School Mental Health

Trauma-informed schools: Building resilience using a whole school approach -- Manuscript Draft--

Manuscript Number:		
Full Title:	Trauma-informed schools: Building resilience using a whole school approach	
Article Type:	S.I. : Best Practices	
Keywords:	Keywords: Adverse childhood experiences; toxic stress; trauma-informed practice; trauma-informed schools; resilience; whole school approaches.	
Corresponding Author:	Carol Klose Smith, Ph.D. University of Iowa Iowa City, IA UNITED STATES	
Corresponding Author Secondary Information:		
Corresponding Author's Institution:	University of Iowa	
Corresponding Author's Secondary Institution:		
First Author:	Carol Klose Smith, Ph.D.	
First Author Secondary Information:		
Order of Authors:	Carol Klose Smith, Ph.D.	
	Armeda Wojciak	
	Bryan P. Range	
	Shamire J. Rothmiller	
	Janis J. Powers	
Order of Authors Secondary Information:		
Funding Information:	The Center for Education Transformation at the University of Northern Iowa (1025)	Dr. Armeda Wojciak
	North Carolina Translational and Clinical Sciences Institute, University of North Carolina at Chapel Hill (US) (0067)	Dr. Armeda Wojciak
Abstract:	Epidemiological studies estimate that approximately 25 to 60% of all children have experienced at least one trauma of one form or another. The impact of this trauma on the behavioral and social/emotional functioning of children has been shown to reduce achievement, attendance at school, and increase challenging behavior in the classroom. In this article, the authors discuss the impact of trauma on student learning outcomes, introduce the basics of neurobiological changes due to trauma and propose whole school resiliency components that can be utilized in the schools. Recommendations for future research is also considered.	

Title Page w/ ALL Author Contact Info.

Running Head: TRAUMA INFORMED SCHOOLS

Trauma-informed schools: Building resilience using a whole school approach

Carol Klose Smith, Armeda Stevenson Wojciak, Bryan P. Range,

Shamire J. Rothmiller, and Janis J. Powers

The University of Iowa

Author Note

Carol Klose Smith, Department of Rehabilitation and Counselor Education; Armeda Stevenson Wojciak, Department of Psychological and Quantitative Foundations, Bryan P. Range, Department of Psychological and Quantitative Foundations, Shamire J. Rothmiller, Rehabilitation and Counselor Education, and Janis J. Powers, Department of Rehabilitation and Counselor Education, The University of Iowa.

Correspondence regarding this article should be addressed to Carol Klose Smith,

Department of Rehabilitation and Counselor Education, The University of Iowa, Iowa City, IA

52242. E-mail: carol-smith@uiowa.edu.

 TRAUMA INFORMED SCHOOLS

Trauma-informed schools: Building resilience using a whole school approach

Abstract

Epidemiological studies estimate that approximately 25 to 60% of all children have experienced at least one trauma of one form or another. The impact of this trauma on the behavioral and social/emotional functioning of children has been shown to reduce achievement, attendance at school, and increase challenging behavior in the classroom. In this article, the authors discuss the impact of trauma on student learning outcomes, introduce the basics of neurobiological changes due to trauma and propose whole school resiliency components that can be utilized in the schools. Recommendations for future research is also considered.

Keywords: Adverse childhood experiences, toxic stress, trauma-informed practice, trauma-informed schools, resilience, whole school approaches.

Trauma-informed schools: Building resilience using a whole school approach

Educators and therapists working with children have long understood that what happens outside of the classroom may impact the students in their classroom. This link between a student's environment and their ability to learn, engage in social relationships with peers, manage emotional regulation and executive functioning skills is now being understood using a new lens – a trauma-informed lens. This knowledge allows educators to see student behaviors from a new perspective and gain sensitivity to the possible challenges students may bring with them into the classroom. While students with emotional and behavioral issues are not required to receive therapy, they are required to attend school. Meanwhile, those who work in schools are often not given the tools necessary to work with students who have experienced trauma. This paper will provide a rationale for a model to provide trauma-informed practice within a school setting using a whole school approach.

Experiencing trauma has long been understood to impact an individual. Initially many believed that trauma experienced by children had negative impact for a set period of time. However, research known as the Adverse Childhood Experiences study (ACEs) has provided evidence of a link between early childhood adversity and long-term, detrimental health and mental health outcomes as compared to adults without such challenges (Felitti et al., 1998). In a landmark study, Felitti and colleagues (1998) examined the impact of ten adverse childhood events which fell into the categories of neglect, abuse and family dysfunction. Even with this limited scope of the type of childhood adversity examined, the original study demonstrated clear associations between childhood trauma and later negative health outcomes. Early life adversity has been associated with higher rates of heart disease, cancer, diabetes, asthma and depression

(Shonkoff & Garner, 2012; Taylor, 2010), providing evidence for trauma impacting individuals long after what was thought possible and in ways not expected.

The current body of research suggests that maladaptive responses to toxic stress experienced in childhood, or ACEs, plays an important role in later physical and mental health sequelae, which makes trauma very relevant and significant in our society particularly when it comes to children (Bucci, Margues, Oh, & Harris, 2016). Early childhood and adolescence are known to be a period of developmental sensitivity in which individuals may be more biologically vulnerable to impact of negative events (Knudsen, 2004). ACEs are now understood to impact an individual in rather intensely problematic and unfavorable ways in the short-term and have the potential to alter developmental trajectories (Duke, Pettingell, McMorrsi, & Borowsky, 2016) and can lead to a host of negative outcomes for an individual that permeates through all levels of well-being.

Trauma is an experience of intense feelings of powerlessness or fear in response to some event (Bulanda & Johnson, 2016) which influences the foundational makeup of an individual in multiple and sometimes permanent ways. It is determined that about 25% of children experience some form of trauma which can be physical, sexual, emotional abuse or neglect (Crosby, 2015), violence in the home or community or some form of life threatening event such as a natural disaster (Ko et al., 2008). Within the general population, about two-thirds have experienced at least one traumatic event in their lifetime (Baker, Brown, Wilcox, Overstreet, & Arora, 2016).

The impact of trauma during childhood can be quite deleterious for development (Duke et al., 2016; Bulanda & Johnson, 2016) and learning (Phifer & Hull, 2016). Developmental impediments such as emotional regulation, impulse control, social-emotional and cognitive functioning may diminish which interferes with learning and academic pursuits (Baker et al.,

2016; Blitz & Anderson, 2016; Bulanda & Johnson, 2016; Duke et al., 2016). It is unfortunate that a child's development may not only be skewed for a moment in time but has been shown to have an impact on inhibiting critical learning, growth and development throughout a lifetime (Ko et al., 2008; Walker & Walsh, 2015). Trauma has been correlated with a host of negative outcomes for youth such as a decrease in emotional self-regulation (Walkley & Cox, 2013), impaired cognitive development (Walkley & Cox, 2013) increases of internalizing and externalizing problems and decreases in social competency (Crosby, 2015). These all have dire consequences for academic performance and can contribute to lower achievement (Crosby, 2015; Ko et al., 2008). Therefore, trauma-informed practice is essential in our society, especially within our schools, and may be even more essential for marginalized populations which have a higher prevalence of traumatic experiences. Students who have experienced ACEs may also be vulnerable to experiencing schools as deleterious environments. Children who have experienced trauma may express behaviors such as displays of inattention, lack of cooperation, and defiance which are often the cause for disciplinary actions (Phifer & Hull, 2016), and are also typical behaviors of some children who have experienced trauma.

Children who fit into these categories may be viewed as unteachable and unmanageable, rather than displaying behaviors that are the result of trauma. In addition, some disciplinary actions such as "removed from class, being suspended or expelled, and, in extreme cases, being restrained or secluded" (Baker et al., 2016, p. 62) may lead to retraumatization (Phifer & Hull, 2016). Unfortunately, there are higher rates of disciplinary action taken when it comes to students of color (Blitz & Anderson, 2016). For example, one adaptation to trauma is experiential avoidance which can be described as behaviors whose sole purpose is to avoid and/or escape perceived harmful events (Briggs & Price, 2009). A child may angrily refuse and

TRAUMA INFORMED SCHOOLS

loudly protest reading aloud in class by throwing a book because he/she struggles in this area and wants to avoid feeling inadequate, ashamed, and or embarrassed. His/her experimental adaptation maybe seen as defiance and/or a lack of compliance which would then result in some form of disciplinary action. Students of color, as compared to their Caucasian counterparts, receive more severe consequences (Blitz & Anderson, 2016) which can lead to the "school to prison pipeline" (Dorado, Martinez, McArthur, & Leibovitz, 2016). Trauma-informed practice provides an essential perspective in understanding children who have experienced trauma and asks the question "what happened to you?" as compared to "what's wrong with you?"

A part of answering the above question is understanding the etiology and impact of stress upon the developing brain functioning of a child (Ko et al., 2008), and can assist in developing an empathic perspective. While not everything is understood about this complex process researchers are making progress in understanding the response to trauma and the resultant changes in brain development and functioning (Bucci et al., 2016). Basically, the dysregulation of physiological response to stress appears to play a critical role in the negative outcomes associated with long-term stress responses (Bucci et al., 2016). Prolonged and/or frequent activation of an individual's stress response system changes neurological mechanisms within the brain. During a stress response, there is an overabundance of the stress hormone cortisol (Blitz & Anderson, 2016). While cortisol and other stress hormones are not harmful per se and, in short bursts, are a part of our survival instinct, prolonged exposure and frequent activation can change the way an individual responds to their environment (Bucci et al., 2016). Primarily, some of the physiological changes are seen in the regions of the brain that are most responsible for basic emotional, physical and psychological safety: the limbic system (Duke et al., 2016). For children who have altered pathways due to toxic stress and/or ACEs, the limbic system is much more

quickly accessed as compared to the prefrontal cortex which is responsible for social competence, executive functioning, and emotional regulation. Basically, the flight, flight or freeze strategies are much more easily activated and automatic as compared to the reasoning and developmentally appropriate comprehension skills. For the classroom teacher, a child may be triggered by seemingly innocuous events or requests, but may be a part of a child's trauma response. A response that is automatic and not fully thought out. Understanding this basic mechanism helps to explain behavioral, social and academic difficulties in school (Shamblin, Graham, & Bianco, 2016). Prolonged exposure to trauma, just as all life experiences, changes the structure of the brain (Walkley & Cox, 2013) but in more extreme ways that "diminishes memory consolidation, concentration, sustained attention, and retaining or recalling information" (Perry & Daniels, 2016, p. 179) which can be long-lasting (Baker et al., 2016).

Building Resilience

Understanding that past adversity has been linked to negative outcomes does not mean that the outcome is inevitable. Many people have suffered much adversity and yet return to a state of well-being, healthy functioning and can develop increased capacity for prosocial behaviors and attitudes (Satici, 2016; Lim & DeSteno, 2016). This ability to return to a normalized or even positively transformed state following adversity is a description of resilience, which can be an important indicator of positive well-being over time (Masten, 2016; Satici, 2016; Tedeschi, Cann, Taku, Senol-Durak, & Calhoun, 2017).

Early studies of resilience focused on identifying characteristics that made an individual resilient (Feder, Nestler, & Charney, 2009), or the reverse, the focus was on maladaptive behaviors in which individuals did not demonstrate resilience (Luthar, Cicchetti, & Becker, 2000). Masten, Best, & Garmezy (1990) warned of the potential problem inherent in this

individualized approach to resilience research. Unfortunately, for many students who have experienced trauma, recovery and overcoming deprivation is too often left up to the individual.

More recently, researchers have shifted their focus from resilience as an individual construct to examining the interaction and change processes involved in and around the individual, including the role of social capital within communities and systems in which individuals interact (Feder et al., 2009; Wu et al., 2013). This collective aspect of promoting resilience is articulated by Masten (2016) as integrating theory, research and application in order to examine systems of support. This integration is further articulated by Wu and colleagues who state that "resilience is a complex multidimensional construct...with multiple interacting factors" (p. 10). This involves recognizing complex interaction of all stressors, risk and protective factors in both individual and the community, neurochemicals and functional neural circuitry, geneticenvironment interdependence, epigenetics, psychological habituation, developmental environment, and social structures (Grych, Hamby, & Banyard, 2015; Rutter, 2012; Wu et al., 2013). However, finding ways to build resilience does not have to be complex. In fact, studies have shown that it only takes the presence of one caring, trusted adult to change the outcome for some children who have experienced trauma (Brunzell, Stokes, & Waters, 2016; Feder et al., 2009). When adults work together in community efforts to provide supports for young people, the safety net of community resilience can be even greater (Masten, 2016; Tedeschi et al., 2017; Wu et al., 2013).

Knowing that resilience can be built through community efforts provides hope for combating the negative risks associated with trauma. If we unify our efforts towards preventing trauma, use trauma-informed practices to aid the healing of those affected by trauma, and work together in building resilience across all domains, we can strengthen the well-being and positive

TRAUMA INFORMED SCHOOLS

outcomes of our society (Anda et al., 2006; Felitti et al., 1998; Grych et al., 2015; Masten, 2016; Shonkoff, 2016; Tedeschi et al., 2017; Wu et al., 2013). Unification of effort may be aided by the adoption of a concise definition and flexible model of resilience.

ARCH Model of Resilience

In order to engage and develop trauma-informed practices (TIP) in schools, a common language of resilience should be adopted, such as, Attachment, Regulation, Competence, & Health (ARCH) model of resilience. Expanding upon the concise language of the therapeutic model of ARC (Attachment, Regulation, Competence; Blaustein & Kinniburgh, 2010) and adding the component of *health* (H), this overarching model of resilience was developed as a tool for strengthening collaborative resilience-building in the school setting and can be seen in figure 1.

All constructs of ARCH are viewed at both the individual level as well as how they are manifested in various settings in community, thus providing a way to connect the multiple interactive factors of resilience (Wu et al., 2013). All constructs represent areas that can be impacted by trauma and that can be strengthened with the use of a resilience model. Using a model that addresses both the risk and protective factors of resilience is important (Rutter, 2013) as well as addressing both positive and negative in the same constructs is helpful in TIP. The language of ARCH is neutral in that the constructs can be used to describe either a strength or an area that needs support. In the school setting, collaborative teams for supporting students always began with identifying the strengths a student exhibited in the ARCH model, then used that to support the other constructs of ARCH for that student, with the goal of building strengths in all four domains.

Attachment, the first construct of ARCH, refers to the interactions between children and their caregivers that impact the development of identity and personal agency and early working models of self and other (Blaustein & Kinniburgh, 2010). Attachment is the primary domain of the intervention that encourages the creation of a structured, predictable environment and increasing caregiver capacity for attunement and building relationships (Blaustein & Kinniburgh, 2010). Attachment is related to connection with others and the environmental context, such as, establishing safe and predicable routines that are transferable across individual, family, and systemic levels. In our use of the ARCH model, attachment was expanded to refer to solid and stabilizing relationships within the school and include proactively building a sense of belonging, or a sense of purpose, or even hope and/or belief in a purpose in the future (Satici, 201; Tedeschi et al., 2017). For example, if a student had issues of attachment and the teacher could not make a solid connection, the teacher would work on attachment first through building a classroom community where the child could feel safe and a sense of belonging within the class.

Regulation, the second component of ARCH, refers to enhancing the capacity of an individual to self-regulate their emotions and behavior. This includes increasing the student's ability to identify feelings in self and others, to safely express their emotional states, and to modulate their emotional experiences and return to a calm state after arousal (Blaustein & Kinniburgh, 2010). Executive function skills, which includes working memory, inhibitory control, and problem solving, can be conceptualized as a component of regulation because they are skills that help regulate the child's life. Self-regulation is often seen as a challenge for students who experienced trauma (Anda et al., 2006). Beyond the therapeutic model, regulation might refer to any internal or external regulation used to benefit the outcomes for the student in building resilience. For example, a student who has a solid attachment to an adult in the school

but struggles with self-regulation during transitions might work with that adult to create a picture schedule and a develop a plan together to build competence for transitions. In addition, specific classroom lessons focused on identifying emotions and simple problems solving strategies are also useful.

Competence, the third construct of ARCH, refers to the dynamic process of developing mastery across cognitive, emotional, intrapersonal and interpersonal domains. (Blaustein & Kinniburgh, 2010). Building efficacy and achievement provides a catalyst for continued growth and well-being. One of the essential components of this aspect is recognizing personal strengths and goals students may have in the school. Assisting students in this process of recognizing their successes helps develop a protective factor of resilience (Ho et al., 2015) which can be built upon for furthering self-efficacy and successful functioning in the world (Rutter, 2012). For example, a student who has good reading skills but weak attachments to peers might build their confidence in both competence and attachment by reading scenarios to peers in a social-emotional learning game.

Health, the fourth construct of ARCH, refers to both physical and mental status of the student. A trauma-informed approach in schools should include consideration of health factors beginning with basic human needs, such as, nutrition, sleep, and shelter, but also assess the culture of the school and community and their promotion of healthy practices (Langford, et al., 2014). As in all the constructs of resilience, determination is made for strengths in this area for the individual as well as for the community, and if there is a need for additional supports within the school or more specialized treatment requiring referral to community agencies (Langford, et al., 2014; Wu, et al., 2013). For example, a school counselor might discover a student's lack of self-regulation might be due to inadequate sleep, and might work with the caregiver on a

proposed sleep schedule. If that is insufficient, suggesting a referral to a pediatrician may be a next step. Another example is impaired attachment: if relationship-building is ineffective in the school setting and at home, an attachment disorder may be suspected leading to possible referral to a mental health specialist in the community.

The ARCH model is a useful, flexible framework for addressing trauma and building resilience as well as for increasing ease of communication and collaboration across domains for addressing all needs for health, wellbeing, and resilience. Using this as a common language and simple framework provided for successful teaming to build supports for students by first identifying their strengths in ARCH then connecting that to their needs to build resilience for the individual. As staff learned to incorporate the ARCH model in various settings, for their students and for themselves, it increased the resilience of students, staff, and the whole school.

Whole-School Approaches to Trauma-Informed Practice

Whole-school approaches are essential to effectively implementing trauma-informed practices in the school setting. Whole school approaches are connected to The World Health Organization's (WHO's) development of Health Promoting Schools (HPS). HPS highlight the strong positive correlation between health and education and seek to provide effective interventions to enhance the overall wellness of students and their academic outcomes- such an emphasis has positive implications not only for school, but also for long-term quality of life (Langford et al., 2014). HPS often use whole school approaches to address issues in their environment such as technology (e.g. Prain & Hand, 2003), bullying (e.g. Smith, Schneider, Smith, & Ananiadou, 2004), nutrition, and physical activity (Langford et al., 2014). Whole-school approaches are comprehensive models that are embraced by all constituents (ideally)

within a system that transforms the organizational culture and creates an environment that is conducive and beneficial for all vested individuals (Langford et al., 2014).

Specifically, trauma-informed practices in schools are essential to meeting the needs of children exposed to trauma and their development of social-emotional learning, academic skills, and self-regulation (Perry & Daniels, 2016). Walker and Walsh (2015) assert that schools have a unique and critical role to identify at-risk children and families and connect them with resources at the school and/or community. Scholars argue that schools are the entry place for mental health services for children and screening for trauma (Ko et al., 2008). In order to fulfil that unique and critical role, it is important that people are aware of ACEs and the impact it has on children. Given the success of school-wide policies and practices within a school setting and the impact that ACEs has on student behavior and learning, it is imperative that a school-wide approaches to understand and most effectively work with and support these students is essential. This is particularly important for elementary school as these years set the foundation for the children's schooling experiences. Just as the cumulative experiences they have at home influence them at school, their cumulative experiences in elementary school set the tone for their remaining school years and academic outcomes.

Fostering a positive environment for the development of these skills can enhance their academic success. According to the Substance Abuse and Mental Health Services Administration (2014) "a program, organization, or system that is trauma-informed realizes the widespread impact of trauma and understands potential paths for recovery; recognizes the signs and symptoms of trauma in clients, families, staff, and others involved in the system; and responds by fully integrating knowledge about trauma into policies, procedures, and practice and seeks to actively resist re-traumatization" (p.9).

The implementation of Trauma-Informed Practice (TIP) ultimately seeks to generate knowledge about trauma, mitigate the possibility of re-traumatization of those individuals, and provide a commonality of speech and practice both from interpersonal and interdisciplinary perspectives (Phifer &Hull, 2016; Substance Abuse and Mental Health Services Administration, 2014). In other words, TIP in schools seeks to teach all school staff, students, and allies how to understand trauma, its implications, as well as, reduce occurrences that may potentially reintroduce those experiences and trigger behaviors that may interfere with learning. However, the practicality of TIP in schools require collaborative efforts.

TIP initiatives are most effectively implemented using whole-school approaches because it creates a consistent expectation and common language from the top down and across systems (Phifer and Hull, 2016). Administration and staff have mutual ways of communicating amongst each other regarding their students, and the children have a consist expectation of behavioral conduct and emotional regulation throughout their school day and across grade levels; opposed to isolated individual efforts to implementing TIP.

The whole-school approach involves implementing trauma-informed training and strategies to school teachers and staff. The overall goal is to share knowledge with the staff and teachers regarding TICs, offer techniques and strategies to reduce social-emotional and behavioral concerns of students, and ultimately see a positive shift in school culture and efficacy regarding TIP and working with students. The whole school approach to TIP requires collaborative engagement on the part of the research teams and between school systems. Ko and colleages (2008) state that trauma confronts school with a significant dilemma: How is it that they can reach their education mission when so many children have experienced trauma that is

impacting their ability to regularly attend and engage in the learning process? A school-wide approach to becoming trauma informed can help address this dilemma.

The researchers' capitalizing on the benefits of the professional development (Perry & Daniels, 2016; Phifer & Hull, 2016) implemented the four R's (realization, recognition, response, resisting re-traumatization) which are principles of TIP through this medium to participating staff and teachers. Phifer and Hull (2016) assert that "student achievement increases when professional learning is sustained over time and directly related to and embedded in the daily practice of teachers" (p.204). Realization is the first principle in TIP; the research team provided foundational information about trauma and specifically ACEs (see Felitti et al., 1998) as well as their personal wellness (self-care) in addressing these concerns. Recognition is the second principle; participants learned the effects that ACEs and toxic stress have upon both academic and social-emotional learning (Walker & Walsh, 2015). In addition, they learned about the effects of trauma, neuroscience, and learning. Subsequently, they learned how the effects of such toxic stress impacts classroom behaviors. The third principle is responding; this involved understanding the importance of positive interactions, relationships and the building of resilience. Participants learned about resiliency methods and models (i.e. ARCH) and ways to promote resilience among their students. Finally, resisting re-traumatization included consideration of the aforementioned information with great emphasis being placed on the personal and collective wellness. It is important that teachers and staff work together, keep each other accountable, and be cognizant of their positions as helpers and the impact of their work on them personally. It is advised that teachers and staff routinely engage in self-care practices and that they maintain a healthy work life-balance to enable them to effectively implement these principles of TIP in their schools.

Ways for Schools to Become Trauma Informed

Becoming trauma informed, particularly from a school-wide perspective, takes planning and commitment. It also takes the understanding that implementing trauma-informed practices goes beyond just meeting a set of criteria. Rather, being trauma-informed requires a shift in thinking and perspective. It is changing the paradigm of how one thinks about student's behavior. This shift in perspective or creating a trauma informed lens allows the person interacting with youth to begin to see that the child is not a bad child, but embraces the notion that behavior occurs within a context and that environmental factors have led to this is the particular way of interacting and the behavior demonstrated. This shift in perspective allows for greater empathy, compassion, and understanding of children's behaviors. As a result, teachers, staff, administrators would be able to interact in a different way that would allow that child to feel safe and able to participate. A director of an alternative high school stated, "If a student doesn't feel safe in school, they're not going to care about Algebra II. Of course academics are important, but until you can get a student feeling safe, they're not going to care." (Chernoff, 2016).

Oehlberg (2008) clearly discusses what it means to be trauma informed in the school system and in doing so, provides suggestions for those interested in being trauma informed to consider. First, she asserts that there needs to be administrate commitment to safety in the classroom, school building, school grounds, and buses. A commitment to creating a climate of respect for everyone. Second, she calls for a shift in discipline policies, which is why there needs to be administrative commitment. Typically discipline strategies are coercive and may often provoke shame and rejection of a student who has experienced trauma, with reinforces their behaviors and triggers. Further, discipline policies were created out of the thought that students

are intentionally doing these behaviors, maintaining the "what is wrong with you" perspective. Shifting to the "what has happened to you" perspective would engender policies that restore the student to the school community, understanding that something may have been triggered in them. Third, Oehlberg states that there should be a focus on staff development. Primarily informing teachers, staff, and adults in the school who interact with children about the impact of trauma on behaviors and brain development. She also suggests that staff development should focus on the way that adults' behaviors can influence children. Particularly, paying attention to how one's non-verbal cues like body language, facial expressions, tone of voice, and breathing patterns can potentially trigger behaviors in students who have experienced trauma. Fourth, she recommends that school counselors, social workers, and/or psychologist have relationships with mental health providers in the community. This is recommended so that students may be screened for trauma and receive the appropriate services. Lastly, Oehlberg recommends informing students about trauma and brain development as well as ways to promote resilience in high school.

Challenges to Becoming Trauma Informed in Schools

Change at the individual level can be difficult. People like to maintain status quo/homeostasis, and keep things predictable. Perhaps it is unsurprising that change within a school setting would be that much more complicated. Schools are complex systems with a lot of moving parts, agendas, and history. As such undertaking a paradigm shift as described above can be extremely challenging. Hodas (2006) details ten potential barriers to implementing trauma-informed programs: (a) lack of attention to organizational culture and the need for organizational change, (b) lack of recognition of the nature of the population served and their collective and individualized needs, (c) lack of adequate skill sets for direct care staff, based on insufficient

training, supervision, and oversight, (d) lack of adequate response to the trauma histories and experiences of the children being served, (e) lack of awareness of the potential impact of each helping adult—positive and negative, (f) mistakenly attributing intentionality to the child's behavior, (g) equating trauma-informed practice and being therapeutic with "being soft," (h) lack of understanding by staff that the behavior of children and stressful work-related events can create problematic internal reactions, (i) a program overly concerned with rules and procedures, and (i) a prevailing belief that "we are doing this already" (pp. 57-58). Walkley and Cox (2013) provided examples of how some of these barriers can be enacted. For example, regarding lack of attention to organizational culture, many schools have an oral history that maintains the way things are, primarily with sentiments like "that's not the way we do things here" (Walkley & Cox, p. 124). They also describe how the idea of trauma-informed practices "being soft" may be most prevalent with those with a more behavioral and discipline orientation to behavior problems and growth. Despite the number of barriers listed and some that may be unforeseen once traumainformed practices are implemented, a shift in perspective and experiences of students is worth effort. After all, this is a way that the schools can demonstrate their resiliency, modeling that students can overcome all the potential barriers they face as a result of their adverse childhood experiences.

Future Research

The need for the development of empirically supported whole school approaches is essential in order to move this work forward. The TIP movement is at a nexus of powerful knowledge on the impact of trauma on the lives of students and a lack of proven interventions to assist in moving students toward resilience. Currently there is a paucity of evidence on TIP whole school or classroom intervention approaches. Therefore, there is not a reliable way to

measure the degree to which a school is trauma informed (Chafouleas, Johnson, Overstreet, & Santos, 2016).

Gaining understanding of which interventions work for which students under which conditions is essential to further specify and create effective practices in the school. Future research in this area could include looking at trauma through a multicultural lens. Because there are disproportionately higher rates of violence in communities of color (Dorado et al., 2016), research could broaden the limited literature that incorporates a cultural lens which would consider marginalized youth of color who are at a greater risk of experiencing ACEs (Baker et al., 2016) and traumatic issues such as historical trauma, systemic racism and oppression, and micro-aggressions which are everyday experiences of minorities in this country. Understanding what is considered to be traumatic and why for this population, how minorities adapt, and how trauma presents itself in these more extreme cases could greatly benefit education, mental health professionals and all professionals who work with this population. Using a phenomenological approach could capture the lived experiences of this population which would educate professionals as well as elicit the empathic nature around which trauma-informed practice is centered.

Future research could look not only at specific populations but environmental factors such as "social toxins, whether abuse, community violence, poverty, discrimination, or war, are at risk for experiencing a range of negative developmental trajectories" (Bulanda & Johnson, 2016, pp. 304). Current research on ACE's looks primarily at adverse experiences in the home and family life such as experiences related to sexual, physical and emotional abuse. Research that looks at environmental factors outside of the home and experienced as a result of living in a

high risk community such as witnessing or fearing violence could expand ACEs research and provide a more comprehensive view of ACEs.

Conclusion

Although the nuances of understanding the impact of trauma upon children is ongoing, the need for TIP initiatives using a culturally responsive whole school approach is clear. The scientific evidence is compelling; early adversity dramatically effects student learning and social emotional outcomes in school and throughout the lifespan. It is critical for teachers, administrators and policy makers to move forward in assisting our most vulnerable gain the necessary skills to prevent and reverse the impact of trauma upon their lives. In short, it is time to promote resilience from a whole school perspective.

TRAUMA INFORMED SCHOOLS

Compliance with ethical standards

Compliance with Ethical Standards: This study was funded by The Center for Education Transformation at the University of Northern Iowa and The Center for Translational Science at the University of Iowa. No Grant numbers were given by either of the granting centers.

Conflict of Interest: Author A and Author B has received research grants from two non-federal sources: The Center for Education Transformation at the University of Northern Iowa and The Center for Translational Science at the University of Iowa. Author A declares that she has no conflict of interest. Author B declares that she has no conflict of interest. Author D declares that she has no conflict of interest. Author E declares that she has no conflict of interest.

Ethical Approval: This conceptual article does not contain any studies with human participants performed by any of the authors.

References

- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., . . . Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, 256, 174-186.
 http://dx.doi.org.proxy.lib.uiowa.edu/10.1007/s00406-005-0624-4
- Baker, N. C., Brown, M. S., Wilcox, D. P., Overstreet, S. & Arora, P. (2016). Development and psychometric evaluation of the attitudes related to trauma-informed care (ARTIC) scale.

 The Journal of School Mental Health, 8, 61-76. doi:10.1016/j.yapd.2016.04.002
- Blaustein, M. E. & Kinniburgh, K. M. (2010). *Treating Traumatic Stress in Children and Adolescents: How to Foster Resilience through Attachment, Self-regulation, and Competency*. New York, NY: The Guildford Press.
- Blitz, V. L. & Anderson M. E. (2016). Assessing perceptions of culture and trauma in an elementary school: Informing a model for culturally responsive trauma-informed schools.

 The Urban Review, 48, 520 543. doi:10.1007/s11256-016-0366-9
- Briggs, S. E. & Price, R. I. (2009). The relationship between adverse childhood experiences and obsessive-compulsive symptoms and beliefs: the role of anxiety and experiential avoidance. *The Journal of Anxiety disorders*, *23*, 1037–1046. doi:10.1016/j.janxdis.2009.07.004
- Brunzell, T., Stokes, H., Waters, L. (2016). Trauma-informed positive education: Using positive psychology to strengthen vulnerable students. *Contemporary School Psychologist*, 20, 63-83. doi:10.1007/s40688-015-0070-x

- Bucci, M., Margues, S. S., Oh, D., & Harris, N. B. (2016). Toxic stress in children and adolescence. *Advances in Pediatrics*, *16*, 403-428. doi: 10.1542/peds.2016-2615
- Bulanda, J. & Johnson, B., T. (2016). A trauma-informed model for empowerment programs targeting vulnerability youth. *The Journal of Child Adolescent & Social Work, 33*, 303–312. doi:10.1007/s10560-015-0427-z
- Chafouleas, S., Johnson, A., Overstreet, S., & Santos, N. (2016). Toward a blueprint for trauma-informed service delivery in schools. School Mental Health, 8(1), 144-162. doi:10.1007/s12310-015-9166-8
- Chernoff, L. (2016). School confronts trauma in students' lives. Minnesota Public Radio.

 Retreived from http://www.apmreports.org/story/2016/12/16/trauma-informed-school
- Crosby, D. S. (2015). An ecological perspective on emerging trauma-informed teaching Practices. *The Journal of the National Association of Social Workers*, *37*, 223–230. doi:10.1093/cs/cdv027
- Dorado, S. J., Martinez, M., McArthur, E. L., & Leibovitz, T. (2016). Healthy environments and response to trauma in schools (HEARTS): a whole-school, multi-level, prevention and intervention program for creating trauma-informed, safe and supportive schools. *School Mental Health*, 8, 163 176. doi: 10.1007/s12310-016-9177-0
- Duke, N. N., Pettingell, L. S., McMorrsi J. B. & Borowsky, W. I. (2016). Adolescent violence perpetration: Associations with multiple types of adverse childhood experiences.
 Retrieved from http://www.pediatrics.org/cgi/doi/10.1542/peds.2009-0597.
- Feder, A., Nestler, E. J., & Charney, D. S. (2009). Psychobiology and molecular genetics of resilience. *Nature*, 10, 446-457. doi:10.1038/nrn2649

- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *14*(4), 245-258. doi: 10.1016/S0749-3797(98)00017-8
- Grych, J., Hamby, S., & Banyard, V. (2015). The Resilience Portfolio Model: Understanding healthy adaptation in victims of violence. *Psychology of Violence*, *5*(4), 343–354. doi.org/10.1037/a0039671
- Ho, S. M., Li, W. L., Duan, W., Siu, B. P., Yau, S., Yeung, G., Wong, K. (2015). A brief strengths scale for individuals with mental health issues. *Psychological Assessment*, 28, 2, 147-157. American Psychological Association. doi.org/10.1037/pas0000164
- Hodas, G. (2006). Responding to childhood trauma: The promise and practice of trauma informed care. Retrieved from http://www.echoparenting.org/wp-content/uploads/2012/05/promise_and_practice_of_ti_services_by_hodas.pdf
- Knudsen, E. L. (2004). Sensitive periods in the development of the brain and behavior. *Journal of Cognitive Neuroscience*, 16(8), 1412-1425. doi: 10.1162/0898929042304796
- Ko, J. S., Ford, D. J., Kassam-Adams, N., Berkowitz, J. S., Wilson, C. & Wong, M. (2008).
 Creating trauma-informed systems: Child welfare, education, first responders, health
 care, and juvenile justice. *The Journal of Professional Psychology*, 39(4), 396–404. doi:
 10.1037/0735-7028.39.4.396
- Langford, R., Bonell, C. P., Jones, H. E., Pouliou, T., Murphy, S. M., Waters, E.,...Campbell, R. (2014). The WHO Health Promoting School framework for improving the health and

- well-being of students and their academic achievement. Cochrane Database of Systematic Reviews, 4. Art. No.: CD008958. doi: 10.1002/14651858.CD008958.pub2.
- Lim, D., DeSteno, D. (2016). Suffering and compassion: The links among adverse life experiences, empathy, compassion, and prosocial behavior. *Emotion*, 16(2), 175-182. doi:10.1037/emo0000144
- Luthar, S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543–562. doi:10.1111/1467-8624.00164
- Masten, A. S. (2016). Resilience in developing systems: The promise of integrated approaches. *European Journal of Developmental Psychology*, 13(3), 297-312. doi:10.1080/17405629.1147344.
- Masten, A.S., Best, K.M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, 2(4), 425–444. doi:10.1017/S0954579400005812
- Oehlberg, B. (2008). Why schools need to be trauma informed. *Trauma and Loss: Research and Interventions*, 8(2), winter.
- Perry, L. D. & Daniels, L. M. (2016). Implementing trauma-informed practices in the school setting: A pilot study. *The Journal of School Mental Health*, 8, 177–188. doi: 10.1007/s12310-016-9182-3
- Phifer, W. L. & Hull, R. (2016). Helping students heal: observations of trauma-informed practices in the schools. *The Journal of School Mental Health*, 8, 201–205. doi:10.1007/s12310-016-9183-2

- Prain, V., & Hand, B. (2003). Using new technologies for learning: A case study of a whole-school approach. *Journal of research on technology in education*, *35*(4), 441-458.
- Rutter, M. (2012). Resilience as a dynamic concept. *Development and Psychopathology*, 24(2), 335–344. doi:10.1017/S0954579412000028.
- Satici, S. A., (2016). Psychological vulnerability, resilience, and subjective well-being: The mediating role of hope. *Personality and Individual Differences* 102, 68–73. doi:10.1016/j.paid.2016.06.057
- Shamblin, S., Graham, D., & Bianco, A. J. (2016). Creating trauma-informed schools for rural Appalachia: The partnerships program for enhancing resiliency, confidence and workforce development in early childhood education. *The Journal of School Mental health*, 8, 189–200. doi:10.1007/s12310-016-9181-4
- Shonkoff, J. P. (2016). Capitalizing on advances in science to reduce the health consequences of early childhood adversity. *Pediatrics*, *170*(10), 1003-1007.

 doi:10.1001/jamapediatrics.2016.1559
- Shonkoff, J. P., Garner, A. S., & Committee on Psychosocial Aspects of Child and Family

 Health et al., (2012). The lifelong effects of early childhood adversity and toxic stress.

 Pediatrics, 129(1), e232-246. doi: 10.1542/peds.2016-2615
- Smith, J. D., Schneider, B. H., Smith, P. K., & Ananiadou, K. (2004). The effectiveness of whole-school antibullying programs: A synthesis of evaluation research. *School psychology review*, *33*(4), 547-560.
- Substance Abuse and Mental Health Services Administration. (2014). Key terms: Definitions.

 **SAMHSA News*, 22(2). Retrieved from http://www.samhsa.gov/samhsa

 NewsLetter/Volume_22_Number_2/trauma_tip/ key_terms.html

- Taylor, S. E. (2010). Mechanisms linking early life stress to adult health outcomes. *Proceedings* of the National Academy of Science, 107(19), 8507-8712. doi: 10.1073/pnas.1003890107
- Tedeschi, R. G., Cann, A., Taku, K., Senol-Durak, E., & Calhoun, L. G. (2017). The posttraumatic growth inventory: A revision integrating existential and spiritual change. *Journal of Traumatic Stress*, *30*, 11018.
- Walker, J. A. & Walsh, E. (2015). Adverse childhood experiences: How schools can help. *The Journal of Child and Adolescent Psychiatric Nursing*, 28, 68–69. doi: 0.1111/jcap.12105
- Walkley, M. & Cox, L. T. (2013). Building trauma-informed schools and communities. *The Journal Children's and Schools*, 38(4), 123-125. doi:10.1093/cs/cdt007
- Wu, G., Feder, A., Cohen, H., Kim, J., Calderon, S., Charney, D., & Mathé, A. (2013).
 Understanding resilience. Frontiers in Behavioral Neuroscience, 7(10).
 doi:10.3389/fnbeh.2013.00010

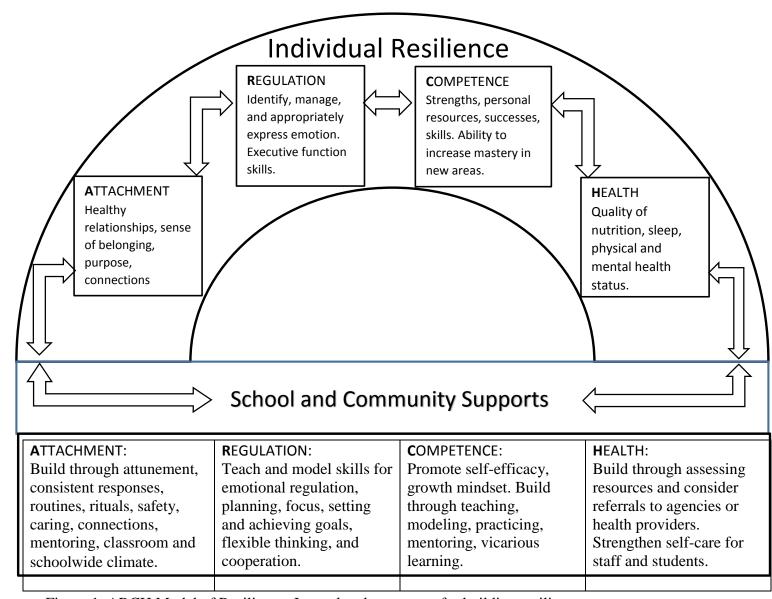


Figure 1. ARCH Model of Resilience: Interrelated constructs for building resilience