

# Trauma-Informed Positive Education: Using Positive Psychology to Strengthen Vulnerable Students

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**Abstract** This paper explores the role of a positive education paradigm in mainstream and specialist classrooms for students who have experienced complex trauma resulting from abuse, neglect, violence, or being witness to violence. Existing trauma-informed education focuses on repairing regulatory abilities and repairing disrupted attachment in students. However, a dual-continua model of mental health suggests that repairing deficits is only part of the education response needed to nurture well-being in trauma-affected students. Trauma-informed education can be conceived from both a deficit perspective (e.g., what deficiencies or developmental struggles does this student face?) and a strengths perspective (e.g., what psychological resources does this student have to build upon for future success?). This paper develops the strengths-based trauma-informed positive education (TIPE) approach which proposes three domains of learning needed for trauma-affected students: repairing regulatory abilities, repairing disrupted attachment, and increasing psychological resources. It is argued that the three domains support each other via synergistic interactions which create upward spirals to increase psychological growth. The TIPE model will make a contribution to research in positive education, positive psychology, and traumatology, with the applied context of assisting classroom teachers and school-based practitioners to meet the complex behavioral, cognitive, and relational needs of students struggling in schools.

**Keywords** Trauma-informed teaching · Positive psychology · Positive education · Classroom milieu · Healing · Growth

## The Need for a Trauma-Informed Positive Education

According to the National Child Traumatic Stress Network (National Child Traumatic Stress Network 2014) close to 40 % of students in the USA have been exposed to some form of traumatic stressor in their lives. In this nationally USA representative survey to determine the prevalence of trauma in children aged 12 to 17, 8 % reported a lifetime of prevalent sexual assault, 17 % reported physical assault, and 39 % reported witnessing violence.

These students are defined as trauma-affected and are found in both the mainstream and specialist classroom settings. The high percentages provided by NCTS suggest that many teachers are now faced with the challenges of educating trauma-affected students who present with a range of symptoms and behaviors including attention-deficit hyperactivity disorder (ADHD), peer bullying, school refusal, conduct and oppositional defiance disorders, distracted or aggressive behavior, limited attentional capacities, poor emotional regulation, and/or hypervigilance (Bath 2008; Downey 2007; van der Kolk 2003). Trauma-affected students may attend school with the best of intentions, hoping to succeed at the day's tasks with minimal disruption; but despite their best efforts, they can find themselves defiant, frustrated, demanding, and without hope by the end of the school day (Cole et al. 2009).

Educational approaches are desperately required to address the complex needs of students struggling in classrooms due to their histories of trauma from abuse, neglect, family violence, or family home destabilization (Bloom 1995; de Arellano et al. 2008; Downey 2007; Wolpov et al. 2009). Trauma-informed education can be conceived from both a deficit

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perspective (e.g., what deficiencies or developmental struggles does this student face?) and a strengths perspective (e.g., what positive strengths does this student have to build upon for future success?). The aim of this conceptual paper is to develop a model that assists teachers to meet both learning and therapeutic needs of trauma-affected students. The trauma-informed positive education (TIPE) model put forward in the current paper makes a unique contribution that bridges research from the fields of traumatology and positive education.

This paper rests on a number of key assumptions: (1) An education approach to trauma-informed learning should include high learning expectations and aspirations that are developmentally informed; (2) trauma-informed teaching should provide students with access and opportunities that assist them to increase positive psychological resources (Keyes 2002; Seligman et al. 2005); (3) the classroom is sometimes the most stable and consistent location in a trauma-affected student's life and can be used as therapeutic milieu to meet complex intervention needs (Perry 2006); (4) well-being should and can be taught in all school settings (Seligman et al. 2009); (5) in order to successfully access many of these cognitive-based positive psychology interventions (e.g., character development, resilient self-talk, hope, and goal setting), students must be developmentally ready in a number of other affective, physiological, and interpersonal competencies that have been compromised by the effects of trauma (Schore 2012); and (6) the paradigm of positive education is not simply another addition to a student's healing and growth but may reinforce a student's ability to develop regulatory capacities and strong attached relationships due to the proposed synergistic interactions of upward spirals of well-being that enable even more effective classroom learning.

This paper begins by defining childhood trauma and outlining the debilitating and potentially long-term effects of trauma on child development and learning. Next, the literature on trauma-informed classrooms and trauma-informed teaching is reviewed. Third, the fields of positive psychology and positive education are conceptually linked to trauma-informed education. Finally, a new model for TIPE is introduced and includes theoretical and phenomenological factors that may contribute to the understanding of successful learning and engagement for trauma-affected students.

### Trauma-Affected Students

Trauma is an overwhelming experience that can undermine the individual's belief that the world is good and safe (Berry

<sup>1</sup> Adverse childhood experiences (ACEs) included child physical, sexual, and/or emotional abuse, emotional and/or physical neglect, mentally ill, depressed, or suicidal person at home, substance abuse of a family member, witnessing domestic violence against the mother, loss of parent to divorce, death or abandonment, or incarceration of any family member for a crime (Anda et al. 2005)

Street Victoria 2013). Directly experiencing trauma, witnessing another's trauma, learning about traumatic events, or exposure to aversive details can lead to trauma- and stress-related disorders such as reactive attachment disorder, disinhibited social engagement disorder, posttraumatic stress disorder (PTSD), acute stress, and/or adjustment disorder (American Psychiatric Association 2013) p. 271. Traumatization occurs when a child perceives or witnesses external threat; and consequently experiences an acute alarm reaction that triggers the body's stress response with long-term damage to key neurological and psychological systems (Coade et al. 2008; Downey 2007). When trauma occurs to infants and children, the developing brain is detrimentally impacted, as is healthy attachment to the primary caregiver (van der Kolk and McFarlane 1996). Framed in a neurodevelopmental perspective, trauma is not the event—it is the individual's response to the event and continuing effects on stress-related physiological systems (e.g., neuroimmune, neuroendocrine, autonomic, and central nervous systems) (Ungar and Perry 2012), p. 7.

“Simple trauma” (type one or acute trauma) involves an experience of an event that is life threatening or threatens to cause serious harm or injury. Simple trauma is often a one-time, short occurrence. There is less stigma and blaming for the victim, and the trauma is often accompanied with a community response (Australian Childhood Foundation 2010). Examples of simple trauma may include accidents, house fires, or natural disasters.

Beyond a one-time event, “complex trauma” (type two, development or relationship trauma) involves multiple incidents, may be longer in duration, and involves personal threat, violence, and violation (e.g., child abuse, bullying, sexual violence, and domestic violence) (Australian Childhood Foundation 2010). Further, this pain becomes manifest in continuing states of grief and loss, abandonment and neglect, persistent anxiety, fear or terror of the future, depression, or physical self-mutilation (Downey 2007).

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5; 2013) explanation of posttraumatic stress disorder (PTSD) advises that the impact and psychological damage due to childhood trauma depends upon the age of the child and the frequency of trauma exposure and stressor experiences (American Psychiatric Association 2013), p. 278. PTSD symptoms have significant impact on the child and include problems with self-regulation, aggression to both self and others, attention deficits, dissociation, physical problems, and the inability to maintain interpersonal relationships (van der Kolk 2003).

Trauma affects key schooling outcomes. Anda et al. (2005) and Wolpov et al. (2009) conducted epidemiological studies of adults who experienced adverse childhood experiences (ACEs) in their youth. This study included 17,337 adult HMO members in the USA and examined the role of ACEs

in adverse stress response and neurobiological adult outcomes<sup>2</sup>. Wolpov et al. report that children who have experienced ACEs are 2.5 times more likely to fail a grade and have lower achievement assessments, are at significant risk for language delays and difficulties, are suspended and expelled more often, and are designated to special education more frequently. The impact of ACEs has clear and damaging effects on education attainment and school completion. Yet, education offers a powerful intervention opportunity for trauma-affected students. Levels of education are correlated to numerous well-being outcomes including economic participation, income, health, social participation, and preventative involvement in justice systems (Australian Bureau of Statistics 2011).

### Trauma's Impact on Neurosequential Development

Teachers can conceptualize their classroom environment and curriculum from a *neurosequential* perspective for both healthy children, who are growing and learning at age-appropriate benchmarks, and for trauma-affected students who are likely to be developmentally delayed due to trauma, abuse, or neglect (Perry 2006). Trauma-affected students are served well by a classroom which provides experiences that replicate a sequential process of neurobiological development.

Sequential neurodevelopment implies the brain has evolved in a *hierarchical* way. Perry (2006) provides a simplified and useful model: The lower parts of the brain (brainstem) govern regulatory tasks of respiration, blood pressure, heart rate, and body temperature; the midbrain (diencephalon/cerebellum) regulates motor abilities, arousal, appetite, and sleep; the limbic system is the relational center mediating emotional reactivity, attachment, and sexual behavior; and the neocortex is employed for cognition and affiliation. The brain develops sequentially through the brainstem, midbrain, and neocortex. However, trauma in childhood delays the development of these sequentially evolving areas of the brain and although a person may be chronologically an adult, the trauma-affected brain may still be arrested at an early developmental stage (e.g., motor functions primarily governed by the midbrain may impact self-regulatory abilities for affect or cognition).

Considering the neurobiology of childhood PTSD, three developmental pathways are thwarted: (1) the maturation of specific brain structures at particular ages, (2) physiologic and neuroendocrinologic responses, and (3) the capacity to coordinate cognition, emotion regulation, and behavior (van der Kolk 2003). As conceptualized by Piaget, critical periods of

brain growth and cortical reorganization facilitate cognitive and emotional development (van der Kolk 2003, p. 294). Within the context of childhood neglect and abuse, these critical periods also correspond to a child's growing ability to form regulatory, protective, and self-defense behaviors, which reinforce the patterned responses to forming strong relational bonds (Perry et al. 1995). Trauma-affected students may have disruption and maladapted development in the lower parts of the brain, and this dramatically affects the regulatory capacities of the higher regions employed for the integration and memory of cognitive content. Yet, classroom learning depends upon an organized and regulated brain where each level of the neurosequential hierarchy is well-regulated.

Trauma impacts all elements of a child's development (Australian Childhood Foundation 2010). Predicated on the foundational understandings of trauma's effects on neurosequential development, critical periods of growth, and the stress response systems, a key therapeutic aim is to improve the regulatory capacities of the brainstem and diencephalon. Trauma and the dysregulated stress response specifically affect the body: The body reacts to trauma similarly to the way it processes prolonged toxic stress: either fast-acting to mobilize neurobiological system responses in less than 20 min or prolonged stress when body functions slow. In both cases, the body and brain are conserving energy for survival and are not in the creative state of learning (Australian Childhood Foundation 2010), p. 26. Trauma can lead to consequences such as reduced cognitive capacity, difficulties with memory and concentration, and language delays; impacted social functions include attachment difficulties and poor relationships with peers (Downey 2007). The literature on the neurosequential perspective has had a significant impact on pedagogical approaches to trauma-informed learning and thus served as the key citations in the literature review as explained in the following section.

### Review Methodology

A qualitative systematic literature review (Green et al. (2006)) was undertaken to determine the extant areas of focus within trauma-informed education. The types of papers retrieved included empirical studies, conceptual papers, and meta-analyses. Papers were sourced for the review using a systematic methodology, and the qualitative review determined broad themes across the papers based on the explicit intervention aims of each study.

This review process was guided by the Preferred Reporting Items for Systemic Reviews and Meta-Analyses (PRISMA; Moher et al. 2009). PRISMA contains an evidence-based guide for the identification and sorting of published papers throughout the literature review process. The following search terms were used: "trauma informed" AND keywords:

<sup>2</sup> Adverse childhood experiences (ACEs) included child physical, sexual and/or emotional abuse, emotional and/or physical neglect, mentally ill, depressed, or suicidal person at home, substance abuse of a family member, witnessing domestic violence against the mother, loss of parent to divorce, death or abandonment, or incarceration of any family member for a crime (Anda et al. 2005).

“education,” “teaching,” “school,” and “classroom.” This search was performed in “all fields” with the use of Scopus®, Proquest®, and Web of Science® journal databases from the last two decades (1994–2014). Limitation was set to “peer-reviewed journals” within the fields of social sciences, psychology, and education.

Next, content assessment for eligibility included the following selection criteria for conceptual papers, interventions, and program models: (1) designed for a group, not for the individual; (2) appropriate for a teacher to administer, not a therapist or clinician; (3) adaptation to either primary or secondary classrooms in a school setting; and (4) could be adapted for cultural or socio-economic diverse populations. In summary, 68 publications met the selection criteria to form the following conclusions.<sup>3</sup>

In order to determine the overarching themes put forward across the studies identified in the trauma-informed education literature, thematic analysis was conducted through open coding (i.e., assigning preliminary codes and comparing data across articles), axial coding (i.e., examining the relationship between codes, categorizing codes, and matching themes back to data), and selective coding (i.e., identifying the major subthemes to structure the framework) procedures based on the explicit aims stated by the authors in the peer-reviewed papers (Moher et al. 2009). Explicit aims were determined directly from both intervention objectives and learning aims with study participants (see for example strengthening relationships (Bath 2008; Parris et al. 2014) and managing difficult emotions (Bloom 1995; Cohen et al. 2004; West et al. 2004)).

This review found that the major theme of trauma-informed learning was on *repairing* trauma-affected students. Two subthemes emerged: (1) 96 % ( $n=65$ ) of the studies list the explicit intervention aim of repairing regulatory abilities and addressing the dysregulated stress response; and (2) 94 % ( $n=64$ ) of the studies list the explicit intervention aim of repairing disrupted attachment capacities through the formation of strong teacher-student relationships. The two subthemes of the trauma-informed education literature will be discussed below, rather than separately reviewing the findings of each study.

## Two Areas of Focus in Trauma-Informed Learning: the Healing Approach

**1. Repairing the Dysregulated Stress Response in Trauma-Affected Students.** Perry (2006) argues that self-regulation (e.g., maintaining and regulating impulses) is a core developmental strength for children (i.e., “Think before you act”). As such, a major emphasis of trauma-informed classrooms has

been repairing the dysregulated stress response and building the delayed self-regulatory capacities of trauma-affected students. Bath (2008, p.20) proposes that regulatory capacities strengthen emotional control and impulse management as “a fundamental protective factor for healthy development.” Addressing the dysregulated stress response occurs through creating learning environments that introduce students to co-regulatory experiences, self-regulatory capacities, identification of difficult and negative emotions, and management of classroom behavior. Two regulatory pathways help the young person facilitate learning: (1) to enable cortical mediation (i.e., *top-down* regulation) which can be witnessed when a student can effectively self-direct their own regulation and (2) to support students in resetting their baseline levels of their stress response and arousal in order to strengthen the body’s ability to self-regulate (i.e., *bottom-up* regulation) (see Australian Childhood Foundation 2010; Cole et al. 2009; Perry 2006).

Perry emphasizes core elements of healing experiences for maltreated and traumatized children which feature relationally mediated rhythmic regulation (Heibert et al. 2013), p. ix. Within the context of relational health, rhythmic interventions address the self-regulatory foundations of organizing sensory input, modulating arousal levels, and mediating responses to sensations. The Australian Childhood Foundation (2010) recommends that when addressing a student’s dysregulated stress response, staged and adaptive perspectives are informed by the sequential nature of brain development. According to the ACF, a staged pattern of implementation takes into account the maturation of the individualized student’s brain and body systems and recognizes that successful learning should be staged by the teacher with repetition, practice, and increasing complexity. An adaptive approach is predicated on the knowledge that trauma-affected students may not have the resources to adapt to the specific classroom environment or to the potentially confronting experience of new learning. Therefore, a given strategy should be applied in an adaptive way to allow flexible accommodation to a specific child’s competencies and needs. Strategies and new skills must be consolidated, rehearsed, and practiced in a sequential manner.

In the trauma-informed literature, strong regulatory capacities assist a child to acknowledge, label, and learn from difficult feelings (Bloom et al. 2006). Providing opportunities to self-regulate in the classroom includes the improvement of emotional and behavioral competencies by identifying and acknowledging feelings of self and others, linking internal thoughts to feelings and external experiences, practicing strategies to de-escalate heightened emotions, and returning to a comfortable state after arousal (Wolpow et al. 2009). If students are provided with the opportunities to connect the causal relationships between emotions and thinking, they will be better equipped to self-regulate at moments of uncertainty, stress, or confusion. Students who build these regulatory

<sup>3</sup> An appendix of these studies is available upon request to the corresponding author.

capacities will be enabled and empowered to identify their feelings, understand them, and communicate with others. Strategies to enable students to gain a deeper sense of emotional control should incorporate the skills of making linkages between their past and their present, feelings and behavior, thoughts and actions (Australian Childhood Foundation 2010). Based upon these understandings, teachers can assist students when difficult emotions occur throughout the day; teachers may help students anticipate difficult life events; or teachers can design specific activities to mitigate the effects of difficult emotions on student behavior.

Managing disruptive classroom behaviors in a safe and supportive manner is a hallmark of trauma-informed teaching. Teachers should be prepared to address dysregulated students and defuse conflict through structure and consistency, encourage positive behaviors, set enforceable limits on unacceptable behaviors, determine logical consequences instead of punishment, and provide choices to allow student autonomy and control (Downey 2007). Within these regulatory supports, teachers can begin to co-regulate student behavior through their own voice, proximal positioning (e.g., side by side with child versus facing confrontationally), and assisting the student to understand how to address and restore negative outcomes.

**2. Repairing Disrupted Attachment Styles.** The second emergent domain of trauma-informed practice is the healing of disrupted attachment styles and the ability of students to form strong relationships. Attachment can be defined as an enduring relationship with another person (e.g., parent, carer, teacher, or friend) that is characterized by soothing, comfort, pleasure, or safety (Ludy-Dobson and Perry 2010). Schore (2012, loc. 1425) describes attachment within psychobiological models as “the interactive regulation of states of biological synchronicity between and within organisms.” Baim and Morrison (2011) summarize attachment theory as the presence, or absence, of nurturing interactions which form templates for self-protective strategies. Attachment theory connects developmental interactions between a child’s stress responses and perceived threats or danger. Based upon the foundational work of John Bowlby (1971), attachment theory describes how the process of attachment unconsciously and interactively regulates the mother-infant dyad and how attunement and stress impact upon relational hardness that, in turn, influence the growth of brain regulatory systems, and thus, viewed within this frame, attachment theory is essentially a regulation theory (Schore and Schore 2008).

Crittenden (2008) suggests that attachment through co-regulation occurs when the regulatory capacities of one person (e.g., care giver) influence and mirror the other (e.g., child) to regulate their thoughts, feelings, and behaviors. Crittenden suggests three key attachment tasks: (1) to protect and comfort

children when they are not able to comfort themselves, (2) to guide children to protect and comfort themselves, and (3) to allow children the opportunities to take developmental responsibility for themselves.

Teacher-student relationships, emphasizing teacher empathy, warmth, genuineness, non-directivity, and encouragement of critical thinking, along with reciprocal and secure attachments yield positive student outcomes (Cornelius-White 2007). Additionally, levels of adult support have a direct influence on student engagement (Klem and Connell 2004; Woolley and Bowen 2007). Students benefit from connectedness and belonging through relationships which serve as a protective factor for resilience and well-being (Roffey 2013; Stewart et al. 2004).

Relationships and strong relational interactions are integral to classroom practice with vulnerable and traumatized students (Downey 2007). Often, trauma-affected students have backgrounds of broken attachments and therefore an inability to create, sustain, or develop strong and lasting relationships. Thus, many of the existing trauma-informed classroom approaches advise teachers to take deliberate steps to establish trust, validation, and safety so as to support the student to take risks in both emotional and cognitive exchanges for learning. A relationship-based classroom is predicated on the premise that struggling students learn from reciprocal relationships with teachers they like and respect (Fay and Funk 1995). When students challenge these relational bonds with resistant behaviors, teachers can employ attachment principles to continuously present a consistent, proactive, and welcoming invitation to stay in the teacher-student relationship in order to create safe opportunities for learning.

Teacher-student connections and relationships in the trauma-informed context can be based upon attachment principles of *unconditional positive regard*. Humanistic psychologist Carl Rogers (1902–1987) popularized Stanley Standal’s concept of unconditional positive regard as a guiding principle in humanistic (person-centered) psychology (Rogers 1961). Specifically adapted for the classroom context, unconditional positive regard facilitates an environment where the student feels valued regardless of their presenting behaviors, affect, or cognitions; rather than looking to others for identity and approval, the student is encouraged to learn and listen to themselves. Rogers ((1961), p. 283) describes this relationship as a “warm caring” for the child—a warmth that is not possessive or demanding of personal gratification for the carer.

The concept of *intersubjectivity* is helpful in this context: In attachment-focused interventions and relationships, intersubjectivity refers to “the other’s active presence in the psychological development of the child” (Hughes 2004, p. 265). This joint, side-by-side attunement experience allows the child to experience dyadic-based affect, regulation, and meaning, thereby opening windows of opportunity for healthy development.

Thus, teachers can focus on repairing the disrupted attachment styles of students struggling with the effects of trauma from abuse or neglect through the cultivation of attachment principles within teacher-student relationships. Within the learning context, teachers can employ concepts of intersubjectivity and side-by-side attunement to work closely next to students to facilitate environments of warmth and care, while leading classroom activities and interventions.

**A New Perspective on Trauma-Informed Learning: a Strengths-Based Approach.** As outlined above, the two common approaches of existing trauma-informed learning models focus on repairing regulatory abilities and repairing disrupted attachment styles. While this healing approach is critical, a focus on repairing negative developmental delays does not incorporate advancements made in the science of positive psychology that can be used to move students beyond repairing dysregulation and disrupted attachments in order to build positive resources and growth.

Positive psychology is the study of well-being, human strengths, and optimal functioning (Gable and Haidt 2005). The goals of positive psychology can be summarized as enabling the two conditions of well-being: “feeling well” and “doing well” (Jayawickreme et al. 2012). Well-being is linked to a constellation of positive outcomes, including effective learning, productivity, creativity, positive relationships, pro-social behavior, health, and life expectancy (Huppert and So 2013). Positive psychology offers an important counterperspective to trauma-informed approaches through understanding the full range of human experience.

Three theories from the field of positive psychology are highly relevant to the present argument for a strengths-based approach for use with trauma-affected students: (1) the two factor theory of mental health (Keyes and Lopez 2002), (2) upward spirals of well-being (Fredrickson 2001; Lindsley et al. 1995; Wender 1968), and (3) the broaden and build theory of positive emotions (Fredrickson 2000, 2001). Each of these three theories is discussed below in relation to trauma-informed education.

**Two-Factor Theory.** The first argument is based on Keyes’ two-factor theory that building mental health requires more than addressing deficits in mental health (Keyes 2002; Keyes and Annas 2009). Trauma-affected students need to be given opportunities in the classroom to increase psychological resources and build upon strengths toward well-being—not only reduce stress and disrupted attachments.

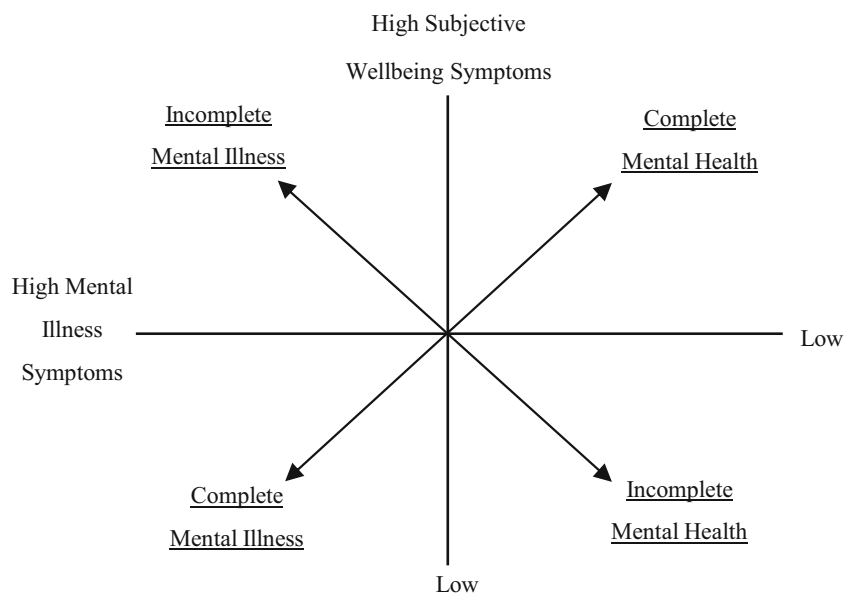
Counterintuitively, strengths and weaknesses are not opposites, and one does not learn about strengths by addressing one’s weaknesses (Magyar-Moe 2009). Even as a trauma-affected student struggles with relational attachment or self-

regulatory needs, he/she may also show promise in specific academic content or character strengths domains, and these strengths and potentialities can be deliberately nurtured in addition to the repair of dysregulated emotions and disrupted attachments. Students must be given opportunities to nurture multiple strengths and assets (Wright and Lopez 2009). However, many of the current trauma-informed approaches have failed to explicitly focus attention on identifying and increasing these strengths. As such, existing trauma-informed approaches are not reaching the full heights of healing that are possible within the classroom milieu because they only focus on repairing negatives and have not given sufficient emphasis on growth by building on the strengths of trauma-affected students.

Keyes and Lopez (2002) designed the complete state model (CSM) of mental health encompassing the study and clinical care of individuals in this two-factor/dual-continua model to clarify that mental health and mental illness are not at opposite ends of the same continuum. Research has shown that individuals who have mental illness also report growth and increased dimensions of psychological well-being (see Fig. 1, below) (Keyes 2009). Thus, while a single-factor model of mental health implies that the reduction of ill-being is a necessary prerequisite to preventatively and proactively building well-being, the new two-factor model shows that illness and well-being are distinct constructs, although there is a modest association between pathways of mental illness and mental health. This new theory has potent implications for the trauma-informed classroom because it implies that while students reduce ill-being (i.e., poor regulation and disrupted attachment), they can simultaneously increase well-being (i.e., character strengths and positive states).

Figure 1 illustrates the CSM of mental health (Keyes and Lopez 2002, p. 50). Particularly useful in the CSM is the crossing axis of the two factors of mental health and mental illness to create four categories, yielding dynamic opportunities to preventatively and additively address mental health and growth toward well-being for individuals with complex needs. The complete state of mental health (two-factor) model suggests that the reduction of mental illness and the promotion of complete mental health require two different types of interventions (Keyes and Annas 2009). Yet, as discovered in the qualitative systematic literature review of trauma-informed learning, many models in the peer-reviewed literature only focus on the reduction of negative states in trauma-affected students.

Keyes (2002) advocates further investigation into the strengths and competencies of flourishing individuals with the specific purpose of providing therapeutic insight for mentally ill and struggling populations. Maddux (2009) recognizes that beyond illness ideology, strategies, and interventions to assist both clinical and nonclinical populations (e.g., students who have been identified with specific trauma-based needs and those struggling with like-concerns), the most

**Fig. 1** Mental health and mental illness: the complete state model

effective therapeutic supports will come from outside clinics or hospitals and in educational, milieu environments. Seligman and Csikszentmihalyi (2000) call for a focus on prevention and the cultivation of strengths as buffers to the debilitating effects of mental illness. Further, these authors theorize that strengths of courage, optimism, hope, perseverance, and the capacities of flow and insights are beneficial for all young people.

**Upward Spirals of Well-Being.** A second theory in positive psychology that is highly relevant to the argument for a strengths-based approach with trauma-affected students is modeled on a self-reinforcing upward spiral of amplifying psychological resources (Fredrickson 2001; Lindsley et al. 1995; Wender 1968).

Cochran (2009) summarizes that a psychologically beneficial upward spiral toward positive growth is an accumulating sequence of three or more learning cycles of reciprocal causation and positive deviation-amplifying feedback, all increasing the possibility of desirable outcomes. Maruyama (1963) explains that reciprocal causation occurs when system elements influence one another in simultaneously alternating ways. Deviation-amplifying (as opposed to deviation-counteracting) feedback occurs when causal relationships productively amplify an *initial kick* from the original condition (Maruyama 1963). This concept arose out of the study of cybernetics, the science of self-regulating and equilibrating systems (e.g., thermostats or physiological regulation of body temperature). A deviation-amplifying system is composed of positive feedback loops reinforcing positive outcomes. Wender (1968) describes these spiraling deviation-amplifying feedback loops as virtuous cycles of

accomplishment, whereby increases in skill, praise, gratification, and achievement reinforce one another in compounding and reciprocating ways.

In one example of adapting the theory of upward spirals in positive psychology, Sheldon and Houser Marko (2001) show through the self-concordance model that healthy goal striving reciprocally reinforces well-being over time; predicting further spiraling increases in goal striving and well-being to the second time period. The authors note that when people initiate an upward spiral of positive outcomes, with each outcome, they are able to maintain momentum onto the next iteration of the spiral.

Lindsley et al. (1995), p.646 explain the occurrence of well-being spirals in individuals, groups, and organizations and also identify “deviation-amplifying loops” to describe positive outcomes of perceived efficacy and performance that reinforce and build upon one another. As described by Lindsley et al., deviation-amplifying loops spiral when each variable alternates as both the cause *and* the effect; and a deviation in one variable amplifies the positive relationships between other variables (e.g., a student’s confidence when attempting a difficult task in class reinforces performance ability to accomplish the task, and reciprocally, a student’s performance ability reinforces confidence). The concept of the deviation-amplifying loop, or upward spiral, helps to better understand how increases in a student’s classroom competency can reciprocally amplify psychological resources such as goal striving or perceived efficacy when facing the challenge of learning within trauma-informed classrooms.

**Broaden and Build Theory of Positive Emotions.** Fredrickson (2001) suggests that increasing positive emotion triggers upward spirals that increase the reciprocal and self-

reinforcing ability to build psychological resources (Fredrickson 2001)<sup>4</sup>. In turn, increasing psychological resources amplify one's ability to generate positive emotion (reciprocal causation).

Fredrickson and Joiner (2002) have shown that positive emotions accumulate while having both a generative and reciprocal role to play when increasing psychological resources. This occurs through an amplifying feedback process. In a sample of university students, they found that interventions that increase the likelihood of the use of broad minded coping (a psychological resource) reciprocally lead to higher levels of positive emotion. Predicted by the model of an upward spiral, positive emotions have been shown to reciprocally produce even higher levels of broad-minded coping. They concluded that individuals who increase positive emotions cope more effectively with adversity; and reciprocally, the increased ability to employ coping skills predicts positive emotions over time.

Just as Fredrickson and Joiner (2002) have shown that increasing psychological resources (positive emotions) broaden one's thinking and build social resources in reciprocating upward spirals, a model of trauma-informed education with a focus on increasing psychological resources may also create self-reinforcing upward spirals of student growth. A trauma-informed classroom which first increases regulatory and relational capacities will serve as the "initial kick" (Maruyama 1963, p. 163) of growth for the trauma-affected student. Further, what must follow are classroom interventions and learning opportunities which best support these upward spirals to benefit from the initial kick of trauma-informed classroom interventions. Students' psychological resources may then be amplified by the increasing capacity through pedagogical goals such as identifying and learning about their own strengths (Seligman et al. 2009), participating in classroom activities which promote and increase gratitude (Howells 2012), or learning how to nurture a growth mindset (Dweck 2006). With these ideas in mind, a new model of trauma-informed teaching and learning encourages teachers to consider the explicit integration of a strengths-based approach.

### The Trauma-Informed Positive Education Model

The application of positive psychology in an educational setting is known as positive education. Positive education adopts a philosophy that aims to engage in teaching practices which distinctly build psychological resources not otherwise addressed in mitigating the reduction of negative factors (Waters

2011). Within the mainstream classroom context, positive education interventions have been shown to increase levels of student hope (Green et al. 2007; Marques et al. 2011); to cultivate gratitude, optimism, and life satisfaction (Froh et al. 2008); to show benefits of mindfulness training (Huppert and Johnson 2010; Waters et al. 2014); and to promote student learning about signature character strengths and positive emotions (Seligman et al. 2009; Waters and Stokes 2013). Additional positive education themes incorporated into school-based programming include growth mindsets, flow, personal values, virtues, and appreciative inquiry (Waters 2014; Waters and Stokes 2013).

Embedded in a positive education paradigm, a model of TIPE links approaches addressed in trauma-informed classrooms that focus on the repair of regulatory capacities and disrupted attachment styles with proven positive psychology interventions that focus on growth by increasing psychological resources. As previously discussed, such integration conceptually acknowledges the two-factor theory of mental health (Keyes 2009), the theory of reciprocating upward spirals of well-being, and the broaden and build theory of positive emotions (Fredrickson 2000, 2001), thus suggesting that a student's increase in regulatory capacities and relational abilities reinforces his/her ability to increase psychological resources and that increasing a student's psychological resources, in turn, supports increases in a student's regulatory capacity and relational ability (see Fig. 2).

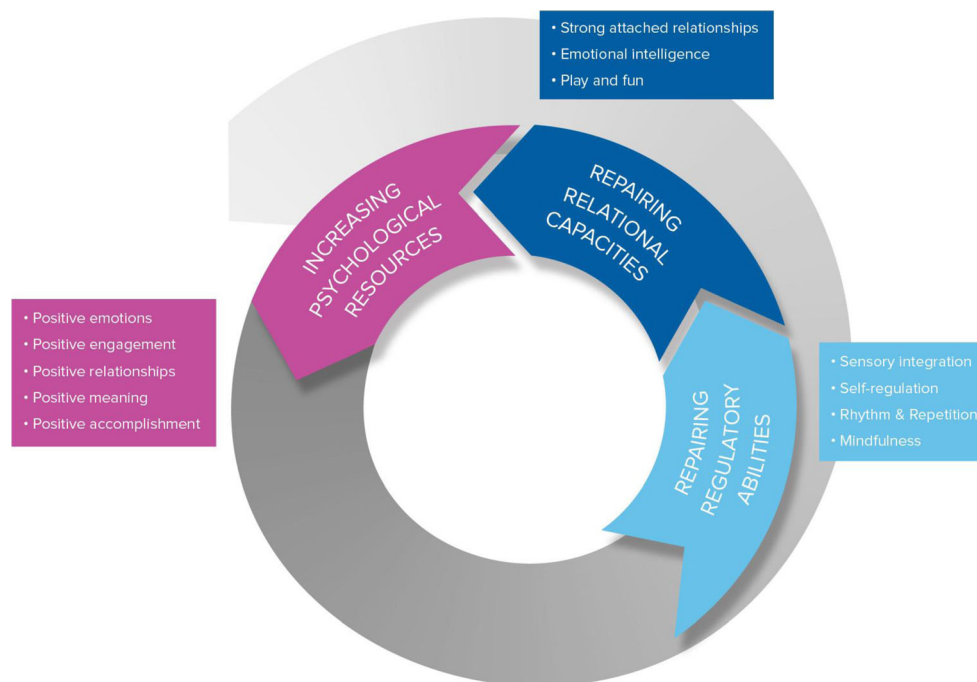
### Review Methodology for Increasing Psychological Resources

In order to develop the TIPE model, a second literature review was conducted in the positive psychology and positive education literature with a focus on interventions and practice implications for increasing psychological resources in trauma-affected students. The methodology for this qualitative systematic literature review included the following steps as recommended in the PRISMA guidelines (Moher et al. 2009): (1) Abstracts in Scopus<sup>®</sup>, Proquest<sup>®</sup>, and Web of Science<sup>®</sup> databases were searched using the preliminary terms: "positive psychology" AND "positive education." (2) From this list of abstracts, keywords were then compiled for further use when searching in "all fields" with the aforementioned databases. Keywords included psychological resources, strength(s), resilienc\*, mindful\*, emotional intelligence, positive emotion, and PERMA (Seligman 2011). Limitation was set to "peer-reviewed" journals. (3) These findings were cross-referenced with the following terms for interest in this review: student, child, adolescent, youth. (4) Next, individual studies, conceptual papers, meta-analyses, and key citations were selected. (5) The same selection criteria remained from the prior literature search on trauma-informed education: Interventions and practice recommendations were included that

<sup>4</sup> Psychological resources are increased by broadening thought-action repertoires, thereby generating greater capacity for attention, cognition, and action.



**Fig. 2** Conceptual model of trauma-informed positive education



were (a) designed for a group, not for the individual; (b) appropriate for a teacher to administer, not a therapist or clinician; (c) adaptation to either primary or secondary classrooms in a school setting; (d) could be adapted for cultural or socio-economic diverse populations. (6) Following the selection of relevant articles through the data base searches, further literature was identified using an examination of reference sections of key articles.

In total, 74 published studies, meta-analyses, and conceptual papers were selected for support of the TIPE model (see Table 1). In order to determine the categories put forward in the subdomains, thematic analysis was conducted. Open, axial, and selective coding procedures were based on the explicit aims of the authors in the literature (Moher et al. 2009). Again, explicit aims were determined directly from both intervention objectives or lesson plan learning aims with study participants. The final selection criteria for inclusion were as follows: (1) Key citations that arose from the aforementioned methods were included in order to explain ancestry to core concepts as identified in the literature; (2) studies and meta-analyses which contained specific mention of classroom interventions as directed by a classroom teacher; (3) key citations were brought forward from the first literature review on trauma-informed education based upon the prior two selection criteria.

Arising from the first review on trauma-informed literature were the subdomains of repairing regulatory abilities and repairing disrupted attachment. When classifying the subdomain of increasing psychological resources, PERMA was selected as a suitable over-arching well-being framework as its domains serve as five enabling factors to guide effective well-being interventions (see following discussion; Waters

2011). Finally, studies were grouped into one of three selective codes: regulation, relationship, or psychological resources (i.e., PERMA). The domain of repairing regulatory abilities includes sensory integration, self-regulation, rhythm and repetition, and mindfulness. The domain of repairing disrupted attachment includes strong attached relationships, emotional intelligence, and healthy play and fun. The third domain, increasing psychological resources, has been grouped by PERMA well-being domains: positive emotions, engagement, relationships, meaning, and accomplishment. Specific rationale for the categorization of the three domains suggested in the TIPE model is further explained by the following summaries.

### Domain 1: Repairing Regulatory Abilities

In the first domain of TIPE, *repairing regulatory abilities*, the classroom focus is on the healing aspects of trauma-informed practice including sensory integration, self-regulation, rhythm and repetition, and mindfulness applications to learning tasks. This domain addresses the specific effects of trauma on the body and the neurosequential principles which guide developmental understandings of individual student needs.

Aligning the body's regulatory processes for learning are the first aims in this domain: sensory integration and self-regulation. When assessing the special needs of traumatized children, these two foci ask teachers to consider sensory processing and regulatory competencies in the body (Bath 2008; Biel and Peske 2005; Kopp 1982). These domains address teacher concerns when looking at social-

**Table 1** Review of trauma-informed and positive education approaches identified in the literature

TIPE domain	Subdomain	Evidence base <sup>a</sup>	Brief description	Classroom intervention
Repairing regulatory abilities	Sensory integration	(Brown and Dunn 2002; Biel and Peske 2005; Heibert et al. 2013)	Processing sensory information in a coherent and organized manner	Sensory accommodations including seating and work station; sound sensitivity interventions; fidget toys; somatosensory activity breaks; dance, movement, and music therapy. VIA character strengths: curiosity, love of learning, self-regulation.
	Self-regulation	(Hughes 2004, 2006; Perry 2006; Bath 2008; Kuypers 2011; Heibert et al. 2013)	Self-regulation defined as the domains of sensory processing, executive functioning, and emotional regulation; Relationally mediated rhythmic regulation to facilitate both “bottom-up” (e.g., strengthening the body’s regulatory systems) and “top-down” regulation (e.g., cortical regulation)	Teaching students about their own heart rates using heart rate monitors, allowing students to track their heart rate through a week of activities while learning strategies to self-regulate; whole-school approaches to teaching and reinforcing self-regulation; pre-emptively asking students to identify their current ability to self-regulate on a youth-friendly rubric. VIA character strengths: self-regulation (self-control), persistence
	Rhythm and repetition	(Perry 2006; Ratey 2008)	Effective therapeutic interventions must have enough repetition to influence the regulatory functions of the brainstem (e.g., heart rate, body temperature, respiration)	Aerobic exercise included in classroom timetable (e.g., routine of short stationary bike time before independent reading); applying principles of rhythm and repetition to physical activity (e.g., short, regular breaks for drumming, clapping, song); rhythmic and consistent lesson and daily timetables; incorporating the rhythms of the season and school year through traditions, festivals, and celebrations. VIA character strengths: self-regulation (self-control), social intelligence, vitality
Repairing disrupted attachment	Mindfulness	(Kabat-Zinn 2003; Thompson and Waltz 2007; Hassed 2008; Burke 2010; Waters 2011; Monshat et al. 2013; Waters et al. 2014)	Awareness that emerges through paying attention on purpose and using focus to bring the mind to the present moment; improves school-based intervention outcomes for decreased substance use, improved sleep, and hyperactivity symptoms	Mindfulness strategies such as “body scan,” “noticing sounds,” and “listening in on breathing” can be imbedded into student schedules; therapeutic martial arts, yoga or tai-chi; “every day” mindfulness. VIA character strengths: self-regulation, open-mindedness, kindness
	Strong attached relationships	(Rogers 1961; Bowlby 1971; Klem and Connell 2004; Stewart et al. 2004; Woolley and Bowen 2007; Cornelius-White 2007; Crittenden 2008; Ludy-Dobson and Perry 2010; Schore 2012; Roffey 2013)	Strong attached relationships are the conduit toward healing, growth, and learning; relational interactions serve as co-regulatory factors (e.g., regulating the stress response systems and healthy neuroendocrine and neurophysiological states)	Creating a positive relational milieu with emphasis on small teacher/student groupings; classroom environment promotes safety; open and regular communication to parent/carer; teacher modeling of positive relationships and help-seeking that is proactive, assertive, and strengthening. VIA character strengths: kindness, courage, integrity, love, social intelligence, fairness
Increasing psychological resources (PERMA)	Emotional intelligence (EI)	(W.T. Grant Consortium 1992; Goleman 1996; Eisenberg et al. 2000; Schultz et al. 2004; Rivers et al. 2012; Lomas and Stough 2012)	Cluster of skills to identify helpful and difficult emotions; motivation to encounter adversity, to control impulse and delay gratification, to regulate one’s moods, to empathize and to hope; the difference between thoughts, feelings, and actions; reading and interpreting social cues, verbal and non-verbal communication	Teachers modeling positive emotional intelligence and emotion regulation; morning circle routines allow students to report daily and teacher to assessment of emotional states; addressing difficult behaviors framed through an EI perspective; tracking student emotion on a “mood meter.” VIA character strengths: social intelligence, citizenship, fairness, self-regulation
	Play and fun	(Panksepp 1998; Sheerod and Singer 1989; Hall et al. 2002; Bratton et al. 2005; Marzano and Pickering 2011; Take Two 2012)	Healthy play and fun are often missing from the education experiences of trauma-affected students; playfulness can interrupt students’ sadness, heaviness, or frustrations; play in the therapeutic contexts allows children to process emotional or behavioral problems through developmentally appropriate interventions	Lifting student energy by using humor, games, or inconsequential competition; physical, age-appropriate play through sports; artistic play; curriculum units which engage students through play and challenge (see Barry 2010). VIA character strengths: vitality (zest, enthusiasm, vigour, energy)
Increasing psychological resources (PERMA)	Positive emotions: Broaden and build	(Lyubomirsky et al. 2005)	Positive emotions have causal effects of greater school success, relationships, and mental and physical health	Quality and frequency of explicitly naming and teaching positive emotions, as in a “positivity toolkit” (see Fredrickson 2009); visual reminders to capitalize on positive memories and accomplishment (savoring); “What Went Well” (WWW) routine (see Fox Eades 2006); helping students anticipate and co-create festivals and celebrations which integrate academic accomplishment, personal narrative, food, traditions, and relationships; a “positive memory bank” to provide students the opportunity to apply for
	Savoring	(Fredrickson 1998/2001; Cohn and Fredrickson 2010)	Positive emotions “broaden” one’s thought-action repertoire and those positive actions “build” personal resources	
Increasing psychological resources (PERMA)	Gratitude		Generating, intensifying, and prolonging enjoyment of positive experiences	

Table 1 (continued)

TIPE domain	Subdomain	Evidence base <sup>a</sup>	Brief description	Classroom intervention
		(Bryant 2003; Bryant et al. 2005) (McCullough et al. 2001; Emmons and McCullough 2003, 2004; Froh et al. 2008; Froh et al. 2009; Howells 2012)	Increases in gratitude lead to a greater sense of well-being, optimism, decrease in depression, connectedness, improved relationships, and greater ability to deal with adversity; for trauma-affected students, an embodied sense of gratitude through action, lived experience and connection to others	funds to create positive memory experiences that would be otherwise provided for by a stable household. VIA character strengths: creativity, curiosity, open-mindedness, love of learning, vitality, gratitude, hope, humor. Adaptations of gratitude interventions: gratitude letter to a valued friend or teacher, listing gratitude statements and recognizing “WWW”; beginning each day with a warm welcome and gestures of gratitude to encourage belonging to trauma-affected students; regular and ongoing opportunities for students to create gestures and actions of gratitude; gratitude walls; gratitude diaries; gratitude rituals. VIA character strengths: gratitude, appreciation of beauty and excellence, spirituality, citizenship, social intelligence, kindness.
	Positive engagement: Flow	(Csikszentmihalyi 1990/1997)	A special state of optimal engagement encompassing concentration, interest, and enjoyment; flow is present when there are clear goals, appropriate responses and immediate feedback	Progression from high-impact “hands-on” learning toward building perseverance for academic and intervention competencies; regular academic assessment and feedback are critical to engage trauma-affected students in order to engage in sustained goal-directed learning; apprentice learning through a self-sustaining workshop 1 iteracy model (see Calkins 1994, 2000; Harvey 1998; Witter 2013). VIA character strengths: creativity, curiosity, love of learning, persistence (perseverance, industriousness), self-regulation.
	Character strengths	(Park et al. 2004; Peterson and Seligman 2004; Seligman et al. 2009; Gillham et al. 2011; Proctor and Fox Eades 2011; Shoshani and Stone 2012; Weber and Ruch 2012)	Character strengths classification models (e.g., VIA) provide opportunities to identify and practice signature strengths and to unify school language for teaching and learning	Using signature strengths, students set individual learning and well-being goals and determine other ways they can practice strengths; <i>strengths spotting</i> promotes strengths identification in stories, personal narratives, or public recognition; storytelling and literature selection allows for a specific dual purpose for meeting literacy and strengths learning
	Positive relationships: Relational density	(Ungar and Perry 2012) (Gable et al. 2006; Swinson and Harrop 2005)	The timing and quality of positive interactions improve relational density (i.e., the number and proximal nature of relationships) and the possibility of relational permanence for trauma-affected students	Emphasizing small-group and one-to-one interactions with a consistent and invested adult; always conceptualising classroom interventions within a relational context. VIA character strengths: curiosity, kindness, love, social intelligence, fairness, forgiveness, self-regulation, gratitude, hope
	Active constructive responding (ACR)		ACR is employed to help others capitalize on their good news or good fortune; positive feedback from teacher to student increases “on-task” behavior and decreases “off-task” behavior	Teachers must be well-aware of the amount and quality of positive and reinforcing statements in the classroom; teachers and students can model ACR inside and outside the classroom; parent/carer interactions, school/home reports, assessments, and individual learning plans. VIA character strengths: gratitude, appreciation of beauty and excellence, hope, kindness, social intelligence
	Positive meaning: Resilience	(Gillham et al. 1990; Reivich and Shatte 2002; Ungar and Perry 2012)	Resilience is conceived as a cumulative process employing biological, psychological, and social resources to address adversity leading to growth; a resilient mindset can be learned through strategies to understand the link between beliefs, feelings, and behaviors, to identify cognitive explanatory styles, to challenge and dispute negative thinking, and to practice other problem-solving strategies	A resilient explanatory style can be taught within the classroom explicitly (e.g., such in a manualized curriculum, see PRP 1990) or implicitly using literature or historical examples of resilient mindsets. VIA character strengths: hope (resilience, optimism, future-mindedness), courage (bravery, valor), perspective, persistence
	Positive accomplishment: Hope	(Snyder et al. 1997; Snyder 2002; Park et al. 2004; Peterson and Seligman 2004; Green et al. 2007; Marques et al. 2011)	Hope is expecting the best in the future and working toward achieving it; a hopeful mindset can be increased through goal setting and coaching interventions; people high in hope generate alternative pathways when encountering adversity	Teaching with stories of hope (i.e., ambitious goals while considering alternative pathways); students receive individual goal-setting support; whole-classroom or school goals for community or public recognition. VIA character strengths: hope (optimism, future-mindedness), creativity, courage (bravery, valor), persistence, prudence, self-regulation
	Growth mindsets			

**Table 1** (continued)

TIPE domain	Subdomain	Evidence base <sup>a</sup>	Brief description	Classroom intervention
		(Dweck and Leggett 1988; Dweck 2006; Blackwell et al. 2007)	Teaching students the incremental theory that intelligence, personality, and character is malleable and can be improved over time; those with a fixed mindset believe that their abilities will not change, avoid challenges, and give up easily	Teachers should focus feedback on growth-, process-, and effort-praise to increase motivation by recognizing a student's engagement, perseverance, or strategies; visible process charts to focus on growth and successful goal attainment; heroes that represent growth mindsets; "green" and "red" light thinking examples. VIA character strengths: persistence (perseverance, industriousness), perspective, curiosity, kindness, love of learning, creativity, hope

<sup>a</sup>The literature in the evidence base column has been listed from oldest to newest publication date rather than alphabetical by author

emotional learning programs which require a cognitive flexibility that traumatized students cannot easily access (Cohen et al. 2004). For instance, when asked to reflect on a concept, share their feelings, or identify difficult or positive emotions, vulnerable students may have neither the vocabulary nor the readiness or willingness to participate, but they can be taught to recognize somatosensory cues in their body (e.g., pressure or temperature) and learn to recognize these bodily sensations as being indicators of certain emotional states. Schore (2012) argues that cognitive-based interventions require a child's capacity to self-regulate for effective participation; so, what can teachers do if a student does not have ready control to employ strong cognitive-based skills? Full bodied learning begins by addressing sensory integration and self-regulation with students.

Rhythm and repetition is the next area of the repairing regulatory abilities domain, and one featured intervention area is the regulation of students' heart rates. Research suggests that children who have experienced trauma often have a resting-heart rate that far exceeds the desired 60–80 beats per minute for healthy children, and this elevated heart rate continues long after trauma exposure (Perry et al. 1995; Perry and Szalavitz 2006). Effective activities should be relevant to the age of the child, rewarding in a relational sense, and have enough rhythmic repetitions for the body to incorporate in a sustained manner (Perry 2006). Inconsistent classroom routines create variable expectations for students; therefore, the principles of rhythm and repetition can also be applied to routines of academic lessons, classroom rituals, and other regularly occurring activities that emphasize predictable daily patterns for students.

Finally, mindfulness enhances the ways in which teachers can consider their classroom tasks, interactions, and relationships in a mindful way (Burke 2010; Waters et al. 2014). Mindfulness interventions have shown improvements in reduced aggression, greater empathy, and improved impulse control (Hassed 2008). Mindfulness is a specific pathway toward a TIPE that can teach lifelong regulatory skills to young people. In the TIPE classroom, mindfulness is used as a specific and special domain of body regulation (e.g., the autonomic nervous system balancing out the parasympathetic branches) which, in turn, improves attuned communication (Siegel 2009). Siegel elaborates that attuned communication allows for dyadic creation of a resonating whole encompassing emotional balance, fear modulation, response flexibility, empathy, and insight. By bringing students into the present moment and allowing them to learn mindfulness strategies such as "body scan," "listening in on breathing," or "noticing sounds around them" students are taken out of their emotional (limbic) centers and brought back to thinking (cortex)—which readies the brain for learning. These

mindfulness strategies can make the difference from emotion-based reaction toward cognitive decision making.

## Domain 2: Repairing Disrupted Attachment

Within the second domain, *repairing disrupted attachment*, classroom priorities center on strengthening the relational classroom milieu and the relational supports surrounding struggling students. A relationally mediated milieu environment is a result of the mirroring qualities of the brain and can be a major determinate in stress-response regulation (Ungar and Perry 2012). TIPE classrooms seek to strengthen the innermost beliefs, values, and trust that struggling students have toward enduring connections to others, while working through the effects of trauma on their relational competencies. The effects of trauma affect the core of the individual, and both healing and growth are made possible through multiple, consistent, and persistent relational supports and relational interventions (Perry 2006). This domain is comprised of three intervention areas: (1) strong attached relationships, (2) emotional intelligence, and (3) play and fun.

Strong attached relationships form the basis of relational health that serve as protective circles of safety required to take learning risks in the classroom (Roffey 2013; Stewart et al. 2004). The TIPE model explores the strategies that strengthen belonging and connection in the relational milieu within the classroom. Ludy-Dobson and Perry (2010) argue that relational health is protective. In a research review with maltreated children, they conclude that relational health (e.g., the presence, quality, and number of relational supports) has clear correlation to the development and function of 28 brain-mediated functions. In their 2010 case study of a 10-year-old boy in foster care, when comparing his relational interactions to a typical child, Ludy-Dobson and Perry found that the typical child received upwards of 40 relational interactions in a given day, whereas the boy in foster care received on average eight relational conversations—and many days, the nature of these interactions were negative or the number of relational interactions was zero. The frequency, regularity, and predictable nature of these interactions are key learnings for teachers to remember in TIPE classrooms. Strong teacher-student relationships represent complex interactions of modeling, proximity, communication, and availability.

Emotional intelligence (EI) builds the relational competencies to better understand self and others (Mayer et al. 2008). Through building skills of perceiving emotions, using emotions, and self-regulating emotions, struggling students will gain confidence through self-knowledge particularly in their ability to articulate their frustrations in difficult and adverse encounters with others in the relational context.

EI can be conceptualized as the integration of two scientific concepts: intelligence (i.e., abilities to understand and problem-solve information) and emotions (i.e., coordinated

responses to changes in the environment involving subjective experiences and bodily states), and thus, EI is the ability to understand and problem-solve employing the management of emotional responses, understanding emotions and their meanings, appraising emotions from situations, and identifying emotions in faces, voices, or postures (Mayer et al. 2008). Teachers can better understand EI in the following four themes: (1) perceiving emotions and emotional cues (e.g., *How do I feel? How do others feel?*), (2) using emotions to facilitate mood (e.g., *How does mood influence thinking and decision making?*), (3) understanding complex emotions and how they change over time (e.g., *How is it that I can feel many different emotions at once?*), and (4) managing and self-regulating emotions (e.g., *When is the right time to express difficult emotions?*) (Hefferon and Boniwell 2011; Mayer et al. 2001).

Although emotional intelligence can be, and should be, integrated into other areas of classroom practice, in TIPE classrooms, it is important to specifically name this concept. Teachers will recognize the need to explicitly address emotional literacy within their work with struggling students. If students are empowered through building competencies in identifying and connecting emotional states to cognitions required for relational bonds and problem solving, they will be able to make stronger and more accurate judgments in difficult situations (Mayer et al. 2008).

Lastly, this domain focuses on play and fun as an explicit relational strategy to connect and engage struggling students (Hughes 2006; Keltner and Bonanno 1997). An emphasis on play and fun primes the teacher-student relationship for positive interactions which reinforce safe spaces for students to take healthy learning risks. When teachers engage through play and fun, the relational interaction can move toward spontaneity, curiosity, and exploration (Hughes 2006). Playfulness conveys optimism, developmentally appropriate challenge, and a safe space to try and fail, and in classrooms where teachers must be aware of the secondary effects of trauma exposure responses, playfulness can interrupt students' sadness, heaviness, or frustrations (Take Two 2012). In the context of distress, laughter has been shown to facilitate a healthy adaptive response by enhancing social relationships (Keltner and Bonanno 1997).

Play can help a child build enduring resources such as the ability for insight, problem solving, coping, and learning (Bratton et al. 2005). Laughter can indicate a student's openness to new experiences and interactions (broadening) and can lead to lasting skills, bonds, and attachments (building) (Cohn and Fredrickson 2009). Childhood play has been shown to increase children's creativity (Sheerod and Singer 1989) and facilitate healthy brain development (Panksepp 1998). Within the classroom context, teachers can improve engagement through play by lifting student energy, employing humor, using games or inconsequential competition, igniting friendly

controversy, or exploring content in a new or usual way (Marzano and Pickering 2011). Teachers can use daily strategies to bring these playful elements into classroom management routines, lesson hooks, group projects, or as dual-purpose learning experiences.

### Domain 3: Increasing Psychological Resources (PERMA)

The third and final domain of the TIPE model is *increasing psychological resources*. Learning strategies and areas of growth that aim to increase psychological resources employ language, cognition, and social skills. Seligman (2011) theorizes that well-being is a construct composed of measurable domains, each contributing to well-being. These dimensions of well-being theory include positive emotion, positive engagement, positive relationships, positive meaning, and positive accomplishment (PERMA). Each of the PERMA domains has these properties: The domain contributes to well-being; people pursue it for its own sake; and the domain is defined and measured independently of other well-being domains. The five domains of PERMA represent both subjective and psychological well-being domains (Jayawickreme et al. 2012).

Positive emotions play an important role in their ability to broaden and build a student's repertoire for the resources to tackle challenging classroom tasks creatively and confidently (Cohn and Fredrickson 2010; Fredrickson 1998, 2001). Strategies for teachers in the TIPE model encourage the savoring and capitalizing aspects of positive emotions. The savoring aspect and positive reminiscing of positive emotions holds particular relevance for the care and education of traumatized children. Savoring positive events can be described as generating, intensifying, and prolonging enjoyment of positive experience, and this skill requires the individual's capacity to not only feel pleasure but to regulate oneself to find it, manipulate it, and sustain it (Bryant 2003). Among a cluster of negative outcomes, trauma has significant impacts on maintaining positive state affect and sustaining memory (ACF, 2010; van der Kolk 2003). Often, a child who has experienced trauma may have positive experiences and corresponding positive emotions, but this does not imply that these children are capable of savoring or capitalizing on the flow-on benefits from resulting positive emotions. For traumatized students to fill a reservoir of positive emotion that can serve them well in times of adversity, teachers and TIPE classrooms need to provide specific opportunities to observe, practice, and experience the tangible well-being effects of positive emotion. Teachers cannot assume that positive emotions occur for students, nor can they assume that students will have the ability to employ savoring and other capitalizing skills.

Positive engagement has been defined as deploying a person's highest strengths and talents in order to meet the world in flow (Seligman 2011). A focus on the phenomenological

states of engagement, flow (i.e., concentration, interest, and enjoyment), enables teachers to better understand the conditions in which students can feel fully immersed in learning (Csikszentmihalyi 1990). Teachers can endeavor to facilitate engaged classroom learning by ensuring that students (1) have the adequate skills to meet the learning aims, (2) are given clear goals for the learning, (3) understand the criteria used to judge their success, and (4) are given clear and timely feedback on their performance (Csikszentmihalyi 1990). By incorporating flow into classroom learning tasks, students can take an active role in the planning and pacing of their own individualized learning.

Using one's character strengths is included in the domain of engagement (Seligman 2011). In the values and character strengths focus, TIPE teachers empower students by helping them to clarify their own values and to practice the character strengths in order to stay aligned to those values (Ryff and Singer 2008; Peterson and Seligman 2004; Seligman 2011). By living toward these strengths, students will make strides toward psychological well-being, specifically *environmental mastery* (Ryff and Singer 2008). Within the TIPE classroom, struggling students need multiple opportunities to identify, reflect, and set goals using their signature strengths. Often, vulnerable students need to build confidence when naming and working with their strengths.

The repositioning of relationships as positive relationships in this domain frames classroom relationships through concepts such as *relational density* (Ungar and Perry 2012) and *active-constructive responding* (ACR) (Gable et al. 2004). Relationships is positioned twice in the TIPE model to conceptually link relationships as a healing intervention (see prior section on Repairing Disrupted Attachment) and reiterate the importance of increasing psychological resources through positive relationships as part of the PERMA model of well-being. Active-constructive responding will remind teachers that the timing and quality of positive interactions have meaningful consequences which fortify the relational milieu (Gable et al. 2004).

Positive meaning within the lives of trauma-affected students can be cultivated through the teaching and understanding of daily resilience. Resilience is positioned in the TIPE model not as a destination but as a daily mosaic of opportunities that students can practice and reflect upon (Brunwasser et al. 2009; Gillham et al. 1990; Gillham et al. 2007; Seligman et al. 2009; Ungar and Perry 2012). Curriculum ideas include lessons that get students to identify messages, heroes, and paragons of resilience (Reivich and Shatte 2002; Peterson and Steen 2009). In the trauma-informed context, teachers will be encouraged to recognize and validate small steps toward a resilient mindset within young people.

Finally, positive accomplishment reminds the school community that all students have the potential to succeed, and struggling students must experience accomplishment in daily

ways in the classroom. Understanding the dimensions of hope can help trauma-affected students and their classroom accomplishment. The cognitive reframing of hope is further explained by the dimensions of hope (i.e., willpower and waypower) and has practical application for successful goal setting and goal attainment (Marques et al. 2011; Snyder 2000). Hope, defined in this context, requires strong relational coaching from teachers, and thus, teachers play a critical role in building hope through the conception of visible and attainable goals.

Within the domain of positive accomplishment, a focus on growth mindsets reminds teachers that students enter the classroom internalizing deeply held self-derived theories about the nature of their own intelligence and their abilities to learn (Dweck and Leggett 1988; Dweck 2000, 2007). A growth mindset concerns how the student *perceives* the nature of intelligence and the possibilities for his or her growth (Dweck 2000). While those with a fixed mindset believe that their abilities are “carved in stone,” a growth mindset frames basic beliefs about one’s abilities, efforts, and talents as dynamic and improvable with effort over time (Dweck 2006). A growth mindset implies that *everyone* can grow through application and experience. Whereas, fixed mindset students may primarily care about whether they are judged as smart or not smart; students with a growth mindset embrace opportunities to grow, make mistakes, and learn from them (Dweck 2007). Further, those with a fixed mindset believe that their intelligence is static, avoid challenges, give up easily, see effort as useless, may ignore negative feedback, and feel threatened by others; individuals with a growth mindset believe that they can develop their intelligence, embrace challenges, persist in adversity, believe that effort leads to mastery, learn from criticism, and feel inspired by other’s success (Dweck 2006). In order to develop a growth mindset voice within each student, teachers must be consistently mindful of both their own messages to students and the attributions that students are making about their own success. Strategies such as giving process praise, teaching about brain plasticity, and ensuring visible reminders of growth and progression all remind students that learning is the result of incremental effort and willingness to risk, fail, and try again.

### Synergistic Healing and Growth

One aim of the TIPE model is to promote the explicit teaching of TIPE skills in a hierarchical way to trauma-affected students by (1) increasing capacity in regulatory abilities; (2) which then assists in the development of secure attachments and strong classroom relationships; followed by (3) the supports necessary to build psychological resources. Specifically, TIPE is designed according to *developmentally informed* principles so as to guide teacher practice by using strategies that address

the way the brain is organized. In the same way that the lower parts of the brain (lower brain and midbrain) govern the body’s regulation and motor tasks, the limbic system is the relational center, and the neocortex directs cognition—the TIPE model positions classroom interventions that begin by building regulation (lower brain) and relationship capabilities (limbic system). Building these areas then assists the student to marshal their cognition (neocortex) to increase one’s strengths and psychological resources.

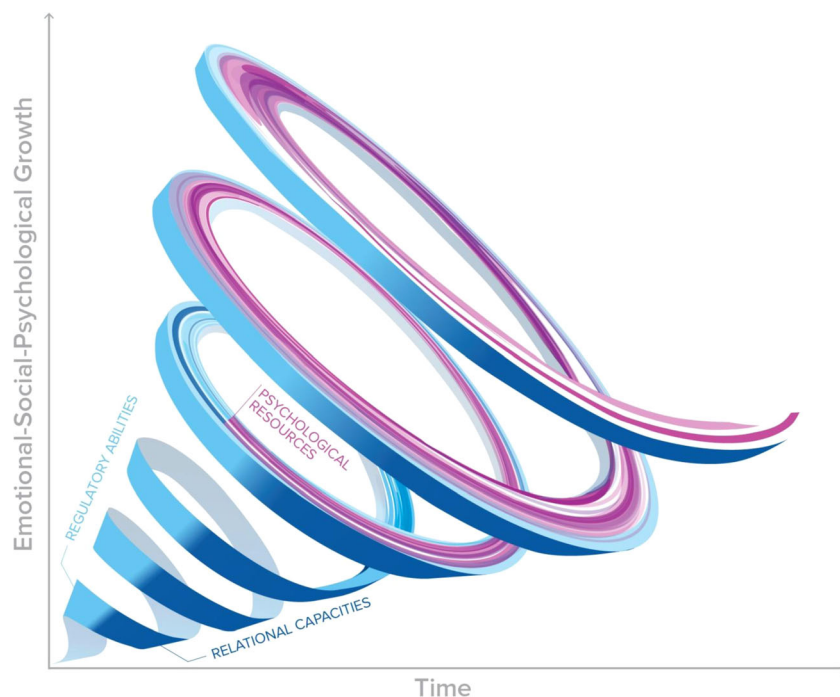
However, in addition to the sequential approach, the TIPE model also posits that interactions between the three TIPE domains occur in *synergistic* ways. Synergy describes behavior within systems when the effects of the integrated whole are greater than can be explained by each isolated, separate element (Buckminster Fuller 1975). This synergistic principle, originating within geometry and chemistry studies, explains that interactive behaviors facilitate synergistic relationships; which cannot be predicted from simply the sum of its pieces.

Drawing on Fredrickson and Joiner’s (2002) modeling on a self-reinforcing upward spiral of the broaden and build theory of positive emotions, the synergistic outcomes of the three TIPE domains may also increase a student’s regulatory capacity, relational ability, and psychological resources through similar self-reinforcing upward spiral interactions (see Fig. 3). Applying the notion of upward spirals to the TIPE model, all three elements of the model interact to transform emotional-social-psychological growth in a reciprocal, amplifying, and synergistic manner. This notion of synergistic, upward spirals will be showcased below through a hypothetical example.

**An Illustration of the TIPE Model.** To illustrate the way in which a TIPE approach can foster upward spirals of synergistic and reciprocal interactions among the three domains of regulatory abilities, relational capacities, and increasing psychological resources, the following section gives an example of the way in which TIPE can be used with a trauma-affected student.

A male adolescent student, whose family is known by child-protection services, enrolls in a school that has adopted the TIPE model. The reading and writing ability of this student is far below age-typical standards, and this student has significant regulatory delays and complex behaviors as result of past family trauma and abuse. A part of this school’s new student induction and assessment processes (e.g., explanation of school values, expectations, and procedures; assessments to determine academic needs and relevant therapeutic supports), the student is invited to complete the VIA-Youth survey with literacy assistance from the teacher. In this exercise, the teacher builds relational attachment by sitting side by side with the

**Fig. 3** Proposed synergistic interactions of TIPE domains



student and helps to explain the VIA indicators (co-regulation, attachment) (Peterson and Seligman 2004). If the student needs to stop during the survey due to poor concentration, the teacher can co-regulate by walking around the school (attachment, regulation, rhythm) (Perry 2006), and the teacher can positively prime the student to return to the assessment by pointing out character strengths visuals on the school walls (visual reminders of increasing positive resources) (Fox Eades 2008). Once the VIA assessment is completed, the student reflects on his results that his top five strengths are humor, fairness, hope, gratitude, and forgiveness (Seligman et al. 2009). His teacher explains, “These are your signature strengths. It is our job to help you notice your strengths, practice your strengths, and find ways to show your strengths every day” (Erickson and Feldstein 2006; Keltner and Bonanno 1997).

Each day, this student participates in a highly regulated and predictable daily schedule (rhythm, regulation) (ACF, 2010; Downey 2007). This day begins with a morning meeting where students and teacher sit side by side in a classroom ritual of greeting one another around the circle (regulation, rhythm, repetition, attachment) (Kriete 2002). The teacher has an opportunity to assess and observe the current state affect of the student to adjust the day’s activities and expectations as needed. Within the morning circle, prompts are given, “What went well yesterday?” and “Give us one word which describes how you are going this morning,” (relational attachment, emotional intelligence, positive emotion) (Fox Eades 2008). Next, the students in the circle play a speed game of passing beanbags in a pattern determined by the teacher (regulation, rhythm, play and fun, positive emotion, flow)

(Heibert et al. 2013). After announcements and updates, the circle ends with a prompt, “What strength will you focus on today? And who will you look to for support?” (character strengths, hope) (Snyder 2000; Spence et al. 2005). The students answer, in turn, and transition to their next class.

Literacy class follows a reading workshop routine (McTigue et al. 2009; Witter 2013). After participating in a reading strategy mini-lesson, the reading stamina goal of 13 min is agreed upon between teacher and this student based upon yesterday’s flow reading goal of 12.5 min being met, and throughout, the teacher is monitoring closely and gives timely feedback through individualized reading conferences (relational regulation, attachment, flow, growth mindset) (Csikszentmihalyi 1997). The student elects to read sitting on an ergonomic foam pillow in a rocking chair (sensory integration, rhythm, regulation) (Allan Ross 2009). While reading independently, the teacher asks the student to consider text details which show (1) the emotions, (2) the self-talk, (3) and the character strengths exhibited in the main characters (emotional intelligence, character strengths, hope, resiliency, meaning) (Brunwasser et al. 2009; Reivich and Shatté 2002). While reading, the student requests to take a break because he is having a difficult time concentrating. A teaching assistant takes the student to the stationary bicycle in the corner of the classroom; both student and adult take alternating turns on the equipment, pedaling for 1 min each, noting the way their heart rate changes in this brisk activity (relational attachment, regulation, rhythm) and then return to meet the reading stamina goal of the day (Ratey 2008). The teacher elects to switch on the metronome that is set to pulse quietly at 80 beats per minute (regulation, rhythm) (Heibert et al. 2013). The teacher



ends the lesson with a review of the day's learning aims and a short reflective writing prompt. Since the teacher knows that humor is one of this student's signature strengths, the student is asked to find and write examples of humor from the text in his reading journal as the literacy period concludes (emotional intelligence, character strengths). These writing drafts will eventually form an essay on the use and effects of humor within the novel (Seligman et al. 2009).

As the day continues, the teacher may do a heart rate check (regulation), a mood meter or stress check rating (emotional intelligence; Rivers et al. 2012; Goleman 1996), or a "brain break" to practice a 30-s breathing strategy (mindfulness, regulation, rhythm) (Waters et al. 2014). Regular brain breaks are scheduled every 45 min this term, and today, he selects a new friend he has made since joining the school (relational attachment) to practice free throws on the miniature basketball court set up in the hallway (regulation, rhythm, attachment, positive emotion play and fun).

Other academic classes follow, and right before lunch, he participates in a 30-min personal development class. Today's learning aims are identifying personal assets and environmental supports to reach his personal goal, obtaining a learner's permit to drive (hope, growth mindset, character strengths) (Snyder 2002). In the afternoon, this student has a choice of relationally mediated regulatory activities that serve as elective classes such as therapeutic martial arts, drumming, studio art, drama, industrial arts—each designed with flow principles while drawing on opportunities to practice character strengths (psychological resources).

Throughout the term, this student builds self-regulatory capabilities through relationally mediated tasks (i.e., amplifying and synergistic interactions), which gives him more opportunities to increase psychological resources including his signature character strengths (i.e., amplifying and synergistic interactions), fostering upward spirals that further support his skills in regulation, relationship building, and academic engagement (i.e., reciprocal causation and synergistic interactions). Armed with knowledge about his signature strengths, teachers can open doors to explore further interventions toward increasing well-being and academic accomplishment. For this student, conversations about the signature strength of humor can lead to further conversations about the student's other signature strengths: fairness, hope, gratitude, and forgiveness. These strengths help the student to form more secure attachments with his teachers and peers. These newly formed secure attachments help the student feel safe, which then supports his capacity to regulate his emotions and allows him to use his ever-developing character strengths to self-regulate (e.g., self-regulating when faced with a difficult situation by reframing response through a character strengths perspective). This example has demonstrated how the TIPE model can work in practice. The example brings together the research, evidence-based interventions, and theory that has been

outlined in this paper. The example demonstrates how all three TIPE domains are needed to assist trauma-affected students not only to heal but also to grow and improve their learning outcomes.

### Future Research using the TIPE Model

This conceptual paper is a contribution to the extant literature of traumatology and positive education. Future researchers may elect to study the effects of the TIPE model on student achievement of both vulnerable and non-vulnerable student populations. Because of its focus on the relational milieu of the classroom (Perry 2006), one hypothesis may be that using the TIPE model increases student engagement and achievement for all students along the mental health continuum. It has been argued in this paper that teachers should take a view to these domains as developmentally informed and spirally self-reinforcing, yet classroom evidence must be studied to better understand the specific effects on students and their achievement with implementing teachers across the span of an entire school year.

Future research can investigate the role of the TIPE model in whole-school change. Which domains of the TIPE model are appropriate for whole-school interventions? How can school leadership best support whole-school change when employing TIPE principles to address the growth needs of all students? Finally, to what extent does using the TIPE model impact teacher workplace meaning within TIPE classrooms—with specific focus on professional learning and teacher practice while addressing issues of teacher sustainability, development, well-being, and support? How might teachers best understand, employ, adapt, and transform the TIPE model?

Both quantitative and qualitative perspectives are needed to further develop the sophistication, interactions, and future directions of the TIPE model, including a focus on student voice, their experience of learning within such a model, and the possible longitudinal impacts on future education attainment, pathways, and beyond.

### Conclusion

This current paper has put forward a conceptual model of trauma-informed positive education (TIPE) to best meet the needs for struggling students who have experienced trauma from abuse or neglect. Interventions and concepts from positive psychology carry important possibilities for student growth and well-being in the trauma-informed context. Yet, to successfully access many of these cognitive-based positive psychology interventions, students must be developmentally prepared in domains such as regulatory capacities and relational abilities—domains that research shows have been compromised in trauma-affected students

due to the brain-based effects of trauma. The TIPE model proposes that teachers approach student learning by addressing the following three domains: (1) Repairing regulatory abilities involves placing focus on the stored-trauma within the student's body using strategies for regulation; (2) repairing disrupted attachment involves boosting the relational core of teacher-student relationships which then serves as a safe conduit to learning; and (3) increasing psychological resources which promote growth in character and well-being. The three domains can be applied sequentially in the classroom, but also interact in synergistic and reciprocal ways that foster healing and growth. The TIPE model fundamentally expands the possibilities of trauma-informed teaching and learning by maintaining rigorous attention toward the healing of developmental deficits, while simultaneously providing pathways toward psychological growth.

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