma practices argue that the developmental effects of early adversity result in changes in how relationships are understood, results in automatic and overlearned coping strategies that complicate continuing development, and that recovery includes distinctive strategies emphasizing safety, relationship quality, and skills development distinct from established learning and cognitive behavior theories. Those advocating for trauma-informed approaches contend that where there are complementary effects, trauma's value add is distinct. There is evidence that trauma-specific interventions produce greater benefits than conventional school response in the event of acute trauma (Stein et al., 2003) and we have extensive research establishing several different trauma-specific interventions for complex trauma as evidence-based treatments. For trauma-informed interventions, the research addressing comparative benefit of these approaches is yet to be done. The uncontrolled case study data we currently have for trauma-sensitive/informed approaches is certainly promising but is only a first step.

3. Structured, mental health focused, student centered, and trauma-specific.
Earlier in this paper, I addressed the foundational nature of mental health trauma treatment to trauma responses generally in schools. I also cautioned that access to mental health services and the graded impact of trauma on development makes formal treatment part of the overall solution but insufficient to address the broader need. With these cautions in mind, mental health treatment through trauma-specific services is presently the dominant model for trauma response in schools. This is often overlooked in the current discussions about the implications of ACEs and trauma and the level of popular interest in non-therapeutic application of these concepts in schools.

A large body of evidence demonstrates that trauma specific interventions produce superior results compared to standard care (e.g., the National Child Traumatic Stress Network's summary of 'Treatments that Work'). Despite proven treatments and a national policy priority to address access to mental health care for specific populations including trauma (e.g., President's New Freedom Commission), deployment of these services in schools remains limited (Stephan et al., 2007). Reflecting SAMHSA's guidance on trauma response, mental health services for trauma in schools are principally organized to address acute traumatic crises and the treatment of formally

defined mental health disorders. Integration with health promotion, prevention programs, and school improvement efforts occurs in local initiatives but is not a universal characteristic of school-mental health partnerships despite the advocacy of leaders in the mental health in schools field (Adelman & Taylor, 2008; Weist et al., 2014).

Clinical services in schools when present are typically organized through co-located mental health providers out-stationed to provide services in the school, embedded mental health providers who are more fully integrated in school decision-making, or as part of school-based health clinics. While this mental health in schools service strategy is broadly supported as a means to increase access to care and improve coordination of care, the reality is that, using school based health clinics as an indicator this is an established practice with significant need to grow (Stephan et al., 2007), only two percent of students in the United States have access to school-based health clinic services (Mason-Jennings et al., 2012). As a result, while a promising and established strategy, formal co-located mental health services provided by community partners are a limited resource. Several studies (e.g., Jones et al, 2014) found that children's access to trauma specific evidence-based care is limited in low income and ethnically and racially diverse populations. Limited services, payment barriers, and the number and distribution of clinicians trained in trauma treatments are principal barriers to access. Access to care may be particularly problematic when schools are the site of care because of variability in professional training and resources (Foster et al., 2005). In addition, the adult literature indicates that trauma survivors may be particularly difficult to engage in needed care (Schact et al., 2007).

> Although whole school practices dominate the current policy and practice discussions about how to move to trauma-informed care, trauma specific treatments delivered in schools or through school-community partnerships represent established practices that are evidence-based. Alignment of trauma-specific services and principles with trauma-informed whole school practices is essential if MTSS strategies for trauma response are to be fully supported. This alignment discussion represents an area of significant development opportunity for strengthening current whole school approaches to trauma.

There is no inventory of trauma-specific treatment methods in school mental health services available. It is likely that access to trauma-specific care reflects the level of trauma-specific training in the community agencies delivering the services. Major state and federal initiatives, funded by the SAMHSA National Center for Trauma-Informed Care and the National Association of State Mental Health Program Directors, have supported development of the mental health workforce in trauma-specific services with interventions such as Trauma Focused Cognitive Behavior Treatment and Dialectical Behavior Therapy among others being increasingly common across agencies. As a result, while the deployment of trauma-specific treatment in schools is not known, it is likely that trauma-specific treatment options are often available to students either by referral or through co-located services although service capacity and eligibility often are barriers to these services.

One specific intervention, Cognitive Behavioral Interventions for Trauma in Schools (CBITS) is distinctive because the intervention was specifically designed for delivery in schools and often delivered in coordination with school staff. CBITS is a flexible, manualized intervention that was

developed for use in schools for a broad array of acute traumas and populations. CBITS is used with students from 5th grade through 12th grade. The program consists of 10 group sessions, 1-3 individual sessions, two parent psycho-educational sessions, and a teacher educational session. A companion program, Bounce Back, extends the CBITS model principles to the third grade. CBITS is a SAMHSA National Registry of Evidence-based Programs and Practices evidence based practice and also identified in several other registries of evidence-based programs.

The strengths of the trauma-specific treatment model in schools is the level of evidence for the interventions and the specificity with which students with significant symptoms due to trauma may be supported. The potential constraint is that when schools use trauma-specific interventions in schools without explicit alignment to whole school adoption of trauma-informed practices then highly symptomatic children may not be supported as they navigate their typical school experience. Although Adelman and Taylor (2008) among others have advocated for the integration of mental health services in schools as part of multi-tiered systems of support, this integration strategy is not explicit in the trauma-specific school intervention literature and the scope of integration when it occurs is currently unknown.

In summary, the continued development of trauma responses in education has a significant foundation in services for the most vulnerable students using a mental health treatment framework. While details on scope of adoption are not available, it is likely that trauma-specific treatments of some type are potential resources to schools when mental health partners are available and given the national efforts to educate the mental health workforce in trauma. This preparation in trauma treatment is a significant resource but one that is highly variable with respect to both accessibility and adoption across schools. Indeed, some of our most affected schools may be among those with greatest challenges accessing these services.

As a broader policy issue in the expansion of trauma-informed school responses, there is also a need to intentionally build bridges and expand common ground between mental health systems and schools. Mental health professionals don't automatically feel prepared to engage in the larger discussion of educational practice changes and early intervention/prevention strategies schools will consider in their trauma-informed school improvement efforts. While many mental health providers are keenly interested in this work, preparation for this larger scope of activities is rarely part of graduate training programs. The population health focus of ACEs-informed trauma responses can challenge providers who often are learning the implications of ACEs for practice along with their education colleagues. As a result, engagement of mental health colleagues in this work often needs to be undertaken as a systematic development discussion to build alliances based on shared principles and complementing professional goals.

4. Locally initiated, trauma-sensitive/trauma-informed, population focused, and system centered.

A great appeal to understanding trauma is the prospect that meaningful change may result from shifts in behaviors within the control of school staff without extended training or formal interventions. Locally defined strategies also align well with schools' local control governance model and the often self-contained nature of educational practice. The well-earned attention to local efforts such as Lincoln High School in Walla Walla Washington, the subject of the *Paper Tigers* documentary film, and San Diego California's Cherokee Point Elementary provide highly visible confirmations of the power of these locally organized efforts.

Estimates of the scope of locally-initiated trauma-informed school efforts are not currently possible given there is not a tracking system. Much of the work in this area is not accessible to review because it is often self-defined and self-funded with the result that conventional ways innovative practices get identified (funding programs reports, dissemination through communities of practice networks) are not outlets for these activities. Similarly, there is no way to determine how comprehensively these local efforts meet the criteria for trauma-informed practices or where on the continuum from trauma aware to trauma-informed these efforts fall. As a result, the principles used to organize practices, the structure of the supported activities, the proposed mechanisms of benefit, and the nature of outcomes are unknown.

While trauma-specific mental health responses in schools may represent the established system of school response, the momentum for a shift in trauma-informed education appears to drive the broad national interest in these concepts. This is reflected in the popular media coverage, online learning communities such as ACEsConnection http://www.acesconnection.com/, the emphasis on brief training as a frequent strategy used by various organizations promoting trauma-sensitive/informed services on the internet, and the influence of two important training and implementation guidance programs, the Trauma and Learning Policy Initiative and Washington State's Compassionate Schools approach, that are often referenced in national discussions of trauma-sensitive/informed practices.

a. The Trauma and Learning Policy Initiative (TLPI).

TLPI is a joint program of the Harvard Law School and the non-profit children's rights organization Massachusetts Advocates for Children. Through its publications, *Helping Traumatized Children Learn* Volumes 1 and 2, TLPI has provided both a detailed rationale and a blueprint for locally organized efforts using TLPI's Flexible Framework (both books for purchase or download are available at http://traumasensitiveschools.org/tlpi-publications/). The Flexible Framework incorporates recommendations on school mobilization, leadership actions, a process for developing local action plans, and recommendations for alignment with social emotional learning and other educational support strategies. TLPI has also been active in educational policy discussions both in Massachusetts and nationally as well as frequently referenced in media coverage of trauma responses in schools. The TLPI website reports that nearly 100,000 copies of *Helping Traumatized Children Learn Vol. 1* have been distributed since its publication in 2005. TLPI practices are employed in multiple schools in Massachusetts and elsewhere. Notably, TLPI has also supported the development of trauma-sensitive teacher education in one of the first university programs established at Lesley University in Boston.

b. Washington State Compassionate Schools.

Washington State's Office of the Superintendent of Public Instruction in partnership with education faculty at Western Washington University published their guide, *The Heart of Learning and Teaching: Compassion, Resiliency, and Academic Success*, as a resource in a larger endorsement of Compassionate Schools (contact information and the free download http://k12.wa.us/CompassionateSchools/default.aspx). While trauma awareness and response are addressed, this approach explicitly emphasizes resilience support and compassion as the principal tools. Aligned with TLPI's approach, the *Heart of Learning and Teaching* authors write, "Compassionate Schools is not a program or specific curriculum, it is a process that is

individualized for each school to support student success." (p. 17). Reflecting core principles from the resilience literature, the *Heart of Teaching and Learning* organizes response around six principles and three learning domains as definitional to compassionate school practices. The three instructional domains are teacher practices that integrate the following in instruction and classroom management: 1) Safety, Connection, and Assurance; 2) Emotional and Behavioral Self-Regulation; and, 3) Competencies (Personal Agency, Social Skills, and Academics)." (p. 120). The six principles are: "1) Always Empower, Never Disempower; 2) Provide Unconditional Positive Regard; 3) Maintain High Expectations; 4) Check Assumptions, Observe, and Question; 5) Be a Relationship Coach; and, 6) Provide Guided Opportunities for Helpful Participation." (p. 120). The book then provides strategies for each domain, details examples of application of the six principles, and provides links to existing practices that can help support progress in the instructional domains.

Details on the scope of adoption of this approach to compassionate schools are not publicly available but as this report is completed, the *Heart of Learning and Teaching* site is the first site listed in common searches of 'compassionate schools' and the strategies have been adopted in schools across the United States. The use of the compassionate school descriptor for this work continues to grow with independent efforts such as the emerging work in Louisville Kentucky and the Compassionate Schools Project which is a just launched district-wide effort in collaboration with researchers from the University of Virginia http://www.compassionschools.org/.

> Locally initiated trauma-informed practices operate from a core set of principles and are driving much of the current excitement nationally about the promise of trauma-informed approaches for whole school reform. Guides to locally-initiated efforts are available but the variability in local implementation, the inherent challenges in describing success, and differences in strategies makes description of success and lessons learned challenging.

Arguably, locally initiated trauma-informed school efforts are the most visible and accessible examples of the popular interest in education to address trauma and support resilience. These efforts share the same evidence base for professional development shared by the trauma-specific and the more formally structured trauma-informed approaches described in the next section. Recommendations on specific strategies and allied programs also overlap significantly with the structured trauma-informed strategies, including strategies supported by CLEAR-CA. The principal distinctions between the locally initiated and structured programs for trauma response in schools is: the emphasis placed on formality of development and support strategies, and the role trauma experts external to the school play in professional development and progressive program implementation.

Locally initiated efforts make the starting assumption that the capacity exists in the expertise of local leadership and staff to embrace these principles and practices and to support effective whole school change. Meaningful change in these local efforts is also primarily locally defined. Scaling up trauma-sensitive and compassionate school responses is principally viewed as a grassroots and empowerment model. This approach has significant appeal because it is likely to be low cost, works within existing resources, and provides practical tools for rapid adoption. While some level of consultation is involved with the TLPI and the Washington State Compassionate Schools work, this is not an explicit part of either of these approaches.

By contrast, while relying on the expertise of local leadership and staff, structured programs like CLEAR propose that expert knowledge regarding trauma response helps to move practice in individuals and systems to more consistent response and may provide potential clarity in addressing what works across multiple settings. By developing greater formality to the interventions, structured programs reflect other educational efforts like widely adopted social emotional learning practices arguing that consistency in core practices and change processes are necessary to support dissemination and adoption of sustainable practice. While allies in the work, these two approaches to trauma-informed practice in schools offer distinct proposals about how to move education to successful responses to trauma.

5. Structured, population focused, trauma-sensitive/trauma-informed, and system centered.

Four programs comprise strategies intended to support trauma-informed whole school adoption using adaptive but uniform practices. These include the Neurosequential Model of Education developed by Dr. Bruce Perry and colleagues http://childtrauma.org/nme/, the Sanctuary Model developed by Dr. Sandra Bloom and now implemented through the Andrus Center for Learning and Innovation http://andruscc.org/sanctuary-institute/, HEARTS, and CLEAR. It is worth noting that Dr. Perry and Dr. Bloom are among the leading researchers and practitioners who have defined the field of trauma response. All four programs employ standardized professional development, coaching, and guided support over several years with the intent of self-sustaining practice at the end of the intervention period. While these similarities reinforce some core strategies, the models also are distinct in terms of areas of emphasis, levels of coaching, and the degree to which instructional practices are a focus of the change efforts.

a. The Neurosequential Model of Education.

The Neurosequential Model of Education (NME) is a web-based professional development model. Participants are supported by monthly calls facilitated by Child Trauma Academy staff based on a non-therapeutic adaptation of Neurosequential Model of Therapeutics (NMT). As such, the model is built around an evidence-informed integration of neuroscience with the extensive clinical experience of Dr. Perry and colleagues.

NME is a train-the-trainer model where local school staff are trained in NME and then develop locally organized dissemination efforts. In addition to individual school district adoption, NME is being employed in a multi-site effort in Illinois. In service of providing educators with specific recommendations on adapting principles to practice, NME employs case example training and the local trainers serve as supports to staff in implementing buildings. The intent of the monthly 'community of practice' calls is to provide local trainers with more specific consultation supports in the application of NME principles in the management of classrooms and the educational supports of individual children. The goal is to guide child assessment in order to identify the primary development problem and develop a rehabilitative plan that reduces trauma behaviors and increases successful participation in developmentally appropriate educational activities.

NME shares with the NMT two core principles (Barfield et al., 2012) for intervention:
- Education and treatment are most effective when interventions reflect how the brain organizes for optimal performance. For example, a child with poor self-regulation skills is unlikely to learn how to effectively express emotions until self-regulations skills are built.

- Interventions to help a child build new skills require intentional repetition and timing to capitalize on when the child is prepared for new learning.

Greater specifics of the intervention practices, including assessment and planning tools, are included in proprietary content purchased as part of the NME training program.

NME local trainers build staff literacy and practices through local training and planning supports around six broad elements: (1) an emphasis on relationships to support safety, (2) building new child skills based on developmental status, (3) repeated interventions to support mastery, (4) an emphasis on reinforcing experiences in teaching new skills, (5) adaptive timing of any intervention to align with the students' capacity in the moment, and (6) adaptation of information and approach to respect the student's culture. While the model is evidence-informed, there is currently no identified research addressing benefits for schools adopting NME. Barfield et al. (2012) present two case studies supportive of the use of NMT in a therapeutic preschool.

a. The Sanctuary Model.

The Sanctuary Model developed initially as an intervention for mental health treatment facilities with the intent to shift the culture of the treatment settings in order to improve client outcomes. The model has now been adopted in a range of clinical and education settings across the United States and internationally with reported adoption in more than 350 organizations. Adoption and testing in schools to date has been modest but is expanding.

While there are number of treatment influences that shaped the development of the Sanctuary Model, the treatment tradition of therapeutic communities is a principal influence. The critical components of therapeutic communities are the intentional design of the community's practices to create supported learning opportunities though day-to-day living and work in which members of the community can develop critical skills to reduce symptoms and increasingly adapt to being a contributing member of the community with responsibility for self and others. A large body of evidence supports the efficacy of therapeutic communities with various populations including treatment of addictions and prisoner rehabilitation as principal fields of application (e.g., De Leon, 2010; Lees et al., 2004; Veale et al., 2015). While the principles are well-supported in the treatment literature, the use of therapeutic community practices has largely been incorporated in routine practices for inpatient and residential care or superseded as development priorities by the rise of specific evidence-based practices.

Veale et al. (2014) in their review of the therapeutic community literature argue that the use of community as a therapeutic intervention is well-aligned with research on trauma-informed practice's emphasis on safety, affective regulation, compassion, and the role of relationships in re-regulating perception of threat and fear in vulnerable clients. The authors argue that systematic introduction of these relational and affective regulation practices hold significant potential for enhancing the established benefits of therapeutic communities. As a result, the Sanctuary Model as well as the CLEAR approach, explicitly builds on an evidence-based therapeutic tradition that makes these models distinctive in their approaches compared to other strategies for addressing trauma-specific or trauma-informed care in schools.

The Sanctuary Model is a three-year change process with a principal emphasis on increasing the therapeutic benefits of the organizational environment. Shared values and accountability are used

to create peer and staff support for reduction in problematic behaviors. The Sanctuary Model involves a standard process based on an initial needs assessment, five days of leadership training, consultation to develop the local implementation plan, creation of both an organizational leadership team and a larger core staff team to guide implementation, consultations from Sanctuary trainers, a set of manuals to help guide local program efforts, and fidelity measures to guide program development and any needed corrections. Using the acronym, SELF, the Sanctuary Model proposes four principal areas of organizational change to promote trauma recovery: Safety with respect to self, relationships, and the setting; Emotional management addressing recognition and appropriate expression of emotions; addressing Loss by coming to terms with grief and incorporating loss in a more complete understanding of self; and Future in which the survivor of trauma explores new constructive roles and contributions to others. Seven Sanctuary commitments by all members of the community are the mechanisms for reaching these goals and include a commitment to nonviolence, emotional self-management, intentional social, healthy communications, a commitment to healthy relationships and fairness, and an emphasis on how actions contribute to personal growth and recovery.

Based in residential treatment and child welfare settings, the Sanctuary Model is supported by several quasi-experimental and case study outcome evaluations (e.g., Rivard et al., 2005). The principal findings indicate improvements in staff reports of the organizational environment and workforce support. Support for changes in youth adjustment are provided but are modest based on the available studies. The principal support for Sanctuary comes from initial studies describing a quasi-experimental intervention in youth residential treatment settings. The results at six months indicate shifts in the staff's report of trauma-informed organizational change and limited improvements in youth self-reported adjustment at six months post-intervention. In the summary available on the Sanctuary website http://www.sanctuaryweb.com/Outcome.aspx, staff and organizational maintenance of existing communication and organizational practices is identified as a principal barrier to success in Sanctuary implementation. Rivard et al. (2005) note that the Sanctuary intervention was tested actually as a two-part strategy including shifts in organizational principles and an aligned psychoeducational intervention for youth. In contrast to the tested application of the Sanctuary Model, the application of the Sanctuary Model as disseminated emphasizes the organizational practices while specific interventions can vary across settings. The Sanctuary Model is listed as a promising practice by the California Evidence-based Clearinghouse for Child Welfare.

b. Healthy Environments and Response to Trauma in Schools (HEARTS).
Before introducing CLEAR and the convergence of CLEAR and HEARTS in an integrated model under the CLEAR-CA title, the purpose of this section is to summarize the HEARTS intervention model as it has developed independently and is currently implemented in San Francisco and Oakland. The following summary is based on documentation that contributed to a recent peer reviewed journal article describing HEARTS (Dorado et al., 2016).

HEARTS began services in schools in 2009 although the development team had a longer history of providing mental health services in schools. An impetus for the development of HEARTS was the experience that as the clinicians were providing trauma-specific mental health supports in schools, often students' progress was set back by returning to classrooms where students reverted to trauma behaviors because of triggering events in the classroom, peer-to-peer relationships, and

student-teacher relationships. The conclusion of the HEARTS team was the need for a more comprehensive approach to address community wellbeing. In particular, enhancing the quality of the supportive school environment for the most vulnerable students was called for. This resulted in a multi-year development partnership with four San Francisco Unified School District elementary buildings.

The development of HEARTS as a whole school change effort was informed by the Trauma and Learning Policy Initiative's (TLPI; Cole et al., 2005) recommendations for whole school reform and the need for a flexible, adaptive framework for introducing trauma-informed practices in schools. In addition, principles drawn from the Sanctuary Model indirectly influenced targets for organizational values and goals. Influenced by the TLPI framework and Sanctuary recommendations, HEARTS emerged as a whole school, multi-tiered system of support model.

The San Francisco Department of Public Health Trauma Informed Systems (SFDPH TIS) Initiative, in collaboration with HEARTS, developed core guiding principles for creating trauma informed systems that are grounded in currently-existing trauma-informed systems literature (e.g., SAMHSA, 2014; Harris & Fallott, 2001; Bloom & Farragher, 2013) and are tailored to be appropriate to the needs of the San Francisco Bay Area. HEARTS has modified the SFDPH TIS principles for the education system and adopted the following core guiding principles:
1. Understand trauma and stress
2. Establish safety and predictability
3. Foster compassionate, dependable relationships
4. Promote resilience and social emotional learning
5. Practice cultural humility and responsiveness
6. Facilitate empowerment and collaboration

These principles are incorporated in HEARTS interventions and supports across all three tiers of the multi-tiered system of support framework. Simplifying the multitude of strategies for creating trauma-informed schools into these principles has helped school personnel formulate intervention plans, and has facilitated their ability to integrate a trauma-informed approach into existing school values, initiatives, approaches, and strategies. In the coaching process, staff are supported in scaffolding their focus on each principle, one at a time, and reflect upon the following: (a) any current procedures and practices of theirs that currently align with the principle, (b) any procedures and practices that may inadvertently get in the way of forwarding the principle principles, and (c) what initial, concrete steps they may want to take to change or augment these procedures or practices so that they better forward the principle

HEARTS is distinctive in part because the program's emergence from a mental health in schools treatment model leading to a robust three tiered model including universal professional development and student support (tier 1), brief psychoeducational supports and consultation for more trauma affected students (tier 2), and formal trauma-specific mental health treatment in the schools for the most vulnerable students (tier 3). In this respect, HEARTS is a case study for how other schools with established trauma-specific services in the absence of whole school models can transition to whole school efforts.

HEARTS is a high-touch and consequently relatively high-cost intervention model compared to other trauma-sensitive and trauma-informed practices summarized in this paper. HEARTS clinicians were in buildings three days per week providing the mix of services. In this respect, HEARTS is more closely aligned to the standards of practice associated with mental health in schools programs where multiple days of service weekly provided by clinicians is a common service model.

Dorado et al. (2016) present four goals in HEARTS including: increasing the school engagement and social emotional wellbeing of students; staff development, policy changes, and resource allocations to support trauma-informed classroom and school practices; increasing the staff's wellbeing with a particular emphasis on burnout and secondary trauma; and the alignment of trauma-informed practices with cultural and equity school efforts particularly actions to address use of punitive exclusionary practices in participating schools.

Trauma-informed schoolwide practices as well as more formal tier 2 and 3 trauma-specific interventions are organized around common language and principles presented in the Attachment, Self-Regulation, and Competency (ARC) framework (Blaustein & Kinniburgh, 2010). The ARC Framework is also a significant influence in CLEAR and is presented in detail in the following section. What is significant for both HEARTS and CLEAR is that the ARC Framework defines many of the key components and how to progressively develop the deeper skills needed to support effective trauma responses. As a result, HEARTS adapted the ARC Framework, a promising trauma treatment practice, as the basis for specific content to guide trauma response in participating schools. The ARC Framework emphasizes support and trauma knowledge in staff, an emphasis on building emotional self-regulation as a foundational skill, and a problem-solving framework for classroom management and individualization of student supports. The use of the ARC Framework also distinguishes HEARTS and CLEAR from other whole school trauma-informed strategies because of the formality of the practices defining what is meant by trauma-informed responses.

The HEARTS Tier 1 universal supports are provided through all staff professional development trainings and consultation supports. Consultation methods were adapted from established evidence-based consultation practices (Johnston & Brinamen, 2006). Part of Tier 1 activities is an intentional integration of trauma-informed principles in the implementation of social emotional learning practices (Positive Behavior Interventions in Schools) and restorative practices. Tier 2 and Tier 3 supports are coordinated through integrating HEARTS staff into the decision-making groups in schools guiding responses for more at-risk students and the decision to deliver trauma-specific interventions as part of the students' learning supports. Services and educational support plans are in turn supported by consultation supports to staff and engagement of family members. In addition to the student-centered supports and consultation, HEARTS places a significant emphasis on staff wellness and support in trainings, small group supportive discussions, individual consultation services, and incorporation of staff supports in the development of intervention plans for the most vulnerable students.

HEARTS is also distinctive at this time as the sole trauma-informed school program to explicitly integrate equity and cultural respect in its model. HEARTS adapted the practice of 'cultural humility' (Tervalon & Murray-Garcia, 1998). This perspective of cultural humility is integrated

into professional training and consultation practices, and facilitated the integration of HEARTS work into school and district efforts to develop and implement more equitable and less punitive disciplinary practices and to interrupt the "school to prison pipeline".

The practice of cultural humility and responsiveness is embedded in HEARTS across all three tiers of school response to students. *Cultural humility* is a process of self-reflection and reflecting together as a community to understand how societal oppression and power imbalances cause suffering, as well as what we can do as individuals and institutions to change these inequities (Tervalon & Murray-Garcia, 1998). Racism, sexism, heterosexism, ableism, and other forms of societal and institutionalized oppression can be experienced as a form of trauma, termed by Maria Root as "insidious trauma" (Brown, 2008, citing Root, 1992). Insidious trauma can be caused by the looming threat that one person's safety and well-being is not as important as another person's safety and well-being because of an accident of birth, for example, the color of one's skin, how one talks, who one loves, or how one walks. Microaggressions, or brief, commonplace interactions that that often subconsciously and unintentionally convey denigrating messages to some individuals in relationship to their group membership, as well as outright acts of bigotry contribute to this sense of threat.

In terms of trauma exposure and its effects, outcomes related to racial disparities exist and serve to illustrate the effects of institutionalized and historical oppression. For example, white children who were abused and neglected were shown to be no more likely to be arrested for a violent crime than those who had not been abused or neglected, whereas African American children who were abused and neglected showed significantly increased rates of arrests for violence compared to African American children who were not maltreated (Widom & Maxfield, 2001). Furthermore, the trauma of community violence disproportionately affects highly stressed neighborhoods often inhabited by communities of color (Buka et al., 2001; Foy & Goguen, 1998; Kiser & Black, 2005). Ultimately, the combination of societal prejudice (e.g., racism, classism), urban poverty, and trauma can be particularly toxic (Brown, 2008). Thus, when shifting the perspective from "What is wrong with you?" to "What has happened to you?" HEARTS advocates that schools consider the possibility that one thing that may have happened to a student (or adult) with challenging behavioral or emotional presentations could be the chronic experience of insidious trauma.

In keeping with practicing *cultural humility and responsiveness*, HEART's training and consultation also incorporates an understanding of the way in which implicit biases (i.e., discriminatory biases based on attitudes and stereotypes that are outside of consciousness) play in minute to minute school staff decisions when managing potentially disruptive behavior in students (Casey et al., 2012). Through training and consultation, HEARTS engages school staff in reflecting upon their own implicit biases by describing research indicating that we are all likely to have implicit biases, and that such biases are related to discriminatory behavior (see Greenwald and Krieger, 2006 for a review). As a core message of HEARTS, school staff are challenged with the need to counteract the adverse effects of these biases on our interactions with others. HEARTS professional development contents regarding cultural humility and responsiveness underscores that stress and time-pressure can exacerbate implicit bias (Casey et al., 2012). Therefore, addressing chronic stress in educators and other school staff can help to

mitigate the effects of implicit bias, thus helping to stem the flow of the "school to prison pipeline."

HEARTS staff emphasizes support for larger district and community capacity building as a complement to the whole school development work delivered in individual buildings. Lessons from the HEARTS school work are used by HEARTS staff to inform the emerging work in the San Francisco Department of Public Health which in turn is a model for broader community mobilization being closely watched nationally. In the San Francisco Unified School District, a continuing close working relationship is established with the district department responsible for social emotional learning, wellness, and health services. HEARTS staff provide professional development including a 12-hour training for school social workers, serve as district level consultants on strategic planning and adoption of related new initiatives including restorative practices, and advised on the integration of trauma-informed principles in the district's multi-tiered systems of support model development. This parallel development of district initiatives helps to support broad endorsement of trauma-informed principles in the district and the sustainability of HEARTS as a support program in San Francisco schools.

Dorado et al. (2016) present previously unpublished program evaluation data that provides initial support for the efficacy of the overall intervention. This included high levels of staff satisfaction with the program and gains in staff knowledge of trauma. School engagement increased based on staff report and school attendance records. Exclusionary school discipline practices were significantly reduced over time as were reported incidents of student aggression. Finally, students receiving trauma-specific treatment through HEARTS demonstrated symptom improvement and better adjustment on validated clinical measures.

c. Collaborative Learning for Educational Achievement and Resilience (CLEAR).
CLEAR is an evidence-informed whole school model that incorporates recommendations on trauma-informed systems change (Ko & Sprague, 2007) and the Attachment, Self-Regulation, and Competence (ARC) Framework (Blaustein & Kinniburgh, 2010). In addition, CLEAR incorporates several specific principles and practices developed in the work of Ms. Kristin Souers, co-author of *Fostering Resilient Learners: Strategies for Creating a Trauma-Sensitive Classroom*, and a lead staff member for CLEAR implementation.

CLEAR explicitly adapts the principles for the treatment of complex trauma as the foundation for school response. While disasters and other acute traumatizing events occur too often, the more profound challenge for schools is addressing the developmental consequences of early life adversity and the common developmental challenges that follow for many children. Supporting the academic and social success of students is a powerful intervention to mitigate the long term effects of trauma even when more formal treatment access is not possible. The capacity of natural systems like schools to meet student needs becomes the principal intervention for many at-risk children.

CLEAR is a professional development model where trauma expertise is built progressively and aligned with routine school instructional and student support practices. Over a 3-year intervention process, CLEAR seeks to (1) create the whole school cultural and professional skills needed to effectively support students with trauma, (2) develop effective identification and care

coordination for the most vulnerable students and families, and (3) create the coordination structures that assure school and support services operate from a unified plan to support students and families.

CLEAR operates as a multi-tiered systems of support (MTSS) response framework that emphasizes whole-school actions to improve learning outcomes for all student using a continuum of evidence-based practices based on need (Stoiber & Gettinger, 2016). Practices are intended to assure resources reach the appropriate students with services needed to permit students to achieve and/or exceed proficiency in academics and social emotional development.

CLEAR is a structured but adaptive problem-solving model which employs mindfulness principles to guide practice in contrast to an emphasis on standardized strategies and curricula. Mindfulness is an overarching concept for a variety of educational and psychological concepts including reflective practice (Schon, 1983) and the core techniques of self-monitoring and self-talk in cognitive therapies. Langer defines mindfulness as the capacity and processes in which we make novel distinctions in the moment and give these observations new meaning based on our knowledge and relevant experience. "The process of drawing novel distinctions can lead to a number of diverse consequences, including (1) a greater sensitivity to one's environment, (2) more openness to new information, (3) the creation of new categories for structuring perception, and (4) enhanced awareness of multiple perspectives in problem solving." (Langer & Moldoveanu, 2000, p. 2). Mindfulness includes the subjective sense of heightened awareness and being present in the moment with both our reason and our emotional reactions engaged actively in increased situational awareness.

Being mindful is associated with increased creativity and new learning (Langer,1997). When adaptive and anticipatory problem solving is the critical professional skill, mindfulness defines a teachable set of teacher skills that can support improved outcomes. A small body of literature has demonstrated that mindfulness is associated with improved classroom management practices and student performance (e.g., Aaronsohn, 2003; Kounin, 1983). Weick and Sutcliffe (2007) have extended the concept of mindfulness to understanding and improving organizational practice and Hoy et al., (2006) have extended the organizational practice of mindfulness to school improvement practices. Multiple research literatures demonstrate that mindfulness is a teachable skill and its practice is associated with improved outcomes including health status and learning (e.g., Langer, 1997).

CLEAR employs a formal professional development education series with coaching practices engaging leadership and staff concurrently in a co-design process to shift both individual practices and the building system's policies and climate to support sustainable trauma-informed practices among all adults. The professional development model is designed as a three-year progressive training process using a strategy of brief (one hour), cumulative (nine trainings in Year 1, six trainings in Year 2, and four trainings in Year 3), and progressive (each training builds to the next) elaboration of best-practice trauma principles (NCTSN core principles and the ARC Framework). Although CLEAR has a highly structured professional development instructional component, CLEAR is principally a coaching/consultation intervention. CLEAR provides a structured but adaptable process to train educators in trauma management skills that can improve instruction and classroom management, change policies and procedures to help

children succeed academically and emotionally, and prioritize safety and role-appropriate relationships. These skills benefit all children but are particularly important to helping traumatized children learn. CLEAR school supports are delivered by a consistent trauma expert referred to as the CLEAR coach. These support activities address whole classroom practices, individualized learning, and brief trauma interventions when required and based on the resources available to the school. Because we prioritize sustainable practice, these more individualized and formal supports to vulnerable students operate within the relationships and resources potentially available to each school. As a result, the depth of supports for the most vulnerable students can be very different in an isolated rural school compared to a high need urban school.

CLEAR is intended to shift the depth and consistency of practices in the adults who work in schools. Caregiver education and support and targeted student interventions develop through trauma-informed plans lead by schools. Four coordinated staff practices define the goals of this trauma-informed strategy to both improve universal student outcomes and meet the adjustment needs of children with functional impairment due to trauma. First, teachers need skills development to adapt instructional practice and student supports based on an understanding of complex trauma's risk to age appropriate cognition and social/emotional development. Second, CLEAR supports well-implemented social and emotional learning for all students by positive management of emotional and behavioral responses to improve academic and social success. Third, CLEAR uses coaching practices to help teachers adapt classroom management practices in light of social emotional learning and trauma care principles to support the physical and social learning environments enhance the individual child's learning experience and the success of the overall class. Fourth, CLEAR supports development of effective identification, referral, and access to psychotherapeutic interventions when additional supports are needed for symptomatic students as they continue in typical classes.

In contrast to other trauma-informed school approaches, CLEAR explicitly extends the use of trauma-informed practices to instructional practices in addition to the more universally shared emphases on school climate and management of dysregulated behavior. Instructional practices are supported through integration of trauma-informed language in delivery of content, use of trauma-informed principles to improve classroom management, and individualization of instruction when dysregulated student responses interfere with persistence, memory, and task organization. Instructional supports are provided through the coaching process.

CLEAR follows a formal engagement and adoption process informed by Implementation Science (IS) principles (Fixsen et al., 2005). At this time, CLEAR is the only trauma-informed schools model to make this explicit adoption of Implementation Science part of the formal model. CLEAR employs formal memoranda of understanding at both the school and district levels to formalize the process and commitments. Key elements of the memoranda include commitment to leadership participation, commitment by the school to adopt an evidence-based social emotional learning practice if one is not in place, voluntary consent as a condition for CLEAR to enter a school, data sharing agreements, and specific statements of roles and responsibilities for all partners. Distinct from other more structured trauma-informed school models, CLEAR does not accept direct payment from schools or districts in order to protect a relational and partnership based development relationship. Support for CLEAR staff is managed

by independent grants and contracts directly with the CLEAR developer. Schools are responsible for contributing training, planning, and coaching time for leadership and staff.

Adoption of CLEAR is a process that involves the systematic progression through phases of development including: Exploration (a 3-4 month discussion and planning process in which readiness, orientation to CLEAR in terms of focus and methods, and informed consent to adopt CLEAR is managed in the school community); Installation (typically requiring Year 1 of program implementation to establish common language and trauma literacy, building the implementing structures of leadership engagement and peer governance, and using a voluntary process to expand the staff using the coaching to practice new trauma-informed skills), Initial Implementation (Years 1-2 where the coaching and systems change planning is a progressive process adapted to the specific school), Full Implementation (Years 2-3 in which shifts in policy are established and more staff are actively engaged in new behaviors to support instruction and student support), and Sustainability (Year 3 which includes formal plans for new staff orientation, district support for continuity of efforts, identification of needed continuing development work). CLEAR coaches address the implementation drivers of staff competency (training, use of the coach to help shape new practices, and strengthening of supervisory practices), facilitative administration (program changes to support shifts in practice, use of school data to assess impact), and leadership supports (helping leadership develop strategies that sustain motivation in staff and minimizes rules and procedural barriers to adopting new trauma-informed practices). This process is completed through iterative cycles of improvement and relies on adapting to setbacks, change of leadership, and new external demands as common challenges.

A full time CLEAR coach ideally is responsible for four school implementation sites in a given year. Over time, the CLEAR implementation process involves creating consent, building relationship, and development of a common language for action followed by progressive support of new practices by staff and creation of the school policies and culture necessary to sustain trauma-informed shift in practice over time. CLEAR staff spend two full days per month in each school for training and consultation activities. These on-site activities are supported with planning calls, preparation of training content and materials, and phone consultations at the request of leadership or staff. CLEAR adopts an innovation diffusion theory of change (Rogers, 2003) in which the goal is to support early adopters modeling change which in turn encourages others to adopt the new practices.

CLEAR is a 'middle out' development model. Our experience is that even when there is strong district interest, adoption and innovation cannot be imposed as a top-down strategy. District leadership play crucial facilitative roles but cannot dictate shifts in practice. Rather, adoption and success is won first at the building level. The critical role of building level engagement reflects the nature of schools as distinct communities and the broad discretion left to principals as building leaders. With significant staff and leadership support, our experience is that there is a spread of effect in which progressive adoption of the CLEAR model has the potential to aggregate up to district level benefits.

Given the central role of building level engagement and success, a precondition for CLEAR adoption in a school is full participation in CLEAR by building leadership. Specifically, building

leadership need to consent to adopting trauma-informed principles in their individual practice and in the policies and use of resources to support staff and students. This includes a distinct commitment to consultation by leaders in monthly meetings and active discussions about facilitation of CLEAR's professional development and coaching practices through concrete measures like use of substitutes and training resources to reduce barriers to staff participation.

For the most at-risk students, CLEAR coaches, who are typically mental health practitioners with extensive trauma treatment backgrounds, support school decision-making with respect to individualization of educational practices and provision of direct services. CLEAR does not directly provide more intensive individual student supports because such services are not sustainable for schools. Rather, CLEAR works within the capacity of participating schools and their communities to develop MTSS practices that match capacity. In many rural CLEAR schools, this process involves working with only the resources of the school because community resources are not available. In more urban schools, CLEAR works with school mental health and health services programs in schools to integrate these co-located services within the schools' overall plan as a trauma-informed system.

Recruitment of schools into CLEAR is based on self-identification originating either from the individual school itself or from a school district. Implementation of CLEAR is a strictly voluntary commitment solicited from all school staff and requires a super-majority confidential 'yes' vote to move forward with CLEAR integration. This voluntary engagement principle is continued in all other components of CLEAR with the exception of professional development which includes all staff. At the end of each program year, progress is reviewed and a sizeable majority of staff need to again consent to continuation of CLEAR in the coming year.

The goal at the end of the three-year intervention period is that policies, decision making structures, leadership practices, and the skills of individual educators are developed to a degree that trauma-informed practices are self-sustaining. Although we have the most experience in elementary schools, CLEAR has been implemented in middle, high and alternative school programs as well. CLEAR practices and recommendations are adapted to fit the level of education.

Through the 2015-16 school year, CLEAR has been implemented in 32 school communities spanning 17 districts in Washington and California. Participating schools have a total enrollment of over 13,000 students and more than 1,100 staff annually. As shown in Table 1, CLEAR reaches schools with high poverty; higher percent special needs students; and ethnic and racial distributions reflecting state averages. School demographics vary significantly based on urban to rural characteristics. Using Free and Reduced Meal Enrollment (FRM; more than 185% of federal poverty level) as a proxy measure for poverty, poverty is higher in CLEAR schools compared to state averages, particularly in urban schools where high poverty concentrations by neighborhood are more likely. The percent of students in special education is also higher than state rates. Reflecting primarily emotional disorders and specific learning disabilities, higher special education enrollment in CLEAR schools may be attributable to both poverty effects and the neurodevelopmental consequences of trauma.

Table 1: Summary Demographics for CLEAR Schools (2014-2015 Demographics)

	N Schools	N Students	Percent White	Percent Hispanic	Percent Black	Percent ELL	Percent FRM	Percent Special Education
Small Town/Rural	12	3,395	68%	24%	1%	11%	56%	16%
Suburban	10	4,768	79%	9%	2%	5%	55%	17%
Urban	10	4,874	33%	22%	21%	23%	76%	19%
CLEAR Total	32	13,037	60%	18%	8%	12%	62%	17%
Washington State	--	1,070,756	57%	22%	5%	10%	45%	13%
California State	--	6,070,831	25%	53%	6%	22%	59%	10%

The evidence base for CLEAR. CLEAR is an evidence-informed whole school model that incorporates recommendations on trauma-informed systems change (Ko & Sprague, 2007) and the uptake of evidence-based practices (Fixsen et al., 2005), high fidelity social emotional learning practices, the ARC Framework (Blaustein & Kinniburgh, 2010) for supports addressing complex trauma mitigation, and mental health consultation practices.

Aligning CLEAR with social emotional learning initiatives. Social emotional learning (SEL) is an umbrella term for activities in schools intended to help students' development of social emotional competence. Social-emotional competence is the capacity beginning at birth to form close and stable relationships with adults and peers, express and regulate our emotional states in support of meeting needs and maintaining relationships, and having the confidence and awareness of self to explore, learn, and persist in the face of barriers. Social emotional competence is built through relationships beginning with successful attachment to primary caregivers and progressively elaborated through relationships with peers and other adults.

Hamre and Pianta (2010) review the research documenting that children with adjustment problems can match the academic achievement of their typically developing peers if these vulnerable children are in effectively managed classrooms. High quality educational practices represent a natural system of supports that can result in recovery in children, including those struggling with trauma's impact. This body of evidence is the basis for our contention that CLEAR may help create the natural supports that can have therapeutic effects for traumatized children absent formal psychotherapies. We believe the 'value add' of CLEAR is that the neurodevelopmental impact of early trauma leads to distinctive responses and challenges which, if understood and addressed, can enhance the more general benefits of high quality educational practice.

CLEAR's MTSS model integrates trauma-informed practices with social emotional learning practices to support a continuum of response in schools. Social emotional learning is guided through the individual student supports and classroom management practices that teach and reinforce respectful and caring relationships, require accountability without shame and punishment, and support increasing self-awareness and self-regulation for all students. In CLEAR, we contend that while good social emotional practice helps all children, understanding how trauma changes perception, emotional responses, sense of safety, and the perception of threats is necessary for teachers because trauma changes us in predictable and understandable ways. Because of the importance of social emotional learning in educational practice, the

alignment of CLEAR trauma practices with strong social emotional learning creates a natural bridge for introducing trauma-informed practice in the academic mission while also creating the opportunity to increase access to mental health services for the most vulnerable students.

CLEAR and the ARC Framework. CLEAR is an approved adaptation of the individual clinical elements in the Attachment, Self-Regulation. And Competence (ARC) Framework (Blaustein & Kinniburgh, 2010). ARC provides a theoretical framework, core principles of intervention, and a guiding structure for providers working with traumatized children and their caregivers. ARC is not a manualized intervention. Rather, ARC is a modular, flexible framework adaptable in multiple communities and settings. ARC has been used with documented acceptability with Alaskan Native youth and communities (Arvidson et al., 2011), and service systems with majority African American and Hispanic youth populations.

The core components of ARC are organized in three roughly sequential areas of effort each of which includes specific areas of skills development providing the focus for therapeutic supports.

1. Attachment: The ARC framework identifies two core foci of attachment-focused intervention which may be adapted across developmental stages and which may be implemented in various care-giving systems: 1) building, or re-building, healthy attachments between children who have experienced trauma and their caregiver(s) and/or 2) establishing the support system for healthy recovery which has been impacted or missing in the lives of children with early attachment loss and disruptions. These two intervention foci are targeted using four principles: caregiver affect management, attunement, consistent response, and routines and rituals.
2. Self-regulation: Self-regulation allows one to modulate affective, physiological, cognitive, and behavioral experience and display through internal control. The development of self-regulation across various domains of functioning is influenced by both a child's temperament and experiences. Enhancing self-regulatory capacities is a primary target for interventions identified by experts on complex childhood trauma (Cook, et al., 2005). The ARC framework identifies three primary principles to improve self-regulation among complexly traumatized youth: affect identification, modulation, and affect expression.
3. Competency. Development is a dynamic process, and each developmental stage is associated with key tasks that children must negotiate, drawing on emergent assets such as growth in cognitive functioning, as well as on past successes. In addressing both the enhancement of normative development and the establishment of external resources, three key targets are addressed: developmental tasks, executive functions, and self and identity.

The ARC Framework is listed as an NCTSN "Empirically Supported Treatments and Promising Practices." Published research includes several quasi-experimental studies across multiple treatment populations including residential treatment (Hodgdon et al., 2013), child welfare (Arvidson et al, 2011), adoption services (Hodgdon et al., 2015), and in Head Start (Holmes et al., 2015). In addition, the final report of the Cross-Site Evaluation of NCTSN activities and services between 2005 and 2009 (IFC Marco, 2010) indicated that children receiving ARC-based treatment services demonstrated significant reductions in behavioral problems and post-traumatic stress disorder that were equivalent to those observed in children receiving Trauma-focused Cognitive Behavior Therapy (TF-CBT). Based on the published findings, the ARC Framework meets the criteria to be listed as a promising evidence-based treatment.

CLEAR and mental health consultation practices. The CLEAR intervention component is principally an adaptation of mental health consultation practices combined with best practice recommendations for trauma-informed care as the framework for action. Mental health coaching and consultation supports have proven to be effective in improving quality of professional practices and student adjustment in early learning and K-12 education settings (Brown et al., 2010; Raver et al., 2008). Cappella and colleagues (2012) have noted that consultation and coaching supports are particularly important in schools serving highly stressed student populations including low income urban schools and rural schools where quality of teacher preparation and level of resources result in highly variable practices across educators.

Program evaluation of CLEAR to date has included three cycles of anonymous staff surveys at end of program years. With more than 1,100 participating educators, the surveys demonstrate large staff majorities endorsing the relevance of trauma in their educational practices, the acceptability of CLEAR as an intervention, and progressive reports of shifts in practice aligned with CLEAR trauma-informed practices. Survey results confirm that adoption of CLEAR practices increases over time with higher levels of reported practices and satisfaction with the program at the end of year 2 compared to year 1. Significantly, improvements in staff morale and job satisfaction have been confirmed in each survey cycle. Other indictors of impact include reports of sustained reductions in disciplinary referrals and increasing retention of staff over time following CLEAR implementation.

In summary, CLEAR is a structured, whole school intervention for trauma-informed systems change which balances a formal implementation structure with principle-guided adaptations to fit the capacity and resources of local schools. While CLEAR and HEARTS both are principally coaching models, CLEAR is a less intensive (2 days per month v. 12 days per month) coaching model which integrates direct coaching with formal development of leadership structures to sustain practice after the end of the CLEAR supports. Both CLEAR and HEARTS align with the Sanctuary Model with respect to systematic efforts to support both organizational and individual change. CLEAR's adaptation of the ARC Framework, also reflected in HEARTS, provides a replicable body of practices that is evidence-based and provides a core language and set of skills to be mastered through professional training and coaching. This formal approach to skills development is only matched by the content of the Neurosequential Model of Education with regard to detailed guidance on trauma-informed practices. Finally, CLEAR explicitly employs Implementation Science guidelines in its implementation plan and is, to our knowledge, the only trauma-informed approach that does so currently.

d. Merging CLEAR and HEARTS in the CLEAR-CA model.
The developers of HEARTS and CLEAR agreed in 2013 to formally merge the two programs under the CLEAR umbrella. Currently, with funding from the California Endowment, we are piloting the merged model while also formally developing the enhanced materials and methods.

The designation of California in the CLEAR-CA title is to acknowledge that the policy, demographic, and resource characteristics of California necessarily will influence how CLEAR principles are implemented and where the opportunities for aligning trauma-informed practices with other school initiatives will lead us. As a result, as we expanded CLEAR in other states, our

intention is to maintain this state designator to the CLEAR title to reflect our intention to maintain the model's core features while adapting implementation sequences to fit the unique needs and characteristics of each state.

In this enhanced CLEAR model, the core structure of the intervention will draw from existing CLEAR practices including the professional development method (sequenced one-hour monthly training), coaching structure (2 days per month), leadership commitment and staff governance model, application of Implementation Science guidance, and adaptive MTSS responses based on school capacity. Key lessons, content, and methods drawn from HEARTS will expand the CLEAR model in four areas. First, CLEAR will integrate support for multicultural education into its professional development and coaching practices based on the cultural humility and responsiveness content developed in HEARTS. Second, restorative practices will be explicitly introduced to schools as highly aligned strategies similar to the priority given to schools' adoption of evidence-based social emotional learning programs. Third, HEARTS principles will be more explicitly integrated in CLEAR content and used in coaching as a means to prioritize and sequence development efforts in the school based on the experience in HEARTS. Fourth, CLEAR will incorporate an expanded emphasis on district level leadership literacy and strategic alignment into its strategic plan based on the success in HEARTS in formalizing commitments for sustaining trauma-informed practices. These modifications in the CLEAR model based on lessons from HEARTS will be implemented in the 2016-17 school year.

e. Aligning CLEAR with other school improvement initiatives.

A principal purpose of this paper is to situate trauma-informed practice, including CLEAR, in the related school improvement initiatives defining much of the educational reform efforts in North America. It would be presumptuous to characterize other programs but it is important to describe CLEAR's alignment with these related initiatives.

Social Emotional Learning and resilience enhancing school programs. An explicit agreement for schools beginning CLEAR is that the school adopt or maintain high quality implementation of an evidence-based social emotional learning practice. In practice across our schools to date, this has involved schools implementing Positive Behavior Interventions in Schools (PBIS), RULER, and the Second Step curriculum as the primary SEL models. The rationale for this precondition is that trauma-informed practices are not a substitute for strong SEL practices that address general norms regarding conduct, accountability, and support for critical developmental skills necessary for all students to succeed in daily life. However, it is also our experience that existing SEL practices are insufficient for many students with trauma histories because dysregulation of thoughts, emotions, and behavior when under stress overwhelms students' ability to work within typical SEL guidance. SEL practices establish the baseline conditions for positive school climate and student growth while trauma-informed practices extend SEL practice by addressing not only how to help students who are overwhelmed by their personal histories but equally critically how to scaffold new learning for traumatized students so they can succeed under the more normative expectations supported by SEL practice. The resilience literature offers powerful allied set of concepts to extend SEL skills but particularly for the benefit of traumatized students. The resilience field has a strengths-based, action oriented emphasis on building resilience as a personal resource through mastery, contribution to others, and persistence in face of frustration. For children who fall on the gradient of trauma impact, schools can use resilience to be strength-

based in their emphasis on how children succeed from wherever they start. CLEAR uses resilience-based practices to help build individual support plans that emphasize not only compliance but personal contributions to others as key steps in supporting connection and mastery.

MTSS and social emotional wellbeing. CLEAR adopts an ACEs framework and its implication that we are confronting a graded set of developmental risks due to trauma in a large percentage of children. As discussed earlier in this paper, this approach helps resolve a basic dilemma for traditional mental health treatment models in schools in which the treatment of diagnosed mental health disorders, including those due to trauma, creates a discontinuity with school's academic goals. The stabilization or cessation of symptom distress is obviously an extraordinarily important goal in its own right. However, most of our treatment models do not create alignment with educator's academic goals for children and the role of educators in supporting recovery is not well-articulated in mental health treatment goals. We are also confronted by the objective fact that access to care will not permit services to most of the most highly symptomatic children. Recognition of the graded but still significant impact of trauma in the general population permits us to have a common framework for both specialist mental health services and aligned educational supports provided by educators in daily activities. Specifically, in CLEAR we believe that adopting the ARC Framework creates a unified language and set of practices that reinforce universal social emotional learning and supports more specialized treatment supports when available. Because the ARC Framework proposes concrete skills to support growth in a unified response across staff, we also propose that we can move general statements of intent to specific measurable actions that are well-grounded in research. Also, the alignment of trauma-informed practices with social emotional learning and resilience-building strategies provides a coherent framework in which academic supports are provided and at all levels of response we can address how trauma changes us.

Leadership engagement and support. Arguably, CLEAR is the only trauma-informed practice that explicitly addresses the development of leadership skills and practices as an objective beyond the facilitative role leadership needs to play. While other approaches acknowledge the critical facilitative role of principals (see Cole et al., 2013), our contention is that building leadership development requires systematic supports that parallel the support provided to all other school staff. This emphasis in CLEAR is aligned with the broader educational literature about leadership development and support. Specifically, within an Implementation Science framework, core objectives of this leadership support is to create both the aspirational and practical organizational supports needed to move from adoption of innovation to sustainable practice.

Staff self-care, secondary trauma, and compassion satisfaction. Based on our experience in more than 30 schools, our starting assumption entering any school is that we are working with highly stressed and often highly distressed school communities. These conditions often are reflected in low staff morale, high rates of staff turnover, frequent use of exclusionary discipline practices, and too often a low sense of personal efficacy in staff's respective roles. Like other trauma-informed models, we incorporate self-care and acknowledgement of the risk of secondary trauma as common conditions to address. However, our contention is that (1) the school culture and use of resources need to systematically support self-care and (2) staff stress is most effectively

supported addressed by building the SEL and trauma-informed practice skills in daily activities that actively support building compassion satisfaction through greater sense of success within professional role. Our emphasis on specific skills development is not only about support of students but also in service of staff experiencing personal efficacy which is essential to prospering in demanding work conditions. Our commitment to the role of coaching and the role of leadership in creating capacity to behave differently reflects the practical need for skills development that often requires guidance in deeper skills development.

Multicultural Education. A significant opportunity for CLEAR is to incorporate HEARTS' practical experience with the cultural humility and responsiveness model as a vehicle to support broader adoption of multicultural education practices. CLEAR like most trauma response efforts has acknowledged the significance of multicultural understanding and engagement without formalizing intervention practices. A powerful implication of multicultural education is that while the need is most acutely felt in schools with highly diverse student populations, the need for understanding and valuing all cultures is a central exercise of compassion and connection in all people. As a result, as we move forward with the implementation of CLEAR, the lessons from HEARTS on addressing cultural humility will be systematically integrated in the model.

Transition from punitive discipline to accountability. Like other trauma-informed practices in schools, our experience in CLEAR has been that sharp reductions in punitive disciplinary practices are routinely seen in schools when introduced to the scope of ACEs, resulting trauma risk, and the expression of trauma through challenges to integrated brain function. This quick change in discipline appears to be more about the ethical dissonance of punishing a child who may be in survival mode and emotionally and cognitively dysregulated. However, it is also our experience that this initial shift in understanding is difficult to sustain unless skills in creating consistent accountability (clear rules, clear consequences, consistently applied) and leadership support for this shift in community practice are not developed.

To get to consistent adoption of an accountability structure as a replacement to punitive practices, the culture of the school has to change to assure that relationship-focused and support for repair when breaches in behavior occur are intentionally developed to create more supportive school climates. CLEAR practices of building highly predictable consistent response from adults is well-aligned with the recommendations of the authoritative school climate model. Restorative practices offer a tested tool to support this accountability and repair process. As CLEAR moves forward, restorative practices will be incorporated in professional development and coaching strategies as a strong allied approach to improving relationships and repair.

D. Conclusion.

The explosive development of interest in trauma-informed school practices represents a wild fire popular cultural event. After decades creating the foundational biological scientific research and the development of evidence-based practice supporting core principles of response, we appear to be in the midst of a paradigm change in Kuhn's sense of a fundamental shift in the basic concepts guiding how we understand ourselves and how we work to build deeper understanding through research and practice. However, a characteristic of being in the middle of a paradigm change is a healthy level of ambiguity and competition around how concepts form and are applied.

The purpose of this paper is to provide a framework in which development of trauma-informed responses can align with strong science about practice in education and address the challenge of how this field is going to grow. These challenges to deepen our practice and align with strong allied educational practices appear to be necessary development goals as we move from the power of the ideas around trauma-informed care to mobilize to the practical work of supporting sustainable practices and scalable solutions in schools.

This need for building the intervention research base is on us now as federal policy begins to integrated trauma response into federal law. Most notably, the Every Student Succeeds Act (ESSA) which in its replacement of the No Child Left Behind Act specifically calls out trauma response in two areas: professional development in trauma-informed practices addressing "effective and trauma-informed practices in classroom management" and delivery of **_evidence-based_** trauma-informed/trauma-specific mental health services in schools or through community partnerships. ESSA is likely to result in increased state and local investment in trauma responses in schools but to do so through strategies with strong empirical support. This investment process will challenge locally initiated trauma-informed whole school efforts and challenge all trauma-informed practices including CLEAR to accelerate the expansion of the outcomes evidence supporting the approaches.

Our experience in CLEAR like other trauma-informed models is that we are not working to support a specific practice but rather a paradigm change in education. Like any other paradigmatic shift in core beliefs and practices, early enthusiasm and the promise of these practices will be critiqued. We will need to have formally developed theories of change and precision in explaining practices in order to both grow in our practice and adjust to legitimate criticism. We are all very early in this work. The debate about the use of ACEs versus cumulative risk models is about precision in what we are working to address and how we approach measurement of need. The alignment of trauma-informed practices with several major influences in educational practice and policy is intended to create a unifying framework and a response to the flood of specific initiatives so common in schools. This unifying framework is essential if trauma-informed practice is not to become one more competing strategy.

As a teacher in a CLEAR school stated, "What you are telling me is that addressing trauma is not one more thing on my plate, it is the plate." The 'plate' described by trauma is how to assure the developmental readiness of all children to be in their 'learning ready brains' in the face of the ACEs public health challenge and the impact of resulting trauma. The implications of trauma-informed practice for educational reform efforts is how trauma understanding enriches key educational practices in social emotional learning, improving school climate, ending the use of exclusionary discipline, and support equity and cultural respect as core democratic values in education. Testing this proposition requires a level of precision in concepts and methods to support both rigorous research and demonstrable capacity to scale-up trauma-informed whole school reform.

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